PAPERS

A project for the future. Experiences and sharing

PAPERS, A PROJECT FOR THE FUTURE. EXPERIENCES AND SHARING

Pilar Garcés-García, Meriem Bedjaoui,
Antonio Bueno-García & Fatiha Ferhani
(eds.)

PAPERS, A PROJECT FOR THE FUTURE. EXPERIENCES AND SHARING

Granada, 2022

Summary

Presentation of the digibook

Antonio BUENO GARCÍA
Resident Twinning Advisor
antonio.bueno@uva.es

Fatma Fatiha FERHANI
Resident Twinning Advisor Counterpart
ferhanipem@gmail.com

This book, divided into 4 volumes with 5 introductory chapters, is a synthesis of the training experiences shared in the framework of this institutional twinning project between experts from Spain, countries of the European Union, and participants from different Algerian universities.

The very fact that these experiences between experts and participants from both shores of the Mediterranean are gathered in the same book is in itself the most obvious proof that the Twinning project has taken place and that the institutional collaboration has already granted its fruit.

The digibooks starts with the interventions of the Algerian and Spanish leaders of the institutional twinning project. Meriem BEDJAOUI (Algerian Project Manager) expresses in her contribution that the twinning project is the most appropriate way to share knowledge and exchange experiences. Pilar GARCÉS GARCÍA (Spanish Project Leader) analyses the situation resulted of COVID, which has had a great impact on this mid-term project, and examines the possibilities it has created in terms of strengthening pedagogical skills and evaluation. Antonio BUENO GARCÍA (Resident Twinning Advisor) reviewed the objectives and results of the project and agreed on its value as an innovative experience. Fatiha FERHANI (Resident Twinning Advisor Counterpart) analyses the educational methods for adults learners and innovative practices in hybrid education. These introductory chapters give way to four volumes with differentiated content.

VOLUME 1, edited by the authors, is divided into two parts: the first, THE PROJECT IN PICTURES, presents several informative videos on the project: the presentation of PAPERS (the acronym of the project's short name), the "University Forum" programme of the Algerian thematic channel TV 7 of Knowledge, and a video on the keys to success; the second, PAPERS TRAINING, contains the training material

of all the presentations and filming of the project's training missions carried out over 145 weeks from 2019 to 2022 with 47 weekly training missions (38 of which are virtual or hybrid), and with the intervention of 153 experts.

VOLUME 2, edited by Bartolomé RUBIA-AVI & Zoubir GACI (Spanish and Algerian leaders of the Methodology of Education Component), is entitled DEVELOPMENT PLAN FOR TEACHING METHODOLOGIES, It contains 18 chapters written by eleven Spanish experts and seven Algerian participants in the training course. The first chapter, on Edu-communication and teacher training in the digital age, was written by Alfonso GUTIÉRREZ MARTÍN and Agustín GARCÍA MATILLA. Chapter 2, written by Fernando LEZCANO BARBERO, deals with the issue of the university as a transmitter of new educational models. Chapter 3, written by M.ª Angeles ESPINOSA BAYAL, deals with the child rights approach as a strategy for sustainable human development. Chapter 4, written by José Miguel CORREA GOROSPE, deals with the e-portfolio in the evaluation of university education. Chapter 5, by Victoria I. MARÍN, deals with the design of learning scenarios and research-based learning. In Chapter 6, Vanesa GALLEGO-LEMA and Higinio Francisco ARRIBAS-CUBERO address the issue of learning in mobility, and how to blur space-time boundaries. Henar RODRIGUEZ NAVARRO addresses, in the chapter 7, the systemic approach to teaching and learning processes. Chapter 8, written by Joaquín PAREDES-LABRA, deals with the planning of university education (projects and guides) and tutoring. In Chapter 9, Sebastián SÁNCHEZ FERNÁNDEZ deals with the subject of the culture of peace from a research perspective. Susana LUCAS MANGAS devotes Chapter 10 to interdisciplinary service learning projects. In Chapter 11, María Jesús IRURTIA and Elena BETEGÓN address the topic of volunteering at the University of Valladolid (Spain).

This is followed right after by contributions from Algerian participants. Thus, in chapter 12, Bachir BOUHANIA & Omayma KERTHIOU write about university teachers at the University of Adrar (Algeria) during the covid-19 period. In Chapter 13, Ghaouti ZIANI shows the use of digital tools in a hybrid higher education and reversed classroom system at the University of Kasdi Merbah in Ouargla. In Chapter 14, Razika BOUMANSOUR and Aicha BOUSSOUALIM highlight the use of digital tools in the hybrid system set up at EPAU (Algeria) with the introduction of peer tutoring in end-of-studies projects. Chapter 15 is devoted by Merzak FERROUKHI and Abdelkrim CHERI to the contribution of additive manufacturing in final year projects. The authors of Chapter 16, Rihab BOUSHABA and Said BERROUK, deal with pedagogical engineering in the training of teachers in digital education. In chapter 17, Adila BENAOUDA analyses the development of hybrid translation pedagogy as an emerging solution. In the last chapter of the volume, Hachelafi HAMID presents an overview of the state of the art of medical training in the context of the Covid-19 pandemic, in which he presents a state of the art in Algerian medical Faculty.

VOLUME 3, devoted to the training of teachers and researchers at the University, is entitled EDUCATION PLAN OF THE UNIVERSITY TEACHERS STAFF, under the direction of the experts in charge of 2, Alfredo CORELL-ALMUZARA and FatmaFatiha FERHANI, and has 18 chapters (12 written by Spanish experts and 6 by Algerian participants). In chapter 1, Mercedes LÓPEZ AGUADO, Raquel CASADO and Alfredo Corell deal with the general plan for teacher training at the University. Mercedes LÓPEZ AGUADO, Francisco Javier HOYUELOS ÁLVARO and Francisco José GARCÍA-PEÑALVO devote Chapter 2 to the support of specific training plans and online teaching in the Algerian university system. In Chapter 3, Pablo FUENTES DE ANDA discusses the creation of e-learning centres. The authors of Chapter 4, Susana ÁLVAREZ ÁLVAREZ, José M. MARBÁN, Raúl MARTÍN HERRANZ and Félix DE PAZ FERNÁNDEZ analyse the problem of teacher training in teaching methodologies. Chapter 5, by Enrique J. MARTÍNEZ PÉREZ, deals with the use of teaching materials and intellectual property issues. Raúl MARTÍN HERRANZ, in chapter 6, explains the issues of evaluation rubrics and nomenclature. Alfredo PRIETO MARTÍN and José BARBARROJA ESCUDERO, authors of Chapter 7, develop the issue of active learning and the inverted classroom. In chapter 8, David HORTIGÜELA ALCALÁ deals with competency-based learning in the educational field. In chapter 9, Pablo FUENTES DE ANDA presents the process of teacher training in educational technologies. Chapter 10, written by Juan Pablo DE CASTRO, Ignacio DE MIGUEL and Eduardo GARCÍA OCHOA, deals with the use of Moodle and Wordpress in teacher training in educational technology. Chapter 11, by Gloria PÉREZ DE ALBÉNIZ, Javier GARCÍA MEDINA and Rafael DE LA PUENTE LLORENTE, is devoted to the training of university teachers in personal and social development. In Chapter 12, Gonzalo CLAROS DÍAZ, Azucena STOLLE ARRANZ and Agustín MAYO ÍSCAR deal with training in research skills. In Chapter 13, Cristina ADRADA and Roberto BAELO present the perspectives and opportunities of internationalization for university teacher training. Chapter 14, written by Abdessamed Reda GHOMARI and Faiçal AZOUAOU, illustrates the resilience of higher education institutions in Algeria through the case of ESI Alger during COVID-19. In Chapter 15, Aisha BENLOUNISSI, deals with the evaluation of learning in workshops. Chapter 16, written by Ali MOUHOUCHE, deals with teaching by competences from an educational point of view. Chapter 17 by Fethi Salah deals with CIS education in distance learning. Chapter 18, written by Tami BELHADJ and Sadok CHENNOUF, is devoted to the issue of distance participation in the pedagogical and didactic training programme for teachers recruited at the Mohamed Ben Ahmed University of Oran 2 in Algeria. Finally, in chapter 19, Souad BOUKHRIS, Riad Mokhtar MOHAMMED and Abdelkader MAIZIA, deal with the transition from face-to-face to distance learning and the evaluation implemented at the Faculty of Medicine of Mostaganem during the COVID-19 pandemic.

VOLUME 4, edited by Maria Teresa PARRA-SANTOS and Ali Zineddine BOUMEHIRA (responsible for the section) is entitled: ORGANISATIONAL

STRUCTURE AND GOVERNANCE PLANNING. Chapter 1, written by Fernando REY MARTÍNEZ, attempts to answer the question: "What do we mean when we talk about the university today? In chapter 2, Alfonso REDONDO CASTÁN, Belén ARTUŇEDO GUILLÉN, Mariano RUBIA AVI and Teresa PARRA SANTOS present a model of the organisation of a university centre. Chapter 3, written by Belén ARTUŇEDO GUILLÉN, Alfonso REDONDO CASTÁN & Mariano RUBIA AVI, presents the model for the management of exchange studies at the Faculty of Philosophy and Arts of the University of Valladolid (Spain). Chapter 4, written by Alfonso REDONDO CASTÁN, Belén ARTUŇEDO GUILÉN and Mariano RUBIA AVI, presents the management model of external academic placements at the University of Valladolid (UVa), taking the example of the Industrial Engineering School (EII). In chapter 5, Mariano RUBIA AVI, Alfonso REDONDO CASTÁN and Belén ARTUŇEDO GUILLÉN present the teaching organisation plan as the backbone of the workload and capacities of teachers. Chapter 6 is devoted by María-Teresa PARRA-SANTOS to the plan for a return to face-to-face teaching activity in the context of COVID. In Chapter 7, Paloma CASTRO, Roberto BAELO and Elena GONZÁLEZ-CASCOS deal with the management of internationalisation in higher education. Chapter 8, written by Cristina DE LA ROSA and Patricia PARRADO, deals with student internships and employability skills training at the University of Valladolid (Spain). Chapter 9, written by Antonio José BLÁZQUEZ MARTÍN, deals with the Sports and Physical Activity Department at the University of Valladolid (Spain). Chapter 10, written by Rafael DE LA PUENTE LLORENTE, deals with the management of the Disability Support Service of the University of Valladolid (Spain). Chapter 11, written by Darío ÁLVAREZ ÁLVAREZ and Gemma RAMÓN CUETO, deals with the adaptation of the architecture school of the University of Valladolid to guarantee face-to-face teaching in a COVID-19 world. In chapter 12, María Cristina AMO IGLESIAS, Raúl CASADO DEL POZO, Sandra MARCOS ORTEGA and María Elena PÉREZ ZABALETA present quality assurance in higher education from a double perspective: the internal perspective of the University of Valladolid and the external perspective of the Quality Assurance Agency of the University System of Castilla-León. In chapter 13, José-Ángel DOMÍNGUEZ PÉREZ and Sandra MARCOS ORTEGA discuss external quality assurance in the university system. Chapter 14, by Rabia AZZEMOU and Amine Bouziane HAMMOU, deals with an alternative to international mobility: internal internationalisation as a strategy for Algerian universities. Chapter 15 by Farouk SOLTANI concludes the digibook by addressing the issue of the effectiveness of national scientific data platforms (ASJP_SNDL_PNST_DSPACE) in improving the quality of university publications in terms of impact factor.

We hope that the readers of this new digital publication will benefit from these pioneering experiences, which have taken place on both shores of the Mediterranean, and that they will contribute to a better understanding in the international academic environment.

Twinning project is the most appropriate means
for sharing knowledge and the exchange of experiences

Meriem BEDJAOUI

Project Leader Algerian (MESRS)

bedjaoui22@hotmail.com

In its new perspective of a university open to the world and in line with international standards, the Algerian Ministry of Higher Education and Scientific Research has been working on the implementations of ambitious and multiform strategies to provide all its higher education establishments with adequate management systems, both in terms of administration and teaching, as well as research. It is, therefore, in this mission and perspective of renewal that the P3A twinning project fits.

Entitled «Supporting the Ministry of Higher Education and Scientific Research, for the reinforcement of the pedagogical competencies of teachers-researchers and the governance capacities of managers», the project is organized in partnership with the European Union, which funded it with one million six hundred thousand Euros. This institutional project led by the University of Valladolid, was initiated in July 2019 and placed under the aegis of the Education Council of Castilla y León, with the participation of the International and Ibero-American Foundation of Administration and Public Policies (FIIAPP), for an initial period of execution of 30 months, to which an extension of six months has been added.

A rich and fruitful collaboration has been developed thanks to the contribution of more than 150 experts from different Spanish universities and a program of activities planned in 59 weekly training sessions, in which almost 3000 Algerian participants (from all the country's universities, of all grades and functions) have taken part.

A constructive and enriching dynamic was concretize by the organization of a didactic seminar, which saw many teachers-researchers put to good use the knowledge acquired during the various training programs, around various themes (reinforcement of managerial, pedagogical, and digital competencies; modernization and innovation of teaching methods; e-learning and virtual teaching; quality assurance and recognition of diplomas).

Articulated around strategic objectives and a meeting session for scientific exchanges and fruitful reflections, this twinning project contributed to making a large number of

participants benefit from the irreversible transformations of the teaching profession and the new academic approaches generated by the demands of a globalized society and a competitive market.

What could be more logical than to spread it out, halfway through, by a Didactic Seminar and at the end of its pathway, by an International Congress under the title of «Teaching for the Future». This scientific event, organized jointly by the two partners, will thus constitute the melting pot of a diversity of contributions that will summarise the twinning project based on sharing, inter-comprehension, and intercultural dialogue.

Capacity building project in algeria in times of covid. An opportunity for self- appraisal in the support to the algerian ministry of higher education and scientific research for the reinforcement of the pedagogical competences of the professors-researchers and the governance capacities of those responsible for management

Pilar GARCÉS GARCÍA

Project Leader Spanish (Minister for Universities and Research in Castilla y León)

plrgarces905@gmail.com

1. Introduction: Basic concepts on Twinning Projects

The power of project-based learning projects comes from Xun Kuang, Chinese Confucian philosopher, 3rd century BC: "Tell me and I forget, teach me and I remember, involve me and I learn".

Capacity Building, in international policies, is a cross cutting modality of international intervention (Lempert. 2018) that usually complements good governance, and in, our case, all that has to do with higher education. Although the term has been in use since the 1950s by international organizations, governments, and communities to refer to the social and economic development in all national and regional plans, the actual implication of its use and scope is being questioned nowadays.

The components of capacity building as established by the World Bank, United Nations and the European Commission consists of five areas: a clear policy framework, institutional development and legal framework, citizen/democratic participation and oversight, human resources improvements, including education and training, and sustainability (Gwin, 2005). It is true that these areas are not homogenous and overlap with other sectors, but the aim is to transform public institutions and to strengthen and improve governance. The growing amount of international development assistance funding allocated to capacity building has risen several queries on the scope and pervasive use of the term for these multiple sectors and elements, and the huge amount of international development assistance funding devoted to it has resulted in controversy over its true meaning and also concern over its use and impacts

Much of the actual focus has been on training and educational inputs, as it is considered of highly significance, for it provides tools to communities to enhance the way human beings deal with the surrounding world. The major problem that has been noted

by some researchers on capacity building is that the term is being used pervasively by different entities and, thus, it has lost its specificity (Maconick et al. 2002). Nonetheless the concept of *capacity* is coupled with the development cooperation and solidarity among different communities. The expertise achieved by certain communities in particular areas, serves as a rich resource for other communities that expose weakness in those same fields. The concept *building* suggests the idea of continuous process for growth and amelioration. The United Nations Development programme, the lead agency on international development, considers *capacity building,* as one of the most powerful devices to help narrow the social and economic gap of all the countries worldwide. It operates in 170 countries to eradicate poverty and reduce inequality with the aim to achieve all the Sustainable Development Goals. The UNDP programme focuses primarily on institutional level while relying on six steps (UNDP, 2011): conducting training need assessment, engaging stakeholders on capacity development, assessing capacity needs and assets, formulating a capacity development response, implementing a capacity development response, and evaluating capacity development.

The European Union uses the Twinning Projects as instruments for institutional cooperation between Public Administrations of EU Member States and beneficiary or partner countries. Twinning projects bring together public sector expertise from EU Member States and beneficiary countries with the aim of achieving concrete mandatory operational results through peer-to-peer activities. Since 2004 the Twinning instrument is also available to some of the EU Eastern and Southern Neighbourhood partner countries.

Our Twinning Project with Algeria is part of the European Neighbourhood Policy (ENP) that includes ENI South: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine and Tunisia, and ENI East: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine as candidates to be beneficiary. One particularity of our project is that the EU Member that is developing capacity building for Algeria is not a country, but the autonomous community of Castilla y León. This European community/region is Spain's largest region and the third largest region in Europe with a territory of 94,225 km2. It only represents over 5% of the country's population: 2,407,733 inhabitants in 2019 (Eurostat, 2020). Even though the region is scarcely populated, it is one of the European Regions with best results in the two last PISA reports (2015 and 2019), and its four public universities have achieved excellent results in Education in rankings such as the U-ranking (2021) and the CYD report (2021). Also, the region can boast about having a great part of the population aged 30-34 with tertiary education, being at 45.8% in 2019 (Eurostat, 2020), above the national average (44.7%) and higher than the EU average (41.6%).

In Spain, education is decentralised and that is the reason why the autonomous community of Castilla y León is entitled to lead a project with these characteristics. Besides the four public universities, the university system is completed with five private

universities that complement the academic offer. In Algeria most of the higher education institutions are public and controlled by the government, although from 2018, according to the University World News, African edition, there are several applications to set up private institutions of higher education.

Building capacities to prepare higher education systems is a challenge all societies have to undertake, and it is a complex matter, as governance is the issue at stake in most universities in Spain. The twining programme we are developing with the Algerian Ministry will serve as an opportunity to analyse our system and develop ideas to adapt the higher education system to a competitive world in which Europe will have a chance to excel if it goes hand in hand with its neighbour countries. It is worth to assimilate the Chinese saying and become the best "involve your neighbour countries and Europe recover its splendour".

2. BC AND AC (BEFORE COVID AND AFTER COVID): RESILIENCE AND INNOVATION

The abbreviations resemble the band rock's name AC/DC and the turmoil period we are experiencing have reminisces of having been hit by a "Thunderstruck".

The project we are developing in Algeria aims at satisfying the request of the Ministry of Higher Education and Scientific Research (MESRS) of our neighbour country in Northern Africa by helping them modernising, internationalising and increasing access to higher education, addressing the challenges facing their higher education institutions and systems, increasing cooperation with the EU voluntarily converging with EU development in higher education, and promoting people to people contacts, intercultural awareness, and understanding. To transfer the required expertise, the project has foreseen several activities including workshops, training sessions, expert missions, study visits, and counselling. In sum, the rationale underlying Twinning Projects lies in learning by doing principle and sharing of best practices.

Before the COVID, the project had already sent some missions mobilising a good number of experts who found the experience worth undertaking. Those who had the chance to work in the field came back with a feeling of utmost enrichment and inspiration. One of the reasons why the experts showed their contentment was because they learned how to cope with cultural, linguistic and organizational challenges, despite the difficulties encountered in the first days. What is important to underlie on the part of the experts is that they had to be flexible, open-minded and eager to learn from the experience they were about to live, and on the part of the beneficiary it was to identify correctly the targeted group who was appointed to participate in the experience. Algeria is a vast country, the largest in Africa, although the population amounts to only 44,700,000 inhabitants. This means that the people is disperse and it is difficult for them to travel. Most of the targeted groups (researchers, administration staff, or academics who hold university positions)

had to travel to the capital, Alger, in order to take part in the training courses covering the different capacities proposed in the project. This aspect constituted a major handicap before COVID, as the travel expenses and the logistics to organise accommodation and payment allowances for five days to all participants from all over the country went over the budget of the beneficiary. During the COVID period this aspect was overcome by using on-line training courses that enabled all to participate virtually. At the same time these on-line missions served themselves as practices, because one of the objectives of the project was to instruct university staff in e-learning and virtual exchanges. This situation revealed that the higher education system needed investment in reliable internet connections and up-to-date infrastructure.

Nevertheless, all setbacks were turned into challenges and the missions were successful. What was most helpful for us was that we also became aware of our limitations and the need to invest rationally in on-line infrastructure, but above all, in the technical training of academic and administration staff and the cultural and mental adaptation to e-learning. Despite our expertise in the field, we learned together with the Algerian participants, that the staff needs to acquire cultural habits to implement the e-learning processes. Being before a screen for several hours requires technical skills but, especially, a different attitude that calls for mutual bidimensional engagement. Although we might think we are talking to a screen, we should convince ourselves that the screen is a filter that allows us to contact the people on the other side. We must be trained to speak with a certain cadence, using the right intonation and pitch to maintain the attention of the audience. All this we leant together, making mistakes and accepting that failures are part of the process. Before the COVID we were eager to share our expertise in a person to person training programme, during the COVID we are transforming our flaws into opportunities to cooperate with the beneficiary and learn with them, and after the COVID we are impatient to be able to meet the participants face to face and debate together about the opportunities given to us by technology, that allowed us to continue developing the project virtually, but it has also shown that it cannot substitute the experience of meeting the participants in person and live the hospitable and friendly atmosphere of the Algerian society on the spot.

After COVID there is a time to reflect on how technology has to adapt to different contexts and situations and how we can make the project sustainable in time, so that all the shared experience results in long-term relationships that allows joint research and innovation. We are looking forward to receiving Algerian participants in the study visits to repay their courtesy and fulfil their willingness to take part in a twinning experiment that has proved that resilience is a major human trait that ensures our survival as species.

3.   EVALUATION AND SELF-APPRAISAL

"The whole purpose of education is to turn mirrors into windows" (Snyder J. Harris). And evaluation helps maintain the windows clean.

As we have noted in the introduction, capacity building through twinning projects is a key issue in international relationships that supports cooperation between countries of different levels of development. We have also mentioned that the term *capacity building* was beginning to be considered void of meaning because of its pervasive use, but despite its frequency in use, we see it as a foremost instrument so share good practices in the development of higher education. The key to success is to develop a good methodology for evaluation and self-appraisal. While the project is being developed, the number of missions carried out includes the exchange of expertise of a good number of experts of the EU member and the participation of the beneficiary's targeted group. To ensure the success of the exchange we ought to bear in mind that an immersion in cultural and linguistic aspects is essential, especially in our case, as most experts did not speak French and we needed the help of a translator, who is responsible for the translation of the different presentations as well as for the interpretation in the synchronic virtual sessions.

In order to develop a good methodology of evaluation and self-appraisal, let us give a definition of both terms: on one hand, evaluation refers to the assessment that both, experts and the targeted group, carry out after each mission. This fact is a very important aspect to ensure the success of the project: the experts have to write a report on all the activities carried through and the targeted group evaluates the performance of the experts. These reports are a very useful source of information for the Project Leaders and for the Resident Twinning Adviser to anticipate the following steps of the project. All this is later discussed and ratified in the different steering committees that take place during the project.

Self-appraisal, on the other hand, is the process executed by the individuals of their own performance, but, in our case, it refers to the process performed by the EU member, the region of Castilla y León, on the accomplishments achieved and on the scope for improvement. The self-appraisal process is developed in three parts. First, we need to verify the development and ongoing development by analysing knowledge, skills and attitudes (KSA). This is attained through different activities that will enable us to test the level of understanding between the two parts. One of the activities is what we call *cultural mentoring*, which entails supporting the experts by sharing professional and personal experience about the culture in which they are going to develop their expertise. It is very important to appease "cultural shocks" and furnish the experts with the basics to be able to overcome certain issues. Another essential activity is *learning circles*. This practice allows a group of experts to meet and share their experience. With this activity we encourage collective work and help the experts not to feel frustrated if the communication with

the participants does not go as well as expected. A third activity that should be fostered is *reflective practice*. This activity is performed individually after the experts have shared their expertise in order to evaluate their own performance. This activity is complemented by the previous activity where all experts comment on the success, but also the failures of their expertise sharing.

The second stage of self-appraisal is building and sharing knowledge by creating a *community of practice*, where the experts and the participants debate about the different sessions, pointing out strong points and flaws, so that the latter can be turned into opportunities of improvement. Also, the organization of *conferences* and the *publication* on the acquisition of the skills is a key issue to ensure the success of the project.

The final stage is reached with public recognition of good practices. The work of the experts should be acknowledged in public, with the *award of certificates* in a public ceremony that recognises all the work done and the achievement of the objectives of the project.

Once the activities of the EU member have been evaluated and self-appraised, it is time to intervene and cover the deficiencies to make improvements in the project. Only through thorough evaluation of the processes and practices can the project envisage continuation in time, which is the aim of capacity building.

4.   FIGHTING HOLES AND BLACK HOLES

What happens in a black hole, does not stay in a black hole it turns into a Big Bang.
(The purpose of a twinning project)

A hole is usually considered a space void of content. Where there is a hole, there is nothing material we can grasp, therefore, a project cannot be a hole, for if it were, then the meaning of *capacity building* would be a mere label attached to nothing, a hollow with a nice ribbon wrapped around it. But we also have to struggle and prevent the project to turn into a black hole, because the latter is defined as an area in space where gravity is so strong that nothing, not even light, can escape from it (Marolf, 2017). But a project is not either a process of exchange of experiences and expertise carried out on a specific frame of time and space and immediately absorbed by bureaucracy and complex diplomatic and personal relations, just like a black hole in the universe. A project needs a continuation in order to implement all the experiences shared between the two parties, so that the process of learning develops into actions that will help the application of long-term strategies to place higher education institutions as the beacons of society. Education needs to be a shining star that allows alliances and working nets to illuminate the world with rays of knowledge and wisdom. This project is ready to sign bilateral agreements between institutions from Algeria and Castilla y León in order to work together implementing good practices in governance and on-line learning. This project is a wonderful opportunity to

design joint master and doctorate programmes to help young university talents develop their skills in several languages and two neighbour countries. Another key action would be the design of a doctorate developed in large, medium and small companies to solve specific problems and supervised by an academic and by a person from the company. This will boost employment and entrepreneurship among young student and researchers and the results of the project will not only be visible, but they will also serve its original purpose of improving higher education institutions in both parties.

5. BIBLIOGRAPHY

Gwin, Catherine (2005). "Capacity Building in Africa: An OED Evaluation of World Bank Support", *The World Bank*. June. ISBN 978-0-8213-6241-9.

https://ec.europa.eu/eurostat (Retrieved 12 August 2021)

https://ec.europa.eu/growth/tools-data-bases/regional-innovation-monitor/ (Retrieved 12 August 2021)

https://www.betterevaluation.org/en/rainbow_framework/manage/strengthen_evaluation_capacity (Retrieved 12 August 2021)

https://www.fbbva.es/wp-content/uploads/2021/06/Informe-U-Ranking-FBB-VA-Ivie-2021.pdf (Retrieved 12 August 2021)

https://www.rankingcyd.org/ (Retrieved 12 August 2021)

https://www.universityworldnews.com/post.php?story=20180209144046111 (Retrieved 12 August 2021)

Lempert, D. H. (2018) "A Treatise on International Development Law", 11 *Journal for for Social Justice*, DePaul University Publishing: Chicago.

Maconick, R. *et al. (2002). Capacity-building for poverty eradication: analysis of, and lessons from, evaluations of UN system support to countries' efforts New York: United Nations. ISBN 92-1-104520-7.*

Marolf, D. (2017) "The black hole information problem: Past, present, and future", *Report on Progress in Physics*. Vol. 80, Number 9, IOP Publishing Ltd.

United Nations Development Programme. "Supporting Capacity Building the UNDP approach". UNDP. Archived from the original on 30 June 2011. (Retrieved 12 August 2021)

Xun Kuang, *The Teachings of Ru*, (translated by H.H. Dubs in 1928,) The Oriental Series. London.

The institutional project "support to the ministry of higher education and scientific research for the reinforcement of the pedagogical skills of the teachers-researchers and the governance capacities of the managers". An innovative methodological experience

Antonio Bueno Garcia

Resident Twinning Advisor

antonio.bueno@uva.es

1. Introduction

1.1. Presentation of the project

The main objective of the project "Support to the Ministry of Higher Education and Scientific Research for the reinforcement of the pedagogical skills of the teachers-researchers and the governance capacities of the managers" (PAPERS) is to strengthen the capacities of the Ministry of Higher Education by diversifying the training offer, adapting pedagogical methods to the competency-based approach and improving the governance of institutions. It was implemented in order to use a unique and innovative methodology, which had to be adapted to the new conditions imposed by the COVID 19 pandemic after the first five months of its implementation.

Indeed, after the first five months of face-to-face training carried out between September 2019 and February 2020, and which took place at the headquarters of the Ministry of Higher Education and Scientific Research and then at CERIST (Centre de Recherche sur l'Information Scientifique et Technique) in Algiers, the training was temporarily interrupted due to the pandemic, and resumed only in July 2020, but only in a virtual manner, to be brought to its end in its last months (from September 2021 to June 2022) in both virtual and hybrid mode.

Each of the components in which the plan was structured: teaching methodology (component 1), teacher training (component 2) and governance of the university system (component 3) followed a similar pattern in its development: training delivered in the context of different weekly missions by a body of experts, and received by a more or less large group of participants where the objective was to transfer the knowledge acquired to their academic environment.

The novelty imposed by the modality of the mission (face-to-face, virtual or hybrid) undoubtedly gave it an innovative character, a solution that had to be improvised, since

there was no plan for the last two at the outset. In any case, it should be noted that the principles that guided the project: collaborative and cooperative working system, sharing of experiences, joint discussion of the issues dealt with, were maintained in all three modalities, although they had to be adapted to the new modality, as will be explained below.

1.2. Objectives of the project

The main objective of the project was to strengthen the capacities of the Ministry of Higher Education and Scientific Research (MESRS) by diversifying the training offer, adapting the methods of the competency-based approach and improving the governance of the university system.

The other objectives were

— To strengthen the dissemination of pedagogical engineering among teachers, researchers and managers in different fields,

— To provide a current and future vision of educational engineering in the university world,

— To contribute to the development of the economy, by creating a competitive space

— To contribute to the development of the economy, creating a competitive space for knowledge sharing oriented towards the invention and use of learning techniques and resources.

The project provides organisational and methodological support to the MESRS so that it can successfully develop its role of leading the reform and contributing to the success of university education and research in Algeria, in line with the Bologna recommendations and the European Higher Education Area.

2. PROJECT STAKEHOLDERS

2.1. Project funding and management

The institutional twinning project was funded by the European Union, managed by the P3A programme of the Algerian Ministry of Trade and Export, and implemented by the Education Council of Castilla y León, with the support of the International and Ibero-American Foundation for Public Administration and Policy (FIPAP)

2.2. Project leaders

Two project leaders ensured the smooth management of the project until the end: the Spanish project leader, Ms Pilar GARCES GARCIA, and the Algerian team leader, Mr MEZIAN, later replaced by Ms BEDJAOUI. These two figures are the administrations representatives of both States, the Member State and the Beneficiary State.

2.3. Resident Twinning Advisor (RTA)

The Resident Twinning Advisor was Mr Antonio BUENO GARCIA, who was in charge of the project management on site and acted as a bridge with all the twinning actors. His Algerian counterpart was initially Mrs Amina BENBERNOU, who was later replaced by Mrs Fatma Fatiha FERHANI. The Resident Advisor had a team composed of an assistant, Ms Widad SELLAL, in charge of the administrative tasks of the project, including the translation of the experts' presentations into French, and an interpreter, Mr Rafik BENZINE, who provided French-Spanish-French interpretation between the experts and the participants, and was also in charge of the translation of the experts' final mission reports.

2.4. Stream Leaders

Three Stream Leaders were in charge of organising the teams of Spanish experts who were to participate in the training: for Stream 1, Mr Bartolomé RUBIA; for Stream 2, Mr Alfredo CORELL; and for Stream 3, Mr Abel CALLE, who was replaced a few months later by Ms María Teresa PARRA.

On the Algerian side, three other leaders were their interlocutors and were in charge of planning the participation. Firstly, Ms Kahina DJIAR (responsible for strand 1), who was replaced after a while by Mr Zoubir GACI; for strand 2, Mr Kamel BADARI, who was replaced by Ms Fatma Fatiha FERHANI; and for strand 3, Ms Meriem BEDJAOUI, who was later replaced by Mr Ali Zineddine BOUMEHIRA.

2.5. The experts

More than 150 experts from the EU Member States provided the training, they have been selected by the persons in charge of the component on the basis of their degree of knowledge and experience in the field. Most of them came from the University of Valladolid (leading university of the project) and the three other public universities of the Autonomous Community of Castilla y León (Burgos, León and Salamanca), but others came from different universities in Spain, such as Alcalá de Henares, Alicante, Autónoma de Madrid, Cádiz, Castilla La Mancha, Complutense de Madrid, Extremadura, Granada, Málaga, Murcia, and the Basque Country ; and different organisations or institutions, such as the General Foundation of the University of Valladolid, the Science Park of the University of Valladolid, the National Agency for Quality, Evaluation and Accreditation (ANECA), the Agency for the Quality of the University System of Castilla y León (ACSUCYL), the COTEC Foundation for Innovation of the Complutense University of Madrid ; and one university from another EU Member State, the University of Tallinn (Estonia), all universities and institutions, where the experts, were professors/researchers, deans of departments or senior managers.

2.6. The participants

The participants were selected by the Algerian Ministry of Higher Education and Scientific Research. Participants included rectors, vice-rectors, general secretaries, deans, vice-deans, directors, deputy directors and deputy directors of teaching, degrees and continuing education, chairmen and deputy chairmen of national pedagogical committees; chairmen of national scientific committees; heads of specialised committees; deans of departments; heads of fields; heads of sections; coordinators and representatives of training units; heads of resources; engineers; computer scientists; managers. Coming from a hundred centres of the universities of Adrar, Aïn Témouchent, Alger 1, 2 and 3, Annaba, Barika, Batna 1 and 2, Béchar, Béjaia, Biskra Blida 1 and 2, Bouira, Boumerdes, Boussaada, CERIST, Chlef, Constantine 1, 2 and 3, Djelfa, El Bayadh, El Oued, El Taref, Ghardaia, GuelmaIllizi, Jijel, KhemisMiliana, Khenchela, Laghouat, Médéa, Mostaganem, Naama, Oran 1 and 2, Ouargla, Oum, Saïda, Sétif 1 and 2, Sidi Bel Abbès, Skikda, Souk Ahras, Tamanrasset, Tebessa, Tiaret, Tindouf, Tipaza, Tissemsilt, TiziOuzou, Tlemcen.

3. TRAINING CONTENT OF THE MISSIONS

As mentioned above, the training of experts was based on three components: 1) Educational methodology, 2) Training of teacher-researchers, 3) Governance of the university system.

3.1. Educational methodology

In component 1) Educational methodology, active and dynamic methodologies were applied, such as: the "flipped classroom" (where the teacher first instructs the group and gives them a task, before continuing the explanation in more depth); gamification, and other techniques. And these were 3 different activities: 1. Development of active methodologies. Creation of working teams; 2. Adaptation of teaching materials. Development of digital resources. Inclusion of new forms of assessment; 3. Creation of virtual learning environments.

3.2. Training of teacher-researchers

In component 2) Training of teacher-researchers, teacher training strategies have been implemented, adapted to the possibilities and needs of teachers and their environment; 8 activities have been developed in this component: 1. New information and communication technologies. 2. Online teaching. 3. Training of teachers in teaching methodologies. 4. Implementation of a quality management system. 4. Teacher training in information and communication technologies in teaching practice. 5. Teacher training in personal and social development. 6. Teacher training in research techniques. 7. Teacher training for internationalisation. 8. Training on demand for university centres.

3.3.　Governance of the university system.

In component 3) University governance, key aspects were analysed, such as organisational structure, standardisation of the formats of the educational offer, administrative action protocols, economic evaluation of the necessary and available resources, evaluation of the educational centres and infrastructures and internationalisation; three activities were carried out within this training: 1. Career information and management, 2. Guidance, student engagement and employability, 3. Monitoring of accreditation of degrees and academic services by quality assurance agencies

3.4.　The ABC of the project

Plenty of concepts were dealt with, so many that an alphabet of recurring terms could be created, as illustrated below, at the risk of forgetting many others:

A. abstract, academic environment, academic planning, access, acquisition, accreditation, accompaniment, actions, active methodologies, activities, actor, achievement, advice, agreement, adaptation, adjustment, analysis, approaches, articulation, aspect, assessment, assistance, assurance, attitudes, awareness. B. base, basic data, beneficiary. C. campus, capacity, certification, clarity, class, classification (traditional, flipped), collaboration, collaborative working system, commitment, communication, community, competency-based approach, competitive space, concept, , conclusion, conference, consolidation, construction, content, contexts, cooperative working system, coordination, control, convergence, cooperation, coordination, course, creation, creativity, credits, criteria, critique, curriculum, cycle. CH. challenge, channel of communication, change. D. debate, decision making, description, design, development, diagnosis, didactics, digital, dissemination, director, discrimination, documentation, doubt, dynamic methodologies. E. education, education system, educational methodology, educational offer, employability, exchange, equality, employability, encouragement, engineering, entrepreneurship, equivalent, ethics, evaluation, evolution, examination, excellence, exercise, experience, expert. F. face-to-face, flipped classroom, framework. G. gamification, gaps, governance, guide. H. handicap, harmonisation, hybrid training, higher Education, hypothesis. I. ICT, ideas, immersion, impact, implementation, improvement, information and communication technologies, internet connection, involvement, inclusion, indicators, influence, information, infrastructure, initiative, innovation, instruments, integration, interaction, interest, internationalisation, internet, interpretation. J. job, joint discussion. K. kinesics, knowledge L. leadership, lifelong learning, learning environments, learning techniques. M. management, manager, mastery, market, materials, media, memorisation, mentoring, metacognition, method, methodology, mobility, model, modernisation, module, motivation. N. needs,network. O. objective, off-line, on-line, opportunity, optimisation, organisation, orientation. P.participation, partnership, path , pedagogical, pedagogical engineering, performance, perspective, plagiarism, plan, platform, portfolio, practice,

principles, procedure, process, profession, profile, project leader, projects, promotion. Q. quality, quality evaluation, quality management system, questions. R. report, requirement, research, research techniques, recommendation, recognition, reconstruction, reflection, regulation, responsibility, resources, results, roles, rubric. S. scenario, science, scientific research, screen, self-critique, seminar, service learning, sharing, simplification, skills, social demand, software, space, specialization, standardization, stimulation, strategy, strengthening, structures, student, student participation, study, support, survey, synthesis. T. target audience, task, teacher, teacher-researcher, teacher training, teaching, teaching methodology, team, techniques, technology, telematic participation system, theory, thesis, tools, training, transfer, transformation, translation, transmission, transversality, tutoring, twinning. U. understanding, university, updating. V.validation, verification, viability, video conference, virtual campus, virtual learning environments, virtual training, virtuality, vocation. W. web, work, working teams, workshop.

4.   TRAINING MODALITIES

4.1.   Face-to-face training

In the face-to-face sessions, two moments can be distinguished, depending on the space in which the mission was carried out: the oval meeting table at MESRS, which fostered proximity and a spirit of collaboration and camaraderie between the two parties; and the one held at CERIST, in a room shaped like a small amphitheatre, where the expert and the interpreter occupied the podium and the participants on the rows of the amphitheatre, producing an interrelationship closer to that of a classroom, with the experts having to make an effort to facilitate closeness with the participants and overcome the barrier that could potentially be established.

In both cases, the Algerian team participated in the face-to-face training by raising their hands during the training, at the end of the intervention, by writing questions on a board in the room for the experts to answer at the agreed time, or through the question forum installed on the virtual campus.

The face-to-face sessions were recorded by the audiovisual media services of MESRS or CERIST and thus kept as supporting material for later viewing by the participants.

Interestingly, the breaks in the training, usually every hour, and the longer ones for lunch, gave way to friendly encounters where experts and participants shared not only tea, coffee, pastries, dates or other foods, but also experiences (positive or frustrated) and projects. At the end of the daily sessions, the experts returned to the hotel to prepare for the next day's work and also took time to explore the city, accompanied by the YRC and a participant who joined them.

4.2. Virtual training

When, due to circumstances beyond the control of the project, the face-to-face activity was interrupted, it was deemed necessary to continue it virtually. This is a scenario that was not originally planned and had to be managed on the fly and in record time. Without intending to do so, this model proved to be the best solution for guiding the beneficiary through the details of the virtual training, which was considered urgent for a long time, given the geography of the state (Algeria covers an area of 2,381,71 km²) and the need to reach a large target audience. The project has therefore become much more technological and realistic at the dawn of the 21st century.

In terms of communication modalities, two communities naturally emerged: the Spanish community, which transmitted from different parts of Spain, depending on the location of the experts and the resident advisor (who had to enter teleworking mode from Spain); and the Algerian community. The participants had to follow the training from their homes or from the university if it was there; the Algerian project leaders were also each in a different location.

The internet connection, disparate from one territory to another, caused some problems that required quick and punctual solutions in order to maintain the signal. If interpretation from Algeria was a problem, the resident adviser took over so as not to interrupt the session. If a participant left the room or left suddenly due to a loss of signal, this could be remedied by reviewing the recording, which was automatically produced at the end of the day.

The experts continued to contribute their experience by sharing their on-screen presentations and content files on the Moodle virtual campus. And participants had an open channel of communication with the experts through the Blackboard Collaborate platform chat, the virtual campus forum and also by raising their hands and speaking live in the video conference.

Something important also changed in this technological environment: the new videoconferencing tool allowed for a maximum of 250 participants, much more than those who attended in person, which exponentially increased the number of followers and allowed them to see first-hand how the online training resources work, one of the main interests of the Algerian ministry.

4.2. Hybrid training

When circumstances allowed, hybrid training was used: some experts who came to Algeria were able to offer their contributions to an audience in the classroom and also remotely through videoconferencing. The participants on site could follow the training with the same procedure as at the beginning of the project (face-to-face sessions) but they could also adopt the telematic participation system.

The main problem was that of the internet connection, which was sometimes unstable in the operational centre, but it was decided to record the sessions on camera in order to offer the whole training session in a deferred way at the end of the session. In this mode, the interpreter was installed in the room where the speaker was.

5. COMMUNICATION AND SHARING WITH THE PARTICIPANTS

Between the experts, who spoke Spanish, and the participants, who were Arabic-speaking and also spoke French, it was decided to communicate in this second language through the mediation of the Spanish-French-Spanish interpreter (and Arabic, if necessary). The type of interpretation was consecutive (after one or more ideas had been expressed by the speakers, the interpreter transferred the speech into the other language).

From the outset, the closeness of the experts and the participants was evident, with the former seeing themselves as colleagues and the latter feeling this relationship as close and supportive. Indeed, the aim was to make it clear that the training was a framework for internal debate and sharing of knowledge and experience between the parties; it was not at all a question of imposing a unilateral vision of things, but rather of showing how they were carried out in the Member State and how such an action could be developed in the beneficiary State.

The experts were there to help them in the belief that it was up to the participants and the beneficiary State to promote the necessary actions or changes.

For the smooth management of the sessions, a Moodle virtual campus was set up, hosted by the University of Continuous Education (UFC) of Algiers and managed jointly with the University of Valladolid, which hosted the translated presentations of the experts, as well as the related documentation. A question-and-answer forum was also provided, as well as a satisfaction test which participants were asked to answer at the end of the mission.

The shift from face-to-face to virtual or hybrid training due to the pandemic obviously had consequences in this area, as in the face-to-face system the interpreter was next to the expert and in front of the audience; In the case of virtual training, the interpreter was on the other side of the screen, in Algeria, and hidden to be more inconspicuous; and in the case of hybrid training, the interpreter was next to the experts if they were in Algeria, or at their point of connection in Algeria if the experts were broadcasting remotely. The interpreter was a key figure in the communication between the experts and the participants.

5.1. Interpretation

Communication between experts and participants was made possible by interpretation from Spanish into French and vice versa. Of the known forms of interpretation (simultaneous or consecutive), consecutive interpretation, i.e. interpretation after a short

speech by the speaker, was the most successful due to the technical circumstances of the venue or the medium. The advantage of this type of interpretation is that you can hear the expert for a few moments and thus understand the nuances of his or her expression, but the disadvantage is that it takes at least the same amount of time as the speaker, so that an hour of training is in practice reduced to thirty minutes (thirty minutes of speaker + thirty minutes of interpretation). In face-to-face training, when experts and participants shared a table, the interpreter stood next to the speaker in order to avoid hearing problems and to reproduce the speaker's words without problems: when the space was changed to a classroom with the teacher's podium in front of the participants' tables, the interpreter continued to stand next to the speaker. Everything was different when the space was changed to a hybrid or virtual system, with the interpreter standing apart from the speaker, and both (speaker and interpreter) being equipped with a microphone and headphones to ensure the quality of the hearing. The interpretation for the Algerian participants did not follow a standard model, but rather was adapted. Indeed, the interpreter assumed his role as mediator with a strong desire to convey the message as clearly as possible to the Algerian speaker, and did not hesitate to use any formula that could facilitate understanding, resorting, if necessary, to an explanation in Arabic or asking questions of the speaker to ensure the meaning of his speech, questions that he also made known to the audience that he had asked in order to facilitate their understanding. This figure could be described as an adaptive or facilitative interpreter. Just as he interpreted in the Spanish-French direction for the audience, he also interpreted in the opposite direction for the experts. The questions he collected during the chat or live broadcasts were transmitted to the expert in the clearest possible way, just as he acted in the process of interpreting the expert's speech.

6. OTHER PROJECT ACTIVITIES

There is no theory without practice and there is no distance learning that does not require the direct confrontation of the training with the actors of the process themselves. Among the cross-cutting activities, the study tour has been central. Organised last year and appreciated by a significant number of participants (15), this day allowed participants to meet the experts in person and to do so in the very environment of their work, their departments or laboratories. From institutional meetings to tours of the facilities and demonstrations of the department's operations, participants were able to not only learn about trends in situ, but also discuss with their counterparts in meetings aimed at seeking synergies for collaborations in joint degrees, research projects or publications.

In addition to the study tour, the project organised several seminars such as the launching and closing seminars, and in between, the didactic seminar for participants from Algerian universities who wished to present their papers on various aspects of university life, inspired by the activities of the Spanish experts.

The project also inspired an international congress organised by the beneficiary with the support of the Member State, in order to deepen the experience on the topics addressed during the three years of the project. This experience, in a hybrid format, enriched the project in terms of educational and technological experiences - now world-wide - and offered the Algerian Ministry the collaboration of an EU Member State in the organisation of international educational events.

7. CONCLUSION

The institutional twinning project was not only a means of transferring educational methodology, teacher training and governance between two educational systems or two states, but also an innovative manifestation of the practical application of partner training and collaboration, which could constitute a model for the future.

The constructive spirit and camaraderie in which it took place laid the foundations for fruitful collaboration and cooperation between the two shores of the Mediterranean, and also between the European Union through Spain and Algeria. Training and sharing have taken root and many collaborations have already seen the light of day between the two sides. Tomorrow the new generations of teachers and learners will see their fruits again.

PAPERS was conceived as a highly technological project on the path of educational humanism, with the tools and ideas of the present, but aimed at the university trainers of tomorrow, because its objective was to TEACH FOR THE FUTURE.

Andragogical methods and innovative practices in hybrid education

Fatma-Fatiha FERHANI

University of Continuous Education, Algiers (Algeria)

ferhanipem@gmail.com

"It is what we think we already know that often prevents us from learning».

Claude Bernard

1. Introduction

Although the need to train adults has been imposed for more than two centuries, the methodological problem has not yet been fully resolved. Transposing a school or even university type of pedagogy to adults constituted a mistake leading to failure, the main reasons for which could be: resistance to returning to education, the feeling that knowledge acquired at school is rarely used in professional life, the impossibility of partitioning knowledge because professional reality is interdisciplinary, the impossibility of dissociating theoretical knowledge and practical behaviour in a professional situation, the interdependence between education and the professional environment. Distance learning using innovative methods and andragogical approaches could be a solution for the LLL (lifelong learning).

For Condorcet, the father of Lifelong Learning, « l'instruction doit être universelle, c'est-à-dire s'étendre à tous les citoyens. Elle doit embrasser le système entier des connaissances humaines et assurer aux hommes, dans tous les âges de la vie, la faculté de conserver leurs connaissances et d'en acquérir de nouvelles (…) : on lui montrera l'art de s'instruire lui-même.» (in Mucchielli[1] .) This last expression is the origin of the slogan «Learning to learn».

All over the world, education for adult was being addressed and in 1979, UNESCO set up an Adult Education Division with an office in Paris. In 1956, the expression «Lifelong Education» appeared, defined as a natural extension of education, a professional and technical improvement at all levels, a mean of protecting people against the dehumanising effects of technology and propaganda, and a mean of promoting Work and reclassifying certain adults.

---

[1]   Mucchielli, R. (1998), *Les méthodes actives dans la pédagogie des adultes*, Les Editions ESF, page 5

In fact, education for adult differs from that of schools, high schools and universities in that it takes account of reality, i.e. their professional aspirations, their present and future responsibilities, their time horizon and their projects. All education for adult must therefore be organised in relation to a type of a concrete professional situation and to a well-defined practical behaviour.

It is in Canada that the work on education for adult has developed the most strongly. The importance given to this science stems from the great flexibility of the Canadian educational system, as many opportunities are offered to anyone wishing to restart or continue studies that were interrupted at some point, for one reason or another, but especially after entering the world of work. In principle, the current LMD system is in line with this perspective.

For the time being, although there is no universal theory of adult learning, there are bridges and complementary links between the scientific works carried out in many countries. Researchers agree, however, that Knowles'[2] (1980) andragogical model is the founding text in the field of andragogy.

Whereas the term «pedagogy», from the Greek «paida» (child) and «agogus» (guide), refers mainly to a set of theories and practices based on teacher-centred learning and transmission of knowledge, the term «andragogy» comes from the Greek «ander» (adult) and «agogus» (guide) and refers to the set of theories and practices based on adult-centred learning. The first publications in the Journal of Adult Education on the subject were published between 1929 and 1948 and suggest that the war was a major reason why whole generations dropped out of school. These articles describe successful experiments with adults, although they are not based on theoretical foundations or the use of proven academic standards of assessment. The question of «how do adults learn», which originated in the 1920s, is still relevant today and «some eighty years later, there is no single answer, theory or model of adult learning that takes into account all the characteristics of the adult learner that we know, as well as the specificities of the environments and the learning process itself. » Merriam[3] (2001)

In 1968 Knowles[4], drawing on a European concept, introduced the concept of andragogy, which better describes the specificities of adult learning. For his model, andragogy is defined as a science that is expected to «proceed scientifically in the planning, implementation and evaluation of educational interventions» and an art that is «imbued with humanism and based on the relational climate that exists between the learner, the trainer and the group of

[2]   cf. http://www.format21.com/pdf/andragogie.pdf
[3]   *www.cairn.info/revue-savoirs-2010-1-page-53.htm*
[4]   Knowles, M. (1990). *L'apprenant adulte, vers un nouvel art de la formation*. Paris: Les Éditions d'Organisation.

learners» that help the adult to learn, Knowles (1973) follows the humanistic philosophical trend that gave rise to the social sciences, with adult education as a sub-field, and whose main principles are the autonomy and free will of the adult human being.

Knowles thus advocates a focus on the adult learner while respecting their autonomy in learning. His theory of the adult learner is based on six assumptions:

— the adult needs to know why and how he or she will undertake a learning process,
— the mature adult's self-concept leads to self-direction,
— he/she has a wealth of experience which is often the richest resource for learning,
— the ability and willingness to learn is enhanced if learning is oriented towards developmental needs and social roles,

there are educational needs centred on the learner's interests in facing tasks or solving problems.

this theory will generate «implications for the organisation of knowledge and learning and evaluation activities specific to adults and will attract the support of trainers who aspire to distinguish their field of intervention from that of pedagogy»[5].

The controversies that arose at the time centred on two questions in particular:

— Is andragogy a theory?
— Is the distinction between andragogy and pedagogy really relevant?
— The second question is «the distortion between the two antagonistic visions of education, the one that classifies specificities in the educational field and the one that apprehends it in its globality, as a process inherent to the human being. »[6]

Some, such as Elias[7] (1979), are very critical of the concept of andragogy: for them, there is no difference between children and adults that justifies an educational approach specific to one or the other. They refute Knowles'[8] distinction between andragogy and pedagogy, which is based on the following five assumptions:

— Children are dependent beings while adults are independent,
— while children are inexperienced beings, adults have a reservoir of experience, which is a source of learning,
— the need to learn in children is correlated with biological functions, whereas in adults it is a need for self-actualisation,

---

[5]   (Merriam & Caffarella (1991) cited by Bernartchez, P.-A.(2000), *Attitude proactive, partici-pation et collaboration à des activités d'encadrement médiatisés par ordinateur*. UM. Quebec

[6]   Davenport, J., & Davenport, J. A. (1985). A chronology and analysis of the andragogy debate. *Adult Educational Quarterly*, 35 (3), 152159

[7]   cf. www.cdc.qc.ca/pages/bessette.html

[8]   cf. cueep.univ-lille1.fr/pedagogie/Andragogie-pedagogie.htm

— children's learning is subject-centred (content) and adults' learning is case-centred (problem-solving),

— children's motivation is extrinsic while adults' is more intrinsic.

Tennant[9] (1986) summarises the criticisms and refutations of Knowles'[10] five assumptions as follows: children are independent in their learning process and are imaginative, creative, innovative and imaginative, even if this autonomy is not exactly as defined by Knowles (identification of needs, pursuit of personal goals etc.). All experience is a source of learning for the person doing it, whatever their age. The learning content should, in principle, be adapted to the needs of each learner, regardless of age. He argues that if there were a real need, children too would naturally be directed towards solving concrete problems, and that the application of knowledge and the know-how acquired through learning is as valid for children as for adults, even if the motivation for children is generated by the very nature of the education system which codifies rewards and sanctions.

Economic and social mutations in the world have brought about new scientific, technical and cultural educational needs that are inseparable from professional needs, which have been the main focus of the debates at the five World Conferences on Education.

The recommendations of the five International Conferences[11] on Adult Education are the sources of the key messages that UNESCO must promote on this theme, which can be summarised as follows:

— adult education should be seen as an integral part of the education system,

— it is the responsibility of governments to create economic and administrative conditions for it,

— the active participation of civil society in adult education is essential,

— adult education should not be limited to the education sector alone,

— it should address the needs of marginalised populations, including women,

— adults must play a major role in their education and learning.

What implications do these recommendations have for the continuous education for teachers? According to Bourdoncle, the professional teacher must train throughout his or her career to transfer cognitive learning from the theoretical field to the professional context. He/she will thus be able to:

[9]   cf. www.umoncton.ca/repertoire/1er_cycle/edandesc.htm

[10]   Knowles, M. (1973), L'apprenant adulte, Ed.d'Organisation

[11]   Elsener (1949), Montreal (1960), Tokyo (1972), Paris (1985), Hambourg (1997), Belem (2009) and in Morocco (2022)

— analyse complex situations, with reference to several reading grids;

— make a rapid and considered choice of strategies adapted to the objectives and ethical requirements;

— draw from a wide range of knowledge, techniques and tools the most appropriate means to structure them into a system;

— to adapt one's projects rapidly in the light of experience;

— critically analyse one's actions and their results;

— learn throughout one's career through this continuous evaluation.

1.   THE APPROACHES OF THE ANDRAGOGICAL CONTINUOUS EDUCATION

The approaches best suited to successful education for adult learners are those outlined below.

1.1.   The constructivist approach

It is based on three pillars: firstly, the construction of knowledge, secondly, the focus on the learner and thirdly, the role of the context in learning. Indeed, knowledge is not just factual or cultural information that can be transmitted from one individual to another, it is constructed progressively.

With regard to the learner-centredness, the learner builds knowledge through cognitive activities and the interaction established between knowledge and the environment. Learning is based on the representations that the adult learner has of these components and which influence his/her perception of knowledge. Insofar as the adult learner evolves in a group (local, regional, national, international), the social and affective environment plays an important role in the learning process.

1.2.   The socioconstructivist approach

Piaget[12] and then Vigotsky[13] are relied on the idea that there can be no learning without socialisation and that it is in the interaction within the group that the learning activity is carried out because the collaborative exchanges between learners or between teacher/students determine the learning. The interactionist approach remains valid even if the inter/learner or learner/tutor exchanges are virtual and mediated.

Members of a learning community (real or virtual) exchange, collaborate, share concepts, negotiate, confirm/request confirmation of meaning, question/respond to requests, construct and co-construct knowledge and develop their skills.

---

[12]   Piaget, J. (1964). Six Etudes de Psychologie. Geneva: Editions Gonthier.
[13]   Vigotsky, L.S. (1985) *Pensée et langage.* Trans F. Sève, Paris. Editions sociales.

1.3.   The competence approach

This is the ideal approach for the continuous education of teachers, since it is based on competence, which allows for the mobilisation of knowledge, know-how and know-how to act. Andragogical learning goes beyond the mere acquisition of declarative knowledge, which is why it is recommended to use activities close to those found in real situations and which have a personal and/or professional value.

1.4.   The project approach

In the traditional method, the very concept of a course is synonymous with a journey, i.e. a pathway designed and organised by the teacher, the outcome of which is ignored by the learners until they discover the end of it, and it is up to them to look back to grasp its purpose.

The idea of a project is contrary to this approach: a project begins with its end. It is built from its end point, from which the previous operations are defined in a regressive way to the initial point. Moreover, unlike the course, the project is carried out in a context of cooperative and collective elaboration, and therefore of permanent negotiation.

1.5.   The problem-solving method

For Xavier Rogiers (2010) « la situation-problème représente une situation d'apprentissage, c'est un moyen d'apprentissage et non le résultat, c'est une stratégie d'enseignement qui favorise l'engagement des apprenants et permet la construction des savoirs. C'est une situation complexe, globale et signifiante pour l'apprenant. »

The French pedagogue Philippe Meirieu (2005) states on this subject that: «il y a situation-problème lorsqu' un sujet, en effectuant une tâche, s'affronte à un obstacle. Le franchissement de l'obstacle doit représenter un palier dans le développement cognitif du sujet.»

Astolfi (1993) states that: «la situation-problème est organisée autour du franchissement d'un obstacle par la classe, obstacle préalablement bien identifié. L'apprentissage s'organise autour d'une situation à caractère concret, qui permette effectivement à l'apprenant de formuler hypothèses et conjectures. »

1.6.   The interactive approach

There is a learning community or collaborative and interactive learning when, in a structured group, a co-learning process is implemented according to a socioconstructivist approach around a common research project, problem-solving, development and education. The aim is to make the most of each person's professional, personal and cultural background, as well as the skills, abilities, talents and values of the members of a group.

For Allaire and Lusignan[14], the specificities of the learning community are multiple: focus on learning, collaborative learning, importance given to social interactions, aiming to develop a responsible and committed individual and collective action.

1.7.   The autonomous approach

The concepts of learner autonomy and self-directed learning are close but not equivalent. Carré[15] et al (2010) distinguish five major trends:

— integral self-education, which refers to self-learning,
— existential self-education, a bio-cognitive process aimed at learning to be,
— educational self-education, implemented in specifically educational institutions,
— social self-education, which takes place in social groups,
— cognitive self-education, which often refers to the expression «learning to learn».

Autonomy should then be considered, not as a prerequisite, but as an objective. Thus, work in a guided self-education system is seen as a means of developing the learner's capacity for autonomous learning management.

1.8.   The flipped classroom

The flipped classroom is a teaching method that stems from the « *do it yourself* » trend. It is a method of teaching that abandons the lecture in favour of an innovative and collaborative methodology, the aim of which is to get learners out of certain passivity and put them in an active learning situation.

The change in posture is bilateral. On the one hand, the students move from being consumers to being constructors of knowledge. They will build the course without any documents being provided. On the other hand, the teacher moves from producing and transmitting the course to accompanying the students in the construction of this knowledge.

The work is both collective and individual. Each student has to participate with his group in the construction of several chapters and assimilate those made by the others. The greater the amount of work done in the session, the less personal work there is to do at home to complete it and the more time there is for learning.

This pedagogy is fully collaborative. In a classroom setting, it requires a large room with several removable, identical workstations (tables on wheels allowing the space to be arranged differently, chairs, stools, fixed computer workstations, paper-boards, post-it,

---

[14]   Allaire, S. & Lusignan, G. (2015). *Enseigner et apprendre en réseau : guide pédagogique*. Québec, Canada : Livres en ligne (LEL) du CRIRES. Available: http://lel.crires.ulaval.ca/oeuvre/enseigner-et-apprendre-en-reseau (consulted on 28st/12/2021)

[15]   https://www.cairn.info/l-autoformation--9782130586906.htm (consulted on 21st/12/2021)

mobile boards with debilitated ink markers, projection equipment, students' laptops, tablets and interactive whiteboards).

Remotely, it requires Wi-Fi with a broadband connection and uses a range of platforms and IT tools (Google Drive, Facebook, Moodle, Twitter, etc.) so that students can publish their work as they produce them. It also requires good tools for online tutoring.

1.9. The case study

The case study is a pedagogical method based on an interactive mode of teaching aimed at learning about organisational realities and acquiring skills of observation, analysis, synthesis and action based on concrete situations on which everyone acts, reacts, interacts and reflects.

This is a demanding method which requires the teaching team to carry out research, formalisation and didactisation in order to achieve clearly defined learning objectives.

2. MODERN EDUCATION TOOLS

The perspective favoured here is, very generally, also of the actional type in that it considers above all the user and the learner of a language as social actors who have to accomplish tasks (which are not only linguistic) in circumstances and a given environment, within a particular field of action. If speech acts are carried out in language actions, these actions are themselves part of actions in a social context which alone give them their full meaning. (CEFR[16] , p.15)

2.1. MOOCs

The MOOC (massive open on line course) is somewhere between free learning via the Internet and ODL (open and distance learning) and can thus be described as «guided learning». It is also learning in «short bursts (less than 10 minutes) » and can also be done by moving from resources to resources.

The assessment recommended in the learning situation through MOOCs favours self-assessment activities (quizzes and MCTs) and formative assessment which allow the adult learner to :

— become aware of their mistakes

— redo the activity as many times as necessary before succeeding.

— practice self-regulation through the trial/error/trial/succeed model, leading the learner to construct his or her learning.

— the evaluation will be done by means of the portfolio or e-portfolio, a tool allowing the learner to measure the degree of achievement of the education objectives.

---

[16]   Cadre européen commun de référence

2.2. COOCs

The COOC (Corporate Online Open Course) is the equivalent of the MOOC limited to a company or institution wishing to retrain or provide initial and/or ongoing training for its employees. The internal COOC is a private online course given to a community of learners: employees, clients, prospects, whereas the external COOC is public, and therefore accessible to Internet users, but with a view to communicative advertising.

2.3. SPOCs

The SPOC (Small Private Online Course) is a digital learning solution, intended for a limited circle of employees of a company, responsible for solving specific professional problems: emergence of a corporate culture, competitiveness, growth, creativity, implementation of new practices, etc. In a world where the survival of the company depends on innovation, employees are required to update their skills in real time.

2.4. Mind Mapping

Mind mapping appeared in the 1970s and is based on the work of the British psychologist Tony Buzan, who postulated that a graphic or pictorial representation increased memorization. Originally created to make it easier to take notes during lectures, the mind map makes it possible to configure knowledge in a tree structure, to relate ideas, to structure them and above all to store them in the long-term memory.

2.5. Micro-Learning

Micro-learning, or the accelerated version of e-learning, is a teaching practice lasting between 30 seconds and three minutes. Made famous by the academic exercise «My thesis in three minutes», this modality corresponds to the current representations of many young people on learning: shorter, faster, more fun. Accessible from mobile phones, this multimedia tool comprising text, illustrations and sound is becoming increasingly popular. However, these condensed videos require a great deal of selection, synthesis and professional creativity. In addition to the video, micro-learning can be used as a short article, an «educator's word», a quiz, etc. While its detractors criticise it for producing information rather than training, its supporters are attracted by the concentrated format of the knowledge to be acquired.

2.6. Gamification

Gamification or serious games are now part of the range of tools used by educators in an adult education context. Indeed, new managerial practices use games as a lever for learning, motivation and involvement of education audience. Since neuroscience has shown that human beings retain knowledge better when it is associated with emotions,

the artefact, or game, it has become part of the edutainment toolbox. The logic of trial and error takes on its full meaning in training in an adult education context and making learners actors is essential for learning. The game also facilitates exchanges and sharing within the group, whether in intra- or inter-company training, to promote collaboration and teambuilding.

3. CONCLUSION

The various methods we have presented contribute to the implementation of emancipatory education, i.e. it enables students to transform their living and working conditions, to take initiatives, to adopt new behaviours such as autonomy, cooperation, teamwork, the feeling of belonging to a group, strategy, etc. Whether face-to-face or distance learning, these new attitudes are not acquired by listening to, understanding and giving a lecture, but by experience, practice, self-confidence, contractual negotiation and mutual support in the workplace. However, it is important to create a climate that encourages metacognition, moments of conceptualisation and awareness of the attitudes acquired and the approaches that enabled them, with the ultimate aim of transferring them to contexts other than the education context.

4. BIBLIOGRAPHY

ALBERO, B. (2003). Autoformation et enseignement supérieur, Editions Hermès Sciences/Lavoisier, Paris

— (2000), L'autoformation en contexte institutionnel. Du paradigme de l'instruction au paradigme de l'autonomie. Ed. L'Harmattan, Références series, coll. Education et formation, Paris

ANDERSON, L.W. (2004). Increasing teacher effectiveness, Paris, UNESCO.

ASTOLFI, J-P. (1993) Placer les élèves en «situation-problème» ? PROBIO-REVUE, vol. 16, no 4.

BARBOT, M-J & CAMATARRI, G. (1999). Autonomy and learning. L'innovation dans la formation, PUF, coll. Education et formation.

BEAU, D. (2008) La boîte à outils du formateur. Editions d'Organisation.

BOUCHARD, P. (2000). Transactional autonomy in training. In: S. ALava (Ed.). Cyberspace and open training: towards a mutation of training practices? Brussels: De Boeck University

BOURGEOIS, E. & NIZEL, J. (1997). Apprentissage et formation des adultes. Paris: PUF

CARRÉ, Ph. (2020). Pourquoi et comment les adultes apprennent. De la Formation à l'apprenance. Dunod.

CARRÉ, Ph., MOISAN, A. and POISSON, D. (2010). Perspectives de recherche. PUF. Collection Formation et pratiques professionnelles.

CHALVIN, D. (1999). Méthodes et outils pédagogiques, Encyclopédie des pédagogies pour adultes, ESF editor, coll. Formation permanente, Séminaires Mucchielli, Paris.

Danis, C. & Solar, C. (1998). Adult learning and development. Montreal: Editions Logiques.

Huber, M. (2009) Inventer des pratiques de formation- Dynamiser un développement personnel et professionnel. Chronique sociale.

Knowles, M., (1990). L'apprenant adulte : Vers un nouvel art de la formation, Les Éditions d'Organisation, Paris.

Meirieu, Ph. (2005). Le choix d'éduquer - éthique et pédagogie, Paris, ESF éditeur, 9th edition

Rogiers, X. (2010). La pédagogie de l'intégration. De Boeck Supérieur

Tilman, F. (2004). Penser le projet. Concepts and tools for an emancipatory pedagogy. Lyon, Chronique sociale.

Tricot, A. (2017). L'innovation pédagogique. Broché. Editions enseignants.

Zimmerman (2000). Des apprenants autonomes, Autorégulation des apprentissages, De Boeck, Brussels

5. Sitography

Grootaers, D., Aux sources de l'école démocratique. Emancipation, Reason and New Education, http://www.meta-educ.be/edition.html.

Distance et mediations des saviors https://journals.openedition.org/dms

Hachicha, S., Andragogie, Institut supérieur de l'éducation et de la formation continue. (pf-mh.uvt.rnu.tn/67/1/andragogie.pdf)

https://digital-learning-academy.com/la-psycho-andragogie-pour-mieux-comprendre-la-formation-des-adultes-revue-methode/

TRAINING PAPERS & PICTURES

Pilar Garcés-García, Meriem Bedjaoui,
Antonio Bueno-García & Fatiha Ferhani

(eds.)

PAPERS, A PROJECT FOR THE FUTURE. EXPERIENCES AND SHARING

VOL. 1

Training Papers & Pictures

Granada, 2022

Summary

COMPONENT I

https://youtube.com/playlist?list=PLAWk79mKzcPuUvhQ1GuqBvlz625QjV8s5

COMPONENT II

https://youtube.com/playlist?list=PLAWk79mKzcPuRGhZuMC8xKyc-1IIwEafz

COMPONENT III

https://www.youtube.com/playlist?list=PLAWk79mKzcPvUd7nM1_n_dN92u-ViCHAJ

LIST OF AUTHORS

ABELLA GARCÍA, Víctor
ADRADA RAFAEL, Cristina
ALBA PASTOR, Carmen
ALDUDO AVILÉS, Mª Teresa
ÁLVAREZ ÁLVAREZ, Darío
ALVAREZ ALVAREZ, Susana
AMO IGLESIAS, María Cristina
ANDRÉS GONZÁLEZ, Pilar
ARANZANA RUIZ, María Blanca
ARRIBAS CUBERO, Higinio Francisco
ARTUÑEDO GUILLÉN, María Belén
AYLLÓN, Ángel
BAELO ALVAREZ, Roberto
BAEYENS LÁZARO, Enrique
BEDOYA BRAVO, David
BLANCO CORTIÑAS, José Manuel
BLÁZQUEZ MARTÍN, Antonio José
CALDERÓN QUINDÓS, Teresa
CALVO CONDE, Yolanda
CAMARERO IZQUIERDO, Carmen
CARABIAS HERRERO, Manuel
CARRASCAL ARRANZ, Francisco José
CARRO SANCRISTOBAL, Luis
CASADO MUÑOZ, Raquel
CASADO DEL POZO, Raúl
CASTAÑEDA, Linda

CASTRO FERNÁNDEZ, Juan Pablo DE
CASTRO PRIETO, Paloma
CLAROS DÍAZ, Manuel Gonzalo
CORELL ALMUZARA, Alfredo
CORREA GOROSPE, José Miguel
DIEZ CRESPO, Isabel
DOMÍNGUEZ PÉREZ, José Ángel
DUEÑAS HERRERO, Arturo
ESCUDERO PUEBLA, Elena
ESPINOSA BAYAL, María Ángeles
FONTANA ABAD, Mónica
FRUTOS BARAJA, Javier DE
FUENTES DE ANDA, Pablo
GALLEGO LEMA, Vanesa
GARCÍA MATILLA, Agustín
GARCÍA MEDINA, Javier
GARCÍA OCHOA, Eduardo
GARCÍA OLEA, Julio Ignacio
GARCÍA PEÑALVO, Francisco
GONZÁLEZ-CASCOS JIMÉNEZ, Elena
GONZÁLEZ DELGADO, Manuel Ángel
GONZALEZ FERMOSELLE, José Andres
GONZALEZ MARTIN, Enrique
GRIJALBA BENGOETXEA, Julio
GUILARTE MARTÍN-CALERO, Henar
GUTIÉRREZ MARTÍN, Alfonso

HORTIGUELA ALCALÁ, David
HOYUELOS ÁLVARO, Francisco Javier
IBARRA SAINZ, María Soledad
IRURTIA MUÑIZ, María Jesús
LARGO CABRERIZO, Antonio
LEZCANO BARBERO, Fernando
LÓPEZ AGUADO, Mercedes
LÓPEZ ITURRIAGA, Félix
LUCAS MANGAS, Susana
LLORENTE ANDRÉS, Ángel José
MARBÁN PRIETO, José María
MARCOS ORTEGA, Sandra
MARÍN JUARROS, Victoria Irene
MARTÍN HERRANZ, Raúl
MARTÍN PELAYO, Fernando
MARTÍNEZ PÉREZ, Enrique J.
MARTÍNEZ SACRISTÁN, Oscar
MAYO ISCAR, Agustín
MIGUEL JIMÉNEZ, Ignacio DE
MOGORRON HUERTA, Pedro Joaquín
PAREDES LABRA, Joaquín
PARRA SANTOS, Teresa
PARRADO PINACHO, Patricia
PASCUAL RUIZ-VALDEPEÑAS, Henar
PAZ FERNÁNDEZ, Félix Jesús DE
PEDROSA ANTOLÍNEZ, Mª del Carmen
PEÑAS MOYANO, Benjamín
PEREZ BELVER, Manuel
PÉREZ CAÑADA, Luis Miguel
PÉREZ DE ALBÉNIZ GARROTE, Gloria

PÉREZ ZABALETA, María Elena
PISHTARI, Gerti
PRIETO MARTÍN, Alfredo
PUENTE ARRANZ, Yovana DE LA
PUENTE LLORENTE, Rafael DE LA
REDONDO CASTÁN, Alfonso
REY MARTÍNEZ, Fernando
RODRÍGUEZ CONDE, Mª José
RODRÍGUEZ GÓMEZ, Gregorio
RODRÍGUEZ MEDINA, Jairo
RODRÍGUEZ NAVARRO, Henar
RODRÍGUEZ TRIANA, María Jesús
ROSA CUBO, Cristina DE LA
RUBIA AVI, Bartolomé
RUBIA AVI, Mariano
RUÍZ MÉNDEZ, Camilo
SÁNCHEZ FERNÁNDEZ, Sebastián
SÁNCHEZ GARCÍA-ABRIL, Ignacio
SANCHEZ MARTINEZ, María Carmen
SANZ ESTEBAN, David
STOLLE ARRANZ, Azucena María
TAMARIZ PATIN, Fernando
TEJEDOR MARDOMINGO, María Cruz
TORRECILLA SÁNCHEZ, Eva María
URBINA FONTURBEL, Raúl Alberto
VALBUENA GARCÍA, Francisco José
VALVERDE BERROCOSO, Jesús
VILLAGRA SOBRINO, Sara Lorena
VILLAREJO GALENDE, Helena
ZUBILLAGA DEL RÍO, Ainara

PLAN FOR DEVELOPING TEACHING METHODOLOGIES

Bartolomé Rubia-Avi & Zoubir Gaci

(eds.)

PAPERS, A PROJECT FOR THE FUTURE. EXPERIENCES AND SHARING

VOL. 2

Plan for Developing Teaching Methodologies

Summary

Educommunication and teacher training in the digital age

Alfonso GUTIÉRREZ MARTÍN

University of Valladolid

alfonso.gutierrez.martin@uva.es

Agustín GARCÍA MATILLA

University of Valladolid

agustingmatilla@gmail.com

1. INTRODUCTION

The increasingly vertiginous development of digital technologies is constantly changing information and communication systems, and activities based on interaction between people and between people and the media. In formal education, teaching systems are naturally affected, and it is the profession's responsibility to train citizens for the use, enjoyment and exploitation of new media. Educational institutions must be among the first beneficiaries of technological innovation, but always bearing in mind that this does not always automatically imply educational innovation, which must be oriented towards the common good and social progress, in line with the purposes of education itself.

Any substantial change in the society being educated implies a change in the basic training of the teacher. If the change in society has such as direct effect on the way of accessing and processing information, on communication among educators and on the production of knowledge, then educational systems will be affected not only in the way they prepare students for life but also in the way information and knowledge is handled, that is, in how we educate, teach and learn. The characteristics of the digital society and the consequent introduction of ICTs as teaching resources in educational institutions requires new roles for teachers as educators and teachers. We consider the training of the education professional in relation to ICTs and educommunication in a triple dimension:

— Training as a person and citizen of the 21st century, which would be part of their basic training, but which, given the significant changes that have occurred in the field of communication, education and culture, requires permanent updating or training throughout life, almost like learning to read and write all over again, but digitally. Every teacher must also identify as a citizen capable of filtering information, assuming a critical attitude towards reality, being up to date with daily events and detecting distorted, manipulated and false information (fake news).

— Training as a teacher. As part of their initial and ongoing training, teachers will learn to be learning facilitators, and for this they will acquire basic notions of how to present themselves to the people they are addressing and with whom they are required to interact as sensitive and effective communicators. It must not be forgotten that body language, with its expressive plasticity, is the best mediating instrument. Teachers will also address the study of educational technology, its communicative potential and its possible uses in teaching.

— Training as an educator. Training allows the teacher to integrate the media as resources to favour the teaching-learning processes. In addition to imparting knowledge, the teacher is responsible for "educating", a role shared with the means of communication themselves. Let us not forget that "Educating is communicating affection, helping to build sensitivity, fostering creativity, training in self-esteem and teaching how to look at the world from an emotional perspective" (In García Matilla, 2003 p. 65)

Teacher training in ICT and media is also part of their training as educators. Competence in educommunication will allow teachers to reflect on how the media transform society and condition their lives and those of their students. Initial and ongoing teacher training should therefore include adequate communication education and not focus solely on educational technology.

2.   FRAMEWORK OF THE TRAINING AND ITS CHARACTERISTICS

2.1.   Educommunication and multimedia creation in teacher training

As we have already pointed out, today the basic training of any person includes a media and technological dimension that equips that person to function in the digital society, an education in integral communication that also helps the person to function freely and with dignity in the world of networks and new real and virtual relationship spaces not only as a receiver but also as a transmitter or creator of information. Since the middle of the last century, according to UNESCO, the concept of literacy has evolved from basic reading, writing and numeracy skills to broader notions such as functional literacy and the foundations of lifelong learning. (https://en.unesco.org/themes/literacy-all/five-decades). Beyond its conventional concept as a set of reading, writing and calculation skills, literacy is understood today as a means of identification, understanding, interpretation, creation and communication in an increasingly digitised, text-based, information-rich and fast changing world. (https://en.unesco.org/themes/literacy).

Functional literacy has been extended to all possible ways of reading and writing with different languages, media and formats and allows us to speak of a new model of "literacy" or basic preparation to create and understand messages through traditional and meta-media in various formats. If we understand literacy as basic preparation for life, beyond the encoding and decoding of messages, this greatly modifies basic literacy. We

use the term "educommunication" to refer to the communicative and media dimension that would correspond to the multiple literacy typical of a digital and hyper-technological Information Society. The term "educommunication" reflects the complementarity and inevitable convergence of two areas of knowledge to which we want to pay special attention here: Communication and Education. "Educommunication includes, though is not limited to, the knowledge of the multiple languages and means by which personal, group and social communication is carried out. It also encompasses the formation of a critical and intelligent sense, in the face of communicative processes and their messages to discover their own cultural values and the truth "(Aparici, 2010, p. 9). We propose educommunication as an essential part of teacher training in society 2.0 in which as well as being recipients, we are creators of information. The training of teachers in ICT and media cannot be limited to technological competences, but must train the education professional to assume new roles in the Information Society: to promote a critical sense, multimedia creativity and active citizenship in students.

2.2. Objectives of the training activity

With the training activity "Educommunication and teacher training in the digital age", carried out within the framework of the joint Algeria-Spain Institutional Twinning programme, we proposed the following objectives:

— Ascertain on the ground the concerns and expectations of the participants in relation to the theoretical approaches and our initial proposals.

— Start from their opinions and previous experiences with the media, both in their role as educators and in their daily business as citizens.

— Consider the educational implications of technological development in the digital society and the era of convergence.

— Analyse the possible dimensions of the essential teacher training to address new literacies and multimedia creation.

— Assess the educational potential of virtual teaching-learning platforms and the creation of multimedia documents.

— Critically analyse UNESCO documents on teacher training in ICT and media skills.

— Compare the ICT and media competencies proposed by UNESCO with those included in the educational legislation of Algeria:

— Propose a comprehensive ICT and Media teacher training model that integrates digital competence with educommunication and media education.

— Joint development of a training proposal in ICT and media for teachers adapted to the characteristics of Algeria and its environment.

2.3. Methodology and expected results

Throughout the activity, an attempt has been made to adapt the teaching content, formats and methodologies to the context of the country and the specific group of participants, to the specific needs of the participants and to the specific objectives of this module: Provide professional training in ICT and audiovisual media for management, research and teaching.

From the beginning of the activity efforts were made to create good communication conditions so that the group could interact with freedom, flexibility and trust, favouring an optimal relationship for teamwork.

The work methodology revolved around the following strategies:

— Presentations and exhibitions by the speakers on the various topics, fostering the debate and participation of the attendees.

— Group dynamics to encourage the involvement and participation of attendees. The technique known as "Philips 66" was used, among others, with the contribution of all the members of each of the 5 teams formed. In this dynamic, the spokespersons of each group presented their respective conclusions in public.

— Filmed presentations were made taking advantage of the professional recording equipment that was being used in the sessions. Likewise, the different participants made their own recordings with mobile devices.

— Peer evaluation techniques were practiced, with special emphasis on the need to highlight positive aspects rather than negative ones in all the practices carried out.

— Attendees prepared and made presentations on camera, taking advantage of the professional recording equipment that was being used in the sessions, as well as their own mobile devices.

With the development of the different sessions and the active participation of the attendees, the expected results were achieved, focused on the consideration and preparation of training proposals.

The activity allowed an exchange of experiences between the attendees from Spain and Algeria, and an initial encounter with the reality of the level of curricular integration of ICT and teacher training in both countries. Special attention was paid to the importance of creating interactive products to be used in online teaching. As an example, attendees were shown the organisation of content on the University of Valladolid platform used by the speakers.

As a continuation of the face-to-face workshops during the activity, an individual activity was programmed that each participant later shared on the "Moodle" platform created for this purpose. Said activity as a task consisted of preparing an interactive multimedia Curriculum Vitae such as those analysed during the sessions, and uploading it to the platform. The drafting of a CV was optional and could be replaced by any other useful multimedia document for the teacher-researcher.

3. GOOD PRACTICES

The reflection on the importance of the media in our daily life, and on the competences that any teacher should acquire in relation to the media and ICT was always generated through practical activities. Among those carried out, we would highlight the following, which we recommend for the development of teaching digital and media skills:

— Workshop based on a questionnaire to find out participants' media consumption and use of technological devices.

— Workshop on presentation strategies in front of the camera.

— Creation of simple interactive multimedia documents.

— Search and discussion of definitions on education, literacy and competence with the adjectives digital, media, multimedia, audiovisual, informational, audiovisual, verbal, computer, fake news, etc. Based on Gutiérrez & Tyner (2012).

— Preparation of a training proposal for teachers in ICT and educommunication based on UNESCO guidelines and our own model. The following documents were presented and served as a starting point: *- UNESCO Référentiel de compétences TIC pour les enseignants.* (UNESCO, 2018) *- Education aux médias et à l'information: programme de formation pour les enseignants.*(Wilson *et al.*, 2011) *- Educación Mediática y su Didáctica. Una Propuesta para la Formación del Profesorado en TIC y Medios.* (Gutiérrez and Torrego, 2018).

They worked first individually and then in a group with a questionnaire where they were asked to rate from 1 to 5 the 36 competencies proposed by UNESCO. After each group had selected the 10 that they considered to be of greatest interest, they were asked to make a presentation to the larger group which finally selected the 10 that had obtained the highest scores in the sum of the scores of the different groups. The final results are presented in Annex 4.

These finally selected competencies were discussed and compared with the proposals in the following documents from the country, Algeria, found on the subject: *- Référentiel de compétences des enseignants-chercheurs nouvellement recrutés. République Algérienne Démocratique et Populaire. Ministère de l'Enseignement Supérieur et de la Recherche Scientifique. - Formation pédagogique des enseignants. Programme. République Algérienne Démocratique et Populaire. Ministère de l'Enseignement Supérieur et de la Recherche Scientifique.* Based on the conclusions, it was suggested that attendees develop a Teaching Innovation Project on proposals and actions with which to implement a comprehensive ICT and Media curricular integration plan, that is, jointly addressing technological, didactic and educational aspects.

4. CONCLUSIONS

The pressure of the dominant technological discourse and the hasty association of educational innovation with practical classes on digital technologies have forced educational leaders in developed and developing countries to accelerate the curricular integration of ICT in schools. For fear of being left behind in the race to modernity, we run the risk of not having time to address what is truly important and of making decisions without sufficient consideration. The educommunicative training of current generations must teach them to communicate starting from care and respect for their own body as their main communication tool and the formation of a critical awareness that gives them an "ethical and healthy digital communication diet". (In De Andrés and others, 2018, p.58)

Changes in education cannot keep up with the pace that commercial interests impose on technological changes. Our role as educators in relation to digital technology cannot be that of mere instruments for the implementation of technological developments in the education market, but rather that of preparing future citizens for a critical and participatory citizenship in the digital age.

For this, it is necessary for educational systems to provide everyone, students and teachers, with the digital skills necessary for the use and management of the most common devices in each era. This urgency for technological training should not be detrimental to critical reflection on ICT, on the media, its influence, significance, its possible advantages and disadvantages in today's society and in the world of education in particular.

In this activity we started from the previous experience, opinions and expectations of the attendees regarding the training of teachers in information and communication technologies. Their greatest concern, which we tried to address as far as possible, was training on tools used on virtual teaching-learning platforms. As these skills are also addressed in other modules, we wanted our main contribution to be a reflection on the use of these tools from the didactic and educational point of view. A reflection that led us to consider ICT and the media as something more than useful teaching resources. Educommunication or "media and information literacy", according to current UNESCO terminology, also allows us to approach technology as an object of critical analysis, and the media as important agents of informal education to take into account.

5. REFERENCES

APARICI, R. (coord.) (2010). *Educomunicación: más allá del 2.0.* Barcelona: Gedisa.

GARCÍA MATILLA, A. (2004) Una televisión para la educación. La utopía posible. Barcelona, Gedisa.

DE ANDRÉS, S, Moraes, R.M y GARCÍA MATILLA, A (2018) Competencias éticas mediáticas en entornos digitales, en Aguaded, I y Romero-Rodríguez, L.M Competencias Mediáticas, P.51-71. Salamanca, Social Communication.

Gutiérrez-Martín, A. (2003). *Alfabetiza-ción Digital. Algo más que ratones y teclas.* Barcelona: Gedisa.

Gutiérrez Martín, A. & Torrego-González, A. (2018). Educación Mediática y su didáctica. Una propuesta para la formación del profesorado en TIC y medios. *Revista interuniversitaria de formación del profesorado*, 91. 15.-27.

Gutiérrez, A. & Tyner, K. (2012). Educación para los medios, alfabetización mediática y competencia digital. *Comunicar*, 38(XIX), 31–39. doi:10.3916/C38-2012-02-03

UNESCO. (2018). *ICT Competency Framework for Teachers. Version 3.0.* Paris: UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000265721

Wilson, C., Grizzle, A., Tuazon, R., Akyempong K. & Cheung, C-K. (2011). Media and information literacy curriculum for teachers. Paris: UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000192971

The university as a transmitter of new educational models

Fernando LEZCANO BARBERO

University of Burgos (Spain)

flezcano@ubu.es

1. INTRODUCTION

The university is an institution with a long tradition in which three lines of work are developed that are necessarily interrelated: research, teaching and management. In this reality, present from its beginnings to the present, we find a significant imbalance.

Research has a high social and professional recognition; Resources are promoted for its development and dissemination, as well as for the training of new researchers.

The management has less social recognition but it does have significant internal projection. Witness the fiercely contested election processes of the governing teams, which sometimes end up in court.

Teaching, despite being lauded in speeches for its importance and value, seemed to be relegated to a second level. Great researchers and good managers found their appreciation in the literature, one of the greatest acknowledgements in this institution, while good teachers were recognised, if at all, by the students.

This reality has been changing in recent years and seems to be consolidating.

The search for models related to the improvement of university teaching began late and has followed a long processes.

In the last century, in the 80s and 90s in Europe and the 60s in the USA, research processes were developed to search for variables or factors related to teaching effectiveness and efficiency.

From the 90s to the present, in Europe, proposals for the improvement of quality in educational fields have been implemented through the EFQM (European Foundation for Quality Management) excellence model.

From 1999 to the present, the Treaty of Bologna has been in effect.

All this has had a significant impact on the acknowledgent of teaching in universities.

2. FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1. Background

The approval of the Bologna Treaty in 1999 promoted the structuring of the European Higher Education Area (EHEA), implemented in 48 countries, although its development has been uneven (European Commission, 2020). In this process, an effort is being made to unify university degrees to facilitate an educational and professional accreditation common in higher education institutions.

The proposal to unify degrees, despite the resulting differences, and the systematic development of programmes for the exchange of students, teachers and management personnel, significantly enhances the promotion of quality, becoming also an attractive element for European Universities within the EHEA (Harvey and Stensaker, 2008).

Teachers are beginning to reinforce aspects related to didactic competence. The effort to develop a new university model, such as the one proposed in the EHEA, requires a high level of involvement of teachers in teacher training (Pallisera *et al.*, 2010), their training and acknowledgement.

All this gives teaching a value that up to now it had not had. Unusual terms are starting to be used in universities: active methodologies (Flipped Classroom, Project-Based Learning, Problem-Based Learning, Service Learning…); incorporation of new teaching resources (websites, blogs, wikis, social networks, infographics, videos…); new evaluation methodologies (peer evaluation, co-evaluation, formative evaluation…).

New journals appear, with academic and research value, related to university teaching (REDU. Journal of University Teaching, Teaching higher education). Collaboration Networks (Red-U in Spain; ICED, International Consortium for Educational Development that is a world benchmark) are created, congresses and seminars are promoted…

Universities develop Training Plans so that teachers can adapt their traditional teaching to the demands that were associated with the new proposals and they begin to evaluate the results of teacher training (Delgado-Benito, Casado-Muñoz and Lezcano Barbero, 2016). Teachers think about this new reality and propose new structures (Rué and Lodeiro, 2010).

It is firmly asserted that knowledge/mastery of a subject, professional or research techniques, are not sufficient elements to facilitate student learning and help them to face future demands (Ruben, De Lisi & Gigliotti, 2017)

This is the new scenario in which teaching begins to have significant value in the higher education institution.

2.2. Objectives

Reflect on leadership and the impact on the teaching process.
Assess the importance of innovation with the use of videos and plan construction.

2.3. Methodology and expected results

We must point out that the development of this proposal was carried out during the pandemic, being one of the first courses carried out online. The technical means made available to the speakers were adequate, but sometimes the connection hindered communication,which was carried out in real time and with simultaneous translation. The attendees, meanwhile, were in their homes or universities, scattered throughout Algeria.

To this situation, we must add the feeling of isolation and of finding ourselves constantly in front of the computer (teaching, training, news, leisure…) which generated, already at that time, some fatigue.

The methodology proposal, which addressed this situation, coordinated different types of activities to achieve the proposed objectives.

Presentation of the speaker and the presentation. A presentation was made of the fundamental contents of the different topics that they wanted to work on.

Individual reflections of the participants. During the presentation, the attendees formulated the questions they considered significant in the chat. This formula made it possible not to eliminate the opinion of the participants, without interrupting the on-line communication.

Group reflections. Using links, all participants could make contributions to further focus the proposals of the speaker. For example: What do we like about our students? What do we NOT like about our students? What things do they like to do? (It has to serve everyone, those from engineering, medicine, teaching. Degree, Master and Doctorate), What is different from what I did at their age?…

Doubts and contributions. After the presentation, the questions or thoughts were addressed. We must point out that it is not a mere answer to the questions, but that the participants themselves incorporated opinions of great value.

Development of activities. Different proposals were made, either individually or as a team, which allowed the participants to delve into the theme exposed. These activities, in some cases, were carried out off-line by referring to the speaker, who gave feedback on it. The results of these activities were made available to all participants.

2.4. Expected results

The expected results were:

Approach to the importance of leadership linked to teaching at the university and its projection towards the students

Reflection on the need for constant didactic improvement and of the effort required from teachers

Construction of a didactic video

3.   FACULTY LEADERSHIP AND THE UNIVERSITY

3.1.   The university as a model of innovation

The university is changing. Teaching that was traditionally based on the frontal lesson (Jensen, Howard & Jensen, 2015); in other words, the one in which the teachers, knowledgeable about the subject, speak, wrote on the blackboard and contributed their experience in the field, was combined with the students listening and taking notes on the presentation. This model is no longer sustainable. The methodology has to adapt to the new realities. On the one hand, society and university students ask the institution to adapt to emerging realities (Chen, Wang, Kinshuk & Chen, 2014); teachers have been trained and are calling for changes in methodology (Prieto Martín, 2017), the importance of catering for the diversity of students present in the classrooms has been highlighted (Kehoe, Schofield, Branigan and Wilmore, 2018), information and communication technologies have burst into the classroom (Coggi and Ricchiardi, 2018) and teachers themselves have discovered the attractiveness of this new field, at other times undervalued at this educational level.

University faculty staff must promote a different teaching model, moving from being the transmitter of professional content/procedures or researchers to being a guide for their students (Gilboy *et al.*, 2015), helping them improve their knowledge and looking for new paths, which the teacher himself has not explored. All this coincides with the "leadership styles in the didactic room" where (Augustsson & Boström, 2012): a) education is the management of learning and development, b) it implies the interaction with the surrounding society where the teacher is more than a "knowledge intermediary", and c) a teaching situation can be seen as a small social organisation, with the teacher as the leader. In this proposal, in Spain, the development of the teaching six-year period will contribute, by evaluating and giving value to the teaching staff who strive to improve.

4.   TEACHING VIDEOS

The didactic resources related to ICT have been incorporated into teaching with the same speed that computing has been in our day to day lives. The variety of new methodologies is very wide, but many of them (Flipped Classroom, mobile learning, MOOC…) have a common element: the use of videos. However, we must point out that audiovisual material has been very common in teaching, although at other times its use required much more complex resources for its realisation or use.

4.1.   Construction of educational videos

Although audiovisual material on the internet is abundant, the teacher must be very careful in the choice. The results that we can find are remarkably different depending on the area for which it has been designed and the recipients to whom, initially, it is proposed:

advertising, tourism, information… It is not unusual to find subliminal messages not wanted by teachers (sale of products or services, offers of materials…), all of them very visual but very open to criticism from the teaching point of view.

For these reasons, it is desirable that teachers have the possibility of building their own audiovisual material, which will allow them to: adapt the content they teach to the methodology they use in the matter, cater for the characteristics and interests of the students, and approach needs and resources of the environment to which the training is directed.

This emerging need to use videos, not only in teaching, has created a whole set of support resources. Some of the applications that we can find are the following: Powtoon, Genially, Animoto, Biteable, Wevideo, Clipchamp, Kizoa, Adobe Spark, Edpuzzle, Playposit, Screen Cast or Matic, Icecream Screen Recorder. We must remember that the rapid evolution of these resources can cause some of them to become obsolete or to quickly disappear. However, a quick search will bring up a new set of similar applications.

Catering for students at university level requires specific reflection, which is why we detail some considerations below:

— Subject field for which it is going to be used: The type of content you want to work with will guide a large part of the proposal. Mathematics, physics, history, education… each of these fields requires a particular kind of discourse, and the presentations can vary considerably.

— Purpose of the video: Explain a section, describe the performance of a technique, promote a work methodology, raise awareness about the risks in the use of tools… The basis of the proposal must be taken into account to select the language, images, the most appropriate rhythm.

— Contents to include: The university teacher will not have problems with the contents, since they are subjects that he or she masters. But you must take care that the medium (video) requires a very clear and concrete discourse, avoiding excessively broad topics. Long videos often link several topics and present uninteresting results for students.

— Sequence the information you want to provide: Face-to-face teaching allows us to return to a content to reinforce significant aspects, link topics discussed, answer questions… In the video, the information can be seen again, if necessary, but the new viewing will not incorporate new examples or clarifications, as would happen with face-to-face.

Some errors that we can highlight are the following:

— Not scaling the amount of information (duration). Long videos are unappealing to a generation of students who consume and produce them very quickly. It is preferable to build shorter and more specific videos.

— Never record a face-to-face class unless it is strictly necessary. The face-to-face class is organised, designed and carried out to interact (observe, contrast, ask) with the students. The recording eliminates personal contact, a key element in face-to-face.

— Make a video with a presentation designed for a face-to-face class. The result will not be appropriate. Small changes are required to adapt the traditional approach to the new environment.

— The video is not a substitute for the teacher. Life and professional experience, knowledge, the transmission of values, the individualisation of information, empathy with the students… cannot be encapsulated.

However, we must be critical. Movement, voice, images… can make us appear attractive for not very didactic results.

5. Conclusions

Society is changing, the student body is changing, the university is changing. University teachers must take measures to adapt to this new reality.

The face-to-face class will continue to be a central element of university teaching, but it must evolve in relation to the new media and the reality in which we live.

Just as higher education is a reference in research, it must take on the challenge of improving teaching and innovating, as it does in many other fields.

6. Results expected and obtained

We found a good relationship between the expected and obtained results.

Many of the participants recognise the importance of the leadership that the university has as an institution and express the interest that the teaching staff should empower themselves vis-à-vis the students to serve as a model/guide; that is, to be leaders to help them identify their path in this time of rapid change. Likewise, the interest in adapting to this new reality was clearly expressed.

In the debates held during the course, the use of videos and their communication possibilities stand out, as expressed by several attendees.

The videos sent are usually accompanied by their gratitude for being shown an approach that has great promise, in their opinion, and allows them to adapt to new situations.

Some participants indicated that they were preparing new materials (videos specifically) for next year to respond to the pandemic situation and replace the teaching methods that they had followed up to now with new resources more akin with today's world. The change had also come for them.

7. Documentary contributions and references

Augustsson, G. & Boström, L. (2012). A theoretical framework about leadership perspectives and leadership styles in the didactic room. International *Journal of Human Resource Studies*, 2(4),166-186

Chen, Y., Wang, Y., Kinshuk, & Chen, N.-S. (2014). Is FLIP enough? Or should we use the FLIPPED model instead? *Computers & Education*, 79, 16–27.

COGGI, C., & RICCHIARDI, P. (2018). Developing effective teaching in Higher Education. *Form@re-Open Journal per la formazione in rete*, 18(1), 23-38.

DELGADO-BENITO, V., CASADO-MUÑOZ, R. AND LEZCANO BARBERO, F. (2016): La formación permanente del profesorado universitario en el EEES: Un estudio en la Universidad de Burgos, *@tic. revista d'innovació educativa*, 17(30)

EUROPEAN COMMISSION. (2020). *The Bologna process and the European Higher Education Area* (https://bit.ly/3e01XdB).

RUBEN, B. D., DE LISI, R. AND GIGLIOTTI, R. A. (2017). *A guide for leaders in higher education: Core concepts, competencies, and tools*. Sterling, Stylus Publishing.

RUÉ, J. AND LODEIRO, L. (2010). *Equipos docentes y nuevas identidades académicas*. Narcea.

HARVEY, L., AND STENSAKER, B. (2008): Quality culture: understandings, boundaries and linkages. *European Journal of Education*, 43(4). 427-442.

JENSEN, M. J., HOWARD, A. K., & JENSEN, S. (2015, April 14). *Flipped Classes: Do Instructors Need To Reinvent the Wheel When It Comes To Course Content?*

JIMÉNEZ-HERNÁNDEZ, D., GONZÁLEZ-ORTIZ, J. J., & TORNEL-ABELLÁN, M. 2018). Formación del profesorado universitario en metodologías y su incidencia en el aula. *Pedagogical Studies (Valdivia), 44* (3), 157-172.

KEHOE, T., SCHOFIELD, P., BRANIGAN, E., & WILMORE, M. (2018). The Double Flip: Applying a Flipped Learning Approach to Teach the Teacher and Improve Student Satisfaction. *Journal of University Teaching and Learning Practice, 15*(1), 1–17

PALLISERA DÍAZ, M., FULLANA NOELL, J., PLANAS LLADÓ, A. Y DEL VALLE GÓMEZ, A. (2010): La adaptación al espacio europeo de educación superior en España. Los cambios/retos que implica la enseñanza basada en competencias y orientaciones para responder a ellos. *Ibero-American Journal of Education, 52* (4), 1-13.

PRIETO MARTÍN, A. (2017). *Flipped learning: Applying the Inverse Learning Model*. Spain. Narcea Ediciones.

7.1.   Websites

EFQM. https://www.efqm.org/
POWTOON. https://www.powtoon.com/
GENIALLY. https://www.genial.ly
ANIMOTO. https://animoto.com/
BITEABLE. https://biteable.com/
WEVIDEO. https://www.wevideo.com/
CLIPCHAMP. https://clipchamp.com/
KIZOA. https://www.kizoa.es
ADOBE SPARK. https://spark.adobe.com
EDPUZZLE. https://edpuzzle.com/
PLAYPOSIT. https://go.playposit.com/
SCREEN CAST O MATIC. https://screencast-o-matic.com/
ICECREAM SCREEN RECORDER. https://icecreamapps.com/Screen-Recorder/

The children's rights approach as a strategy for sustainable human development

M.ª Angeles Espinosa Bayal[1]

UAM (Autonomous University of Madrid)

University Institute for the Needs and Rights of Children and Adolescents (IUNDIA)

1. **THE RECOGNITION AND AFFIRMATION OF THE RIGHTS OF THE CHILD AS NORMS OF INTERNATIONAL CONDUCT**

Interest in the recognition of the rights of the child and their positive inclusion in international documents appeared in the twentieth century. The serious situation in which children found themselves after the two World Wars led the international community to consider the need to protect the rights of children. The first universal Declaration was the Declaration of Geneva, approved by the V General Assembly of the League of Nations in 1924. Of a markedly protectionist nature, it included five very general principles, and indicated in its Preamble that the rights listed were to be understood as duties, towards children, of men and women of all nations. This is not a very specific text, however it is considered an important reference since it sets the precedent for all subsequent legislation on children's rights.

In 1959, the United Nations General Assembly approved the Declaration of the Rights of the Child, which constitutes the second point of reference in the affirmation of the rights of the child. It extends the obligation to care for children to institutions, authorities and governments. It is a text that consists of a Preamble and ten principles that specify, for children, the general principles contained in the Universal Declaration of Human Rights (1948). Among these ten principles, the second is especially significant, as it establishes the doctrine of the best interests of the child, on which most of the articles of the Convention on the Rights of the Child (1989) would be based, thirty years later.

The United Nations had approved a Declaration of the Rights of the Child but this was not enough to protect the rights of children because the document was not legally

---

[1]   Professor of Evolutionary and Educational Psychology at the Autonomous University of Madrid. Director of the Institute for the Needs and Rights of Children and Adolescents (IUNDIA). Member of the Board of Trustees of the UNICEF Spain Foundation.

binding. For this reason, the Polish government presented, in 1978, a text to the Human Rights Commission that is considered the antecedent of the Convention on the Rights of the Child (1989). The fundamental question was whether positive law really needed to have an International Convention on the Rights of the Child or whether, on the contrary, the rights of children could simply be considered Human Rights. After ten years of work and arduous negotiations with governments around the world, religious leaders, NGOs and other institutions, the final text of the Convention was approved. The document is extremely careful when it comes to making the universality of children's rights compatible with the respect and defence of cultural differences.

1.1.   The Convention on the Rights of the Child

The United Nations Convention on the Rights of the Child is the first universal and multilateral treaty that considers the child as a subject of rights and not as a passive object of the right to be protected, which represents a turning point in the history of society's consideration of childhood. It is an international convention that is legally binding, therefore all countries that have ratified it[2] have adapted their internal regulations to the provisions of the Convention. It is based on four principles: non-discrimination; best interests of the child; right to life, survival and development; and participation, which are present throughout the entire text, which is made up of a Preamble and 54 articles covering economic, social, cultural, civil and political rights and divided into three parts. The first, articles 1 to 41, defines the rights that the international community recognises for all boys and girls, without distinction. Likewise, it establishes its scope of application considering a child as any person under the age of eighteen, unless the internal regulations of their country recognise the age of majority before that. The second, articles 42 to 45, establishes the mechanism for monitoring compliance with the Convention by the countries that ratify it, creating the Committee on the Rights of the Child and regulating the presentation of periodic reports on the situation of children by the States. The third, articles 46 to 54, sets, as in any international treaty, the conditions of execution.

2.   TEACHING, RESEARCH AND TRANSFER ON THE NEEDS AND RIGHTS OF CHILDREN IN ACADEMIC NETWORKS

The Convention on the Rights of the Child states, in its article 42, that the States that are party to it undertake to make the principles and provisions of the Convention widely known by effective and appropriate means to both adults and children. In this regard, universities and networks of higher education institutions can and must play an essential role in the promotion,

[2]   The Convention on the Rights of the Child is the most widely ratified international treaty in history. At present it has been ratified by all the countries of the world, with the exception of the United States.

protection and defence of children's rights in their triple function as entities dedicated to training, research and knowledge transfer (Espinosa, 2014; Espinosa and Ochaíta, 2015).

Regarding training, it should be noted that the introduction of the children's rights approach in all degree courses for initial training of professionals who are going to work directly or indirectly with children should be an essential element of both the objectives of their learning and the development of their skills, both elements that should be taken into account when designing suitable didactic methodologies for their implementation and evaluation. As well as permanent training and postgraduate training, both through Official Postgraduate programmes and Own Diplomas as well as Doctoral Programmes.

Regarding research, it is important to note that the Committee on the Rights of the Child[3] insists on the need to improve data collection and analysis of the situations minors under 18 are in, in all the areas referred to in the Convention on the Rights of the Child, and especially in situations of greater vulnerability-ethnic minorities, migrant children, those with functional diversity, and those who live in conditions of risk or social conflict. The final objective of this recommendation is that the data serve to make political decisions aimed at formulating and adopting measures aimed at improving child well-being (Ochaíta and Espinosa, 2012; Espinosa and Ochaíta, 2015). Research on the needs and rights of children can help improve statistics on this group by making available systematic, exhaustive, precise and periodic information —disaggregated according to the variables that are most significant to their development— on the different areas that affect the meeting of their needs and the guarantee of their rights (Ochaíta, Agustín and Espinosa, 2010; UNICEF, 2010 and 2012).

Finally, with regard to transfer, the knowledge generated in the university environment in relation to the needs and rights of children must be put at the service of organisations, foundations and institutions, public and private, both to advise the managers who are in charge of making decisions about the competences directly related to childhood —health, education and social services— and to influence the design of public policies aimed at improving the well-being of children.

3. The University Institute for the Needs and Rights of Children and Adolescents (IUNDIA) as an example of good practice

In 1999, with the aim of expanding the dissemination of the Convention on the Rights of the Child, as per article 42, the University Institute for the Needs and Rights of Children and Adolescents (IUNDIA) was created through a collaboration agreement between the Autonomous University of Madrid (UAM) and the UNICEF Spain Foundation. The main objective of this Institute is the analysis of and reflection on the needs

---

[3]   Final Observations of the Committee on the Rights of the Child made to the Spanish Government. 3 November 2010 P. 2 https://www.unicef.es/sites/files/Observaciones.pdf

and rights of children from a multidisciplinary and intercultural point of view. Table 1 lists the main activities carried out by IUNDIA, since its creation, in the triple dimension of training, research and knowledge transfer that Spanish public universities have assigned.

Training	**Initial training** — Optional subjects in the Degrees of Psychology, Teaching and Law (UAM) — Cross-curricular subjects offered to all undergraduate students on campus	
	Permanent education — Teacher Training through collaboration agreements with Regional Innovation and Training centres (CRIF) — Training of judges, prosecutors and magistrates through a collaboration agreement with the General Council of the Judiciary (CGPJ) — Training of municipal technicians for children through a collaboration agreement with the Spanish Federation of Municipalities and Provinces (FEMP)	
	Postgraduate — Official Postgraduate Degree in Educational Psychology. Childhood at Risk Itinerary (UAM) — Own Diploma "Master's in Needs, rights and cooperation for development in childhood" (UAM) — Own Diploma "Children's Rights and Policies at the Local Level" (UPO) — Master's Degree in Education for Development, Awareness and Culture of Peace (UPO)	
	Doctorate — Doctoral Programme in Psychology. Research line "Development and Education: Formal and informal contexts. Needs and Rights of the Child" (UAM) — Doctoral Programme for Interdisciplinary Gender Studies of the University Institute for Women's Studies (IUEM). Research line "Gender, Gender Violence and Education" (UAM)	

Research	Consolidated Research Group of the Autonomous University of Madrid on Needs and Rights of Children and Adolescents (GINDIA)	Lines of research: — Right to Education — Right to participation — Social risk and exclusion
	Network of Universities for the Needs and Rights of the Child (RUNDIA) (2011).	Universities forming it: — UNICEF Spain Foundation — University of Las Palmas — Malaga University — University of Murcia — Pablo de Olavide University — University of the Basque Country — Seville University — UNED — Camilo José Cela University — Carlos III University, "Gregorio Peces Barba" Institute of Human Rights — University of Alcalá — University of Barcelona — Comillas Pontifical University — University of Valencia
Transfer	National Strategic Plan for Children and Adolescents of the Government of Spain (2013-2016)	
	Childhood Plans of local entities	San Fernando de Henares City of Madrid Getafe City Council
	System of Child Welfare Indicators (SIBI)	UNICEF Spain Foundation and Ministry of Health, Equality and Social Services
	Childhood in Data	Child welfare indicator system of the Ministry of Social Rights and Agenda 2030
	Foster Care Strategy of the Community of Madrid (2020-2022)	

Table 1: The work of IUNDIA as an example of the role that universities can play in the dissemination of the Convention on the Rights of the Child.

The different activities listed in Table 1 and developed by IUNDIA, in collaboration with other Universities, public and private organisations and the different levels of administration - general, regional and local - since their creation, are just one example of how academia can contribute to strengthening the approach to children's rights as a fundamental element, as will be explained in the next section, to guarantee sustainable human development that contributes to countries' progress.

4.   THE CHILDREN'S RIGHTS APPROACH AS AN INSTRUMENT TO ACHIEVE SUSTAINABLE HUMAN DEVELOPMENT

In 2015, the United Nations established a Global Development Agenda that includes 17 Objectives and 169 Goals to be achieved by 2030 (UN, 2015), based on the three dimensions of Sustainable Development: social, economic and environmental. This commitment implies, among other things, the establishment of a Global Alliance whose objective is the universal improvement of the well-being of children, as well as the fulfilment of the rights of the child that the international community recognises in the Convention on the Rights of the Child. One of the best indicators of the degree of well-being of a country is its level of fulfilment of the rights of the children who live in it. There can be no development, understood in terms of "Human Development" (UNDP, 2010), without the rights of children being guaranteed. Those countries that invest in nutrition, social protection, quality education, universal health, citizen security, peaceful coexistence and sustainability provide their citizens, and especially their children, safe environments where they can develop freely and fully exercise their citizenship rights. A global citizenship based on equal rights, tolerance, respect for the environment and equity, capable of overcoming the discrimination that currently exists and leaving no one behind (Espinosa, 2019; UNICEF, 2017)

A social, political and economic model that places childhood among its priorities should increase public investment in childhood, in general, and especially in those children who are in situations of greater vulnerability (OXFAM Intermón, UNICEF and WWW Spain, 2017). It must design public policies, from a rights perspective, that expand the coverage and accessibility of available resources and services and that eliminate all types of barriers that do not guarantee access to the rights recognised by the Convention for all children. It must also promote real mechanisms for children's participation in the implementation process of Agenda 2030, since they are rights holders and, therefore, key actors in the social and political transformation process (Ochaíta and Espinosa, 2004). The implementation of this governance model must be accompanied by a roadmap that involves the coordinated and active intervention of the different sectors and institutions of the Government, as well as the rest of the political actors and civil society. The qualification of professionals in the educational field, which is provided by Universities and other higher education entities, through undergraduate, postgraduate and doctorate teachings

that introduce the child rights approach, must play a significant role in this roadmap since it can influence in two respects. On the one hand, developing new methodologies aimed at teacher training that help implement different pedagogical practices - development of active and participatory methodologies; teamwork strategies; design of teaching materials; design and development of teaching - learning processes through virtual environments; new forms of evaluation, etc.-, facilitators of educational change and, therefore, of social change. On the other hand, giving support to the training of future managers of educational policies at different levels, since the design of measures to compensate for inequalities will depend on them, regardless of their nature, and not leaving anyone behind.

5. BIBLIOGRAPHY

UNITED NATIONS CONVENTION ON THE RIGHTS OF THE CHILD (1989). New York: United Nations General Assembly.

DECLARATION OF GENEVA (1924). New York: General Assembly of the League of Nations.

DECLARATION OF THE RIGHTS OF THE CHILD (1989). New York: United Nations General Assembly.

ESPINOSA, M.A. (2014). «La investigación sobre las necesidades y los derechos de la infancia en redes académicas», *Revista Española de Desarrollo y Cooperación*, n.º 34, pp. 131-133.

ESPINOSA, M.A. (2019). «El enfoque de derechos de la infancia en los Objetivos de Desarrollo Sostenible». In Alfaro, M., Arias, S. and Gambara, A. (Eds.) *Agenda 2030: Claves para transformación social*. Madrid: Catarata.

ESPINOSA, M.A. AND OCHAITA, E. (2015). «¿Pueden contribuir las estadísticas de infancia a la mejora del bienestar infantil?», *Revista Indice*, n.º 63, pp. 31-34.

OCHAITA, E. AND ESPINOSA, M.A. (2004). *Hacia una teoría de las necesidades infantiles y adolescentes. Necesidades y Derechos en el marco de la Convención de Naciones Unidas sobre los Derechos del Niño*. Madrid: MacGrawHill-UNICEF.

OCHAITA, E. AND ESPINOSA, M.A. (2012). «Los derechos de la infancia desde la perspectiva de las necesidades», *Educatio Siglo XXI*, Vol. 2, pp. 25-46:

OCHAITA, E., AGUSTÍN, S., AND ESPINOSA, M.A. (2010). «Indicadores de bienestar infantil: La teoría de derechos y necesidades de la infancia como marco teórico organizativo», *Sistema de Indicadores de Bienestar Infantil en España* (SIBI). Madrid: UNICEF Spanish Committee.

UN (2015). *2020 Agenda on Sustainable Development*. New York: United Nations General Assembly.

OXFAM INTERMÓN, UNICEF AND WWF SPAIN, (2017). *Agenda 2030: An opportunity for people and the planet*. Madrid: OXFAM Intermon-UNICEF Spanish Committee-WWF Spain.

UNDP (2010). *Human Development Report 1990*. Bogotá: Tercer Mundo Editores.

UNICEF (2010). *System of Child Welfare Indicators in Spain* (SIBI). Madrid: UNICEF Spanish Committee.

UNICEF (2012). *Child welfare from the point of view of children*. Madrid: UNICEF Spanish Committee.

UNICEF (2017). *Building the future: Children and the 2030 Sustainable Development Agenda in Spain*. UNICEF Spanish Committee.

CHAPTER IV

The e-portfolio in assessment in university education

José Miguel CORREA GOROSPE

University of the Basque Country/Euskal Herriko Unibertsitatea

1. INTRODUCTION

More than 15 years ago when universities began the process of adaptation to the European Higher Education Area, many congresses and seminars were organised to publicise the most important changes that were going to occur in the organisation of the university and practice in its classrooms. Many of those awareness raising sessions for the coming changes clearly transmitted the necessary philosophy of a change but did not make explicit its implementation in the classrooms.

I remember attending a congress of this type at my University of the Basque Country (UPV/EHU) with the evocative title of Towards the introduction of European credit, held in the last days of September 2006. At that time, when I expressed my disappointment about the fact that I had got nothing out of it to another colleague from the Computer Engineering Faculty, he recommended that I go to one of the activities organised at the Polytechnic University of Catalonia that addressed the subject of active methodologies, starting from the practical experience gleaned in the classroom. This course was entitled The Student Portfolio as a Continuous Assessment Tool in the European Higher Education Area.

This is how I learnt about different training proposals that dealt with active methodologies. And where I had the opportunity to travel to take a course that particularly caught my attention, since it linked the subject of active learning with alternative forms of evaluation and was therefore consistent with the approach that the European Higher Education Area was calling for. The course I am referring to that caught my attention was the Portfolio in Higher Education.

It is not that the subject was completely new to me, but the education and learning framework and philosophy on which it was based. That course did not disappoint me. And what I learned helped me improve my portfolio proposal in the higher education classroom and strengthen my proposal and foundation for the e-portfolio.

Another of the initiatives that marked my adherence to electronic portfolios was participation in a thematic network on this methodology. Thus, under the auspices of the Ministry of Education and Science, I had the opportunity, together with the Elkarrikertuz research group, to participate in the first national network dedicated to the development and advancement of electronic portfolios (http://www.redportfolio.org) Thematic NETWORK Electronic portfolios. Thematic NETWORK Electronic portfolios. Reference: SEJ2006-27543-E/EDUC. (Ministry of Education and Science.) A very fruitful and enriching experience that allowed us to collaborate with research groups from different parts of Spain that were working on this topic and developing practical approaches to introduce the portfolio into university teaching. From that approach, among other contributions, came a good paper in the monograph published in 2006 in the network magazine entitled Electronic Portfolios and Higher Education in Spain. Under the title of The e-portfolio in the Elkarrikertuz project: The audiovisual narratives 0n the learning of school culture and the initial training of reflective teachers (Correa, Aberasturi, Gutierrez, 2006) we addressed our practice with portfolios on the initial teacher training. Subsequently we have had the opportunity to publish some specific text about the portfolio (Correa, 2011) and we have not ceased referring to it as a strategy that allows us to access the reflective thinking of our students. At the same time, it gives us an alternative and/or complementary evaluation technique to more traditional ways of evaluating university students.

2. WHAT IS AN E-PORTFOLIO?

There is a lot in the bibliography that conceptualises and describes both the role of the portfolio, digital or otherwise, at the different levels of education, and its multiple meanings and reasons for use, context, usefulness, advantages or disadvantages. An Internet search would unleash a tsunami of information related to portfolios.

For us (Correa, Aberasturi & Gutierrez, 2006) the portfolio is a term with multiple meanings: it is a learning and evaluation methodology, it is a resource, it is a container… it is everything and it is not, and we know that the goodness, neutrality or functionality of the portfolio as a methodology or tool is related to the training model on which it is based." (p.3)

Electronic portfolios are valuable tools to aid students' academic growth and transition into the professional arena. The portfolio is a very useful tool that provides different services and triggers multiple processes in learning, from evaluation to cooperation, exchange, and dissemination of information. When we talk about e-portfolio we refer to an "electronic portfolio" (we can also call it a web portfolio or blog portfolio): a digital collection of tests and artefacts that represent the knowledge, skills and achievements of an individual or group (Lorenzo & Ittelson, 2005). These artefacts can include a variety of resources such as documents and files of developed projects, activities successfully

completed; tests of competencies and advancement of skills in the form of certificates and badges; and significant experiences and achievements. Among the advantages of using the eportfolio in higher education we could highlight:

— its influence on the meta-cognitive and reflective learning of students closely linked to narrative learning,

— the biographical dimension of learning,

— the use of digital technologies in the relationship and a representation of knowledge very much in line with the multi-modality of learning in contemporary society,

— and the possibility of differentiating itineraries and therefore personalising learning.

Depending on the purpose of the portfolio, the creator usually makes his work available to the public and shares it with his professors and/or evaluators, fellow students or potential employers or clients. A portfolio is a window to the past, present and future of a person that shows their lifelong learning and their commitment to continuous improvement. The portfolio is a meaningful construction of personal experiences (cognitive, affective, emotional, biographical), a meaningful narrative elaborated with different languages and materials, the result of multiple, cyclical and connected processes of reflection on experiences, projects, reports and collaborations in learning processes.

Of course, one of the most important characteristics of the e-portfolio is its digital organisation. The digital possibilities of collection, organisation and publication have greatly enhanced the advantages of this evaluation strategy. Two such important characteristics as the image (fixed or mobile) and hyperlinking give e-portfolio great richness and versatility. It allows us to improve the communication of experiences by publishing photos or videos and to exploit a wide range of material and human possibilities using the hyperlink resource. The hyperlinking resource allows us to contextualise the content of our evidence, giving a more realistic framework to the sources of our knowledge. It also allows the use of the blog as a repository of content and experiences. A repository with files of different types, for example text or video. And the development of itineraries to show the acquisition of different knowledge and the skills developed by attaching the necessary evidence for it. This versatility of the blog/portfolio makes multidisciplinarity or interdisciplinarity possible by sharing a virtual space that allows hosting and assembling different types of content and experiences.

In any case, the portfolio methodology requires a portfolio preparation guide that is made available to the student. And this same methodology also opens up the possibility for teachers to work on their subject and present their professional identity from the same portfolio methodology and tool. By this I mean that there may be a student portfolio and that it is very useful in their professional development for university teachers to work with portfolios. This allowed us, in the training course carried in this twinning project with Algeria, to work on the teaching skills linked to the portfolio methodology.

3.   Organisation of evidence of learning in the portfolio

The portfolio is a multi-modal tool, sometimes they are physical artefacts, other times they are digital artefacts, which can be presented in blogs or even constitute contributions based on still images or videos. Evidence and the opportunities presented by the subject determine whether they are mixed (physical and virtual), or digital on the web, usually web portfolios. We can find a portfolio in cardboard or on a blog. Although it is drawn up in different formats, all these portfolio styles concur in certain of their characteristics: flexible, reflective, narrative, collaborative, multi-modal, semi-structured and personalised.

We understand flexibility as a structural characteristic of a tool that is under permanent reconstruction and transformation. It contains thoughts, statement of intentions, important reading, individual or group work, links to interesting addresses, links to other colleagues' portfolios, etc. This flexibility facilitates and promotes reflection. It is useful to conceive the portfolio as a sustainable tool for several years' use throughout degree courses. They can even be extended further, when pursuing a master's or doctorate and starting a career. However, we are aware of its frequent academic discontinuity, fragility or artificiality and of the dangers of reproducing the disciplinarity, decontextualisation or ritualisation of learning, etc. In any case, portfolios have to be like a compass that marks the direction of the learning developed and serve as a repository of the items of learning evidence, be they reports, interviews, formal papers, videos, drawings, blogs…. In collaboration with other peers with whom the student shares time in papers, dialogues and also thoughts. Not only is it the carbon copy of the different moments and a reflection of the identity of the apprentice/future teacher that is being built, but each portfolio contains a narrative. Naive, cathartic, rebellious, flat, routine and variable narratives. A narrative that describes and constructs the teacher's identity, itself in constant change and transformation that is developing in university students, with successive contributions, with different materials and in different formats (paper, textual, image, audio…).

In the preparation of the portfolios, we have identified different components to scaffold their construction and with which the students can be encouraged to add personal elements that characterise the work of each participant. These guidelines for the development of portfolios and their evaluation are a decisive contribution in promoting both reflection and inquiry and the organisational purposes of the learning and collaborative materials in the portfolio, as well as serving to develop self-learning.

We also have to bear in mind that introducing the portfolio methodology requires that we have significant information about the subject being studied (objectives, competencies and timing) when planning our course. Fundamental information so that someone who wants to assess these items of learning evidence organised in the portfolio will have adequate reference criteria.

On the other hand, this methodological section of the portfolio must include the detailed planning of the activities and the deliverables and their delivery dates.

All of this requires that a guide be provided to promote student self-learning, including instruments for self-evaluation, co-evaluation and operational evaluation criteria. In addition, it is very useful to prepare a check-list

One of the keys to the methodology based on the e-portfolio is the internal organisation of the material it contains for the evaluation task. Organise the evidence with meaning and coherence of what is intended to be presented for evaluation and for the evaluator to approach the material in an organised way. With this we refer to what in an electronic format, web portfolio, we call a last post or e-portfolio where with a hyperlinked text we make an introduction to the items of learning evidence that are presented, contextualising them. In this introduction it would be appropriate to say who we are, what we are studying, with whom and where.

In this post we organise these items of evidence, by means of a script or by hyperlinking them from the text that gives them meaning and we provide a conclusion.

To promote self-learning in students, it is a good idea to give them guidance for carrying out learning tasks. These guidelines are basic but useful as they help us to suggest minimum criteria for the construction and development of student portfolios. These general descriptive guidelines identify a well thought-out use and organisation of portfolios and classify them into excellent, good, and room for improvement. We can create as many orientations as deliverables required of the student, or select them according to their significance in the learning processes. But if we want the portfolio to bring about an improvement in the training of our students, we have to give it this nuance oriented towards self-training that is the basis of a more democratic evaluation model. The clarification of the tasks, their steps and the intended performance of the deliverable, should be the way of self-learning the autonomy of collaborative learning. In addition, as we clarify the steps to be taken and the quality of the final products, we improve the democratisation of the evaluation. This detail represents the great asset of the portfolio as an active methodology not only for evaluation but also for learning.

4. The training of higher education teachers in the use of the portfolio: the experience in Algeria

I start from my experience as a university teacher, a regular user of the portfolio methodology, and the knowledge that this practice has helped me to generate. My training in the use of portfolios began with a philosophy of transforming our teaching practices at the beginning of the constitution of the European Higher Education Area. I have also participated as a trainer in other courses on this subject, in different national and international universities.

The Algeria experience adds a special feature to these formative experiences that I would like to highlight. It is a project that aims at twinning with Algeria and to promote a transfer of pedagogical knowledge, relying on the usefulness and transferability of certain organisational approaches and educational practices. But I cannot conceal my astonishment when I participated in an international event with a marked Euro-centrist nature. I was particularly struck by the history of a country like Algeria and its struggle to free itself of the oppressive colonialist yoke. Being invited to share such a European model made me wonder whether, beyond the introduction of active teaching methodologies in Algerian universities, there should also be a break with certain analyses and knowledge that perpetuate certain claims of neo-colonialism. I think that a university teaching movement should start by considering what type of citizenship is desired, and from there radically re-conceive the university curriculum and pedagogy.

The methodology employed in the course given in Algeria was based on initiating a reflection on the teaching given by the participating teachers, identifying the difficulties they encounter when evaluating. Second, the basic ideas about the e-portfolio were addressed, including examples of portfolios developed by university students. Subsequently, we identified some useful 2.0 technologies for the development of portfolios, the pedagogical guidelines for carrying out the tasks that have to be incorporated into the didactic guide of the portfolio methodology and we ended with a summary of the basic ideas presented.

In addition, we presented a didactic guide of a subject based on the portfolio methodology. We describe the objectives of the subject, the competences, the contents of the syllabus and show how the portfolio-based assessment methodology was integrated into the didactic guide. During the workshop, we combined the keynote presentations with individual reflection on the teaching conditions that the participants were developing in their universities with group discussion to share individual reflections.

As a result of this face-to-face workshop and as a proposal for complementary work to be carried out virtually, the preparation of teaching portfolios was proposed. The cover of one of the papers drawn up by a group of teachers from the University of Boumerdes is shown in the image. The teaching portfolio developed consists of an introduction, the teaching vision of the group of teachers, the content to be taught, the skills to work on and a conclusion.

5. CONCLUSIONS

The use of electronic portfolios has spread to most of the educational and professional world. This ranges from basic education through college, to undergraduate and graduate programs. The earlier and more consistent the use of electronic portfolios, the more substantial its effects can be. Electronic portfolios are valuable and versatile tools that have several pedagogical and professional advantages. They allow students to reflect on their performance, receive feedback, and prepare their best work to show to future employers or clients. With proper planning and foresight, university institutions can introduce a platform that allows students to create an electronic portfolio throughout their undergraduate studies to enhance their learning and leave university with a practical tool to help them achieve a meaningful job and fulfil their dreams.

6. BIBLIOGRAPHY

CORREA GOROSPE, J.M.: «Derecho Sindical», Tecnos, Madrid 2003. en J. Paredes y A. Herran, «Como enseñar en el aula», Pirámide, Madrid 2010.

CORREA GOROSPE, J.M, ABERASTURI APRAIZ, E., GUTIERREZ, L.P.: «El e-portafolio en el proyecto Elkarrikertuz», Revista de Educación a Distancia n.º 8. (2006).

LORENZO, G, AND ITTELSON, J, "An overview of e-portfolios", Educause Learning Initiative, No. 1. (2005).

Learning design and research-based learning

Victoria I. Marín

University of Lleida

1. Introduction

Learning design is defined as *"a formal process for planning technology-enhanced learning activities, usually supported within a community where designs and ideas can be shared and re-used"* (Lewin *et al.*, 2018, p. 1132). Conole (2013, p. 7) speaks of learning design as a *"methodology for enabling teachers/designers to make more informed decisions in how they go about designing learning activities and interventions, which is pedagogically informed and makes effective use of appropriate resources and technologies."*.

Both definitions are linked to the idea of the role of the teacher as designer, which implies making explicit educational designs that include the use of technology, as well as the reflection on educational intervention to improve teaching (Marín & Villagrá, 2020), which has its roots in design as a reflective practice (Schön, 1983). Empowering teachers as designers is a well recognised challenge, as it requires the use of techniques (i.e. different pedagogies and approaches to teaching and learning, e.g. collaborative learning, learning communities), tools (e.g. books, mobile devices, web applications) and ingredients (e.g. learning objectives, feedback, content) (Wasson & Kirschner, 2020).

On the other hand, it is suggested that those informed decisions about the designs regarding what techniques, tools and ingredients to use should be based on scientific research (Wasson & Kirschner, 2020). Along these lines, we could speak of teacher inquiry, or even educational design(-based) research. This considers the teacher as a designer and researcher for the improvement of educational practice and innovation based on research in real contexts by solving complex educational problems (de Benito & Salinas, 2016), but in most cases, it considers the teacher as co-designer of said educational processes together with educational researchers in participatory design processes (Gros & Durall, 2020).

Among the possible types of methodological approaches to educational design we include research-based learning. It is an approach whose main objective is to actively

involve students through research activities related to the area of knowledge where it is applied (Marín, 2020a).

In this chapter we will first address learning design and then place emphasis on the research-based learning approach as an active learning strategy.

2. TRAINING FRAMEWORK AND ITS CHARACTERISTICS

2.1. Background

As Wasson and Kirschner (2020) indicate, there has been a shift from classical views of traditional instructional design and the use of authoring tools to support teachers in instructional or teaching design, to the current view of learning design, understood in a broad sense, which includes the consideration of the learning experience and environment. It is therefore a transition from focusing on content and presentation to focusing on learning environments and the learner.

The origin of instructional design dates back to the Second World War, when it was sought to design more effective and efficient training programmes and courses for large population groups, and the objective was precisely "*to develop methods and tools for making the process of designing and delivering instruction as systematic, efficient and effective as possible.*" (Persico & Pozzi, 2015, p. 232). The classic example of this approach is the ADDIE model of the instructional design process (Analysis, Design, Development, Implementation and Evaluation) (Persico & Pozzi, 2015), on which a large number of models for instructional design have been based (Dick *et al.*, 2015).

Currently, the concept of learning design has practically replaced that of instructional design, especially in Europe and Australia, and its origin is related to the work of educational modelling language for the reuse of said designs (IMS-LD) in 2004, its application being broader today (Persico and Pozzi, 2015). However, several authors agree on the consideration of learning design as "design for learning" and not "of learning", since learning cannot be designed, but the environments or tools to support it can (Goodyear & Dimitriadis, 2013).

According to Persico & Pozzi (2015), there are three main lines of research related to educational design: textual and visual representations, methodological approaches and tools to support the design process. The objective of the learning design support tools is to make it possible to share, adapt and reuse the pedagogical ideas of teachers through the use of different types of representations and facilitate reflection (Prieto *et al.*, 2013). Two examples of working technology tools developed for this purpose are the Integrated Learning Design Environment (ILDE)[1], which integrates different

---

[1]   https://ilde.upf.edu/about/

authoring tools to allow teachers to choose between them and co-produce, share, evaluate and implement educational designs (Hernández-Leo *et al.*, 2013), and EdCrumble2[2], which allows the design of blended learning scenarios and integrates data analytics to support the teacher in decision-making (Albo & Hernandez-Leo, 2021). There are also conceptual tools, such as ABC Learning Design[3], which is a widely recognised method based on the theory of the Conversational Framework (Laurillard, 2012) and which supports groups of teachers in creating a visual representation of a unit, course or programme using cards.

Regarding methodological approaches, a general one in learning design that specifically interests us for this training is the research-based learning approach. Marín & Schirmer (2018) propose 6 phases of this educational approach, accompanied by different technological possibilities: 1) identify a problem and pose a research question, 2) collect information and develop theoretical approaches, the status of the research, 3) select methods and develop a research design, 4) carry out the study, 5) develop and present the results, and 6) reflect on the entire process. Brew (2013) proposes a circular model to facilitate the identification of choices to be made when developing research-based pedagogies in a course or programme. By putting students, contexts and learning objectives at the centre, decisions are related to the possibilities of choice in a continuum regarding Brew (2013): the type of knowledge related to learning (unknown-determined), the choice of the research topic (student-teacher), the choice of the research question (student-teacher), the structuring of the task (by the student-by the teacher), the type of inquiry (well-defined-open), audience and results (decided by the student-by the teacher), assessment (controlled by the student-by the teacher), and the type of knowledge worked in the research (new for the discipline-for the student).

2.2. Objective

The purpose of training in this mission is to empower teachers as designers and researchers of learning. Therefore, the learning objectives are described below:

— To know concepts, relationships, cycle and models of learning design applicable to higher education.

— To analyse the possibilities of research-based learning as a possible methodological approach.

— To reflect on learning design in higher education and the role of the teacher as a designer.

— To apply the ABC method of learning design for curriculum development.

---

2 https://ilde2.upf.edu/edcrumble/
3 https://abc-ld.org/

2.3. Methodology and expected results

The proposed methodology is based mainly on teamwork and discussion related to the activities proposed in a workshop format, as well as on individualised reflection on the work carried out. Guided peer learning and support and collective reflection are sought as a learning and practice community, while strengthening the figure of the teacher as a designer and researcher of learning. A portion of the workshops will use an approach adapted from the ABC of educational design.

As a result, it is expected that teachers develop a broader vision of their role, which integrates that of designer and researcher of learning, and acquire knowledge about methodological and technological tools that support said tasks, as well as food for thought about how to practice and research it.

3. GOOD PRACTICES

Learning design using the ABC method has been widely applied at the European level and multiple case studies of its use can be found on the website of the approach[4]. For example, an interesting case study is that of Dublin City University (DCU), where academic teams from the School of Health and Human Performance, together with the Teaching Improvement Unit, jointly designed a new mixed-mode master's degree programme[5].

Regarding the design of research-based learning scenarios, we can refer to the practices described in Marín (2020a; 2020b) and Saunders (2017). In the works of Marín (2020a; 2020b), it is shown how pre-service teachers and education master's students follow the inquiry process to create a techno-pedagogical product (materials, activities, etc.) that could be implemented and evaluated in the real context, following the research-based learning approach (and linking with design-based research), and having a great margin of choice regarding the subject and objective of the production, audience and results. On the other hand, Saunders (2017) describes the educational practice of research-based learning in teacher training at the Humboldt University of Berlin, which integrates the complete classical cycle described by Marín & Schirmer (2018), accompanied by training in methods research and basic theoretical knowledge on pedagogical aspects related to student projects.

[4] https://abc-ld.org/case-studies/
[5] https://abc-ld.org/casestudy/dcu_case_study1/

4. Conclusions

As a result, the training related to this mission hopes to take an important step towards strengthening the abilities of teachers as designers and learning researchers in their teaching contexts, as well as getting knowledgeable about the research-based learning approach.

In addition, the products designed during the course of the training activity hope to be the basis for the development and implementation of educational activities that focus on the student and the learning environments and, at the same time envisage the possibility of thinking about and researching these same educational practices.

5. Bibliography (APA)

Albo, L., & Hernandez-Leo, D. (2021). edCrumble, a data-enriched visual authoring design tool for blended learning. *IEEE Transactions on Learning Technologies*. https://doi.org/10.1109/TLT.2020.3040475

Brew, A. (2013). Understanding the scope of undergraduate research: A framework for curricular and pedagogical decision-making. *Higher Education*, 66(5), 603–618. https://doi.org/10.1007/s10734-013-9624-x

Conole, G. (2013). *Designing for Learning in an Open World*. Springer.

de Benito, B., & Salinas, J. (2016). La Investigación Basada en Diseño en Tecnología Educativa. *Revista Interuniversitaria de Investigación En Tecnología Educativa*, 0, 44–59. https://doi.org/10.6018/riite2016/260631

Dick, W., Carey, L., & Carey, J. O. (2015). *The Systematic Design of Instruction*. Pearson.

Goodyear, P., & Dimitriadis, Y. (2013). In medias res: reframing design for learning. *Research in Learning Technology*, 21, 1–13. https://doi.org/10.3402/rlt.v21i0.19909

Gros, B., & Durall, E. (2020). Retos y oportunidades del diseño participativo en tecnología educativa. *Edutec. Revista Electrónica de Tecnología Educativa*, 74, 12–24. https://doi.org/10.21556/edutec.2020.74.1761

Hernández-Leo, D., Chacón, J., Prieto, L. P., Asensio-Pérez, J. I., & Derntl, M. (2013). Towards an Integrated Learning Design Environment. In D. Hernández-Leo (Ed.), *EC-TEL 2013* (pp. 448–453). Springer-Verlag.

Laurillard, D. (2012). *Teaching as a Design Science: Building Pedagogical Patterns for Learning and Technology*. Routledge.

Lewin, C., Cranmer, S., & McNicol, S. (2018). Developing digital pedagogy through learning design: An activity theory perspective. *British Journal of Educational Technology*, 49(6), 1131–1144. https://doi.org/10.1111/bjet.12705

Marín, V. I. (2020a). Technology-enhanced Learning Design of a Pre-service Teacher Training Course in a Research-based Learning context. *Universitas Tarraconensis. Revista de Ciències de l'Educació*, 1(3), 14–26. https://doi.org/10.17345/ute.2020.3.2766

— (2020b). Research-based learning in education studies: Design inquiry using group e-Portfolios based on blogs. *Australasian Journal of Educational Technology, 36*(1), 1–20. https://doi.org/10.14742/ajet.4523

Marín, V. I., & Schirmer, C. (2018). Design of a teacher-training workshop to support research-based learning processes with digital media. In N. Neuber, W. Paravicini, & M. Stein (Eds.), *Forschendes Lernen. The Wider View. Eine Tagung des Zentrums für Lehrerbildung der Westfälischen Wilhelms-Universität Münster vom 25. bis 27.09.2017. Schriften zur Allgemeinen Hochschuldidaktik. Band 3.* (pp. 99–111). WTM-Verlag 2018. https://wp.uni-oldenburg.de/edidactics/wp-content/uploads/sites/143/2018/06/Marin_Endfassung-pdfmitref.pdf

Marín, V. I., & Villagrá, S. L. (2020). Editorial of the special issue: Co-Design of Technology-enhanced Learning Experiences. *EDUTEC. Revista Electrónica de Tecnología Educativa., 74*, 1–11. https://doi.org/10.21556/edutec.2020.74.1921

Persico, D., & Pozzi, F. (2015). Informing learning design with learning analytics to improve teacher inquiry. *British Journal of Educational Technology, 46*(2), 230–248. https://doi.org/10.1111/bjet.12207

Prieto, L. P., Dimitriadis, Y., Craft, B., Derntl, M., Émin, V., Katsamani, M., Laurillard, D., Masterman, E., Retalis, S., & Villasclaras, E. (2013). Learning design Rashomon II: exploring one lesson through multiple tools. *Research in Learning Technology, 21*. https://doi.org/10.3402/rlt.v21i0.20057

Saunders, C. (2017). *Research Based Learning in Teacher Education at Humboldt-Universität zu Berlin* (No. 1; Working Paper). https://www.uni-oldenburg.de/fileadmin/user_upload/flif/Homepage_neu/Working_Paper/14-09_Online__Saunders_FL_im_LA_HU_Berlin_081117.pdf

Schön, D. A. (1983). *The reflective practitioner: How practitioners think in action.* Temple Smith.

Wasson, B., & Kirschner, P. A. (2020). Learning Design: European Approaches. *TechTrends, 64*(6), 815–827. https://doi.org/10.1007/s11528-020-00498-0

Learning in motion: blurring space-time boundaries

Vanesa GALLEGO-LEMA

Higinio Francisco ARRIBAS-CUBERO

University of Valladolid

1. INTRODUCTION

In this chapter we give an account of a process that is the result of how we have developed over the years in our teaching and research activities; of our break with inherited hegemonic learning and training processes; listening attentively to our own life stories and winding roads and those of many fellow travellers; the product of the changes in the organisational structures of educational systems; and the result of our sensitivity and perception to personal needs and the changes that have taken place in our contemporary society. All this marked the beginning of an exciting journey as researchers eager to know and delve much further into the learning processes, in motion, supported by technology, those who break down frontiers and institutional walls, focus on the presence of the body in its entirety in educational processes, envisioning new paths in learning that establish connections between our past, present and future, creating a nomadic movement of learning processes. This process is framed in the context of several research projects funded by the Spanish Ministry of Science and Innovation and by the Regional Government of Castilla y León within the research group GSIC-EMIC (University of Valladolid), beginning in 2013 an interdisciplinary and symbiotic action between technical engineers and educators, which provided the development of two doctoral theses framed in this process as well as a constantly growing pedagogical and technological framework in the field of Physical Education in the Natural Environment, a subject taught at said university in the Primary Education degree course.

2. ICT IN LEARNING IN MOTION PROCESSES

The study of training in motion processes supported by Information and Communication Technologies (ICT) made us aware of the dialogues that emerge regarding the benefits and limitations that technologies offer us and that deserve to be taken into account.

We find evidence throughout the literature that shows us ICT as a tool that, in principle, promotes a sedentary lifestyle, as can be seen, for example, in the studies offered by Hinojo-Lucena *et al.* (2019); and Sandercock, Alibrahim & Bellamy (2016), also affecting their integration in the classroom as a challenge not to lose spaces to involve the body in favour of ICT, as Kirk (2007) announced years ago. The spectator/consumer position that places us in front of technology and its screens is not new, as Tony Ousler explains in his work "Obscura", showing the technological dilemma that we are connected to, but also isolated from our environment. On the other hand, we also see in McLaren and Jandric (2020) a change in the technological conceptual framework insofar as they currently place us in the post-digital era, separating technology from our eyes and moving away from the idea of technology as that messiah capable of granting all the necessary knowledge, thus also showing us the need to focus on other ways of learning and knowing, as well as other ways of (re) connecting with ourselves and with others.

On the other hand, various studies have emerged in recent years illustrating that ICT can also support motor activity and education in motion (Conroy, Yang & Maher, 2014; Fanning, Mullen & McAuley, 2012; Gallego-Lema, Muñoz-Cristóbal, Arribas-Cubero & Rubia-Avi, 2019). This integration of technology in educational processes makes it possible to blur knowledge barriers, uniting formal and informal spaces, surpassing the walls of educational institutions and therefore making the times and spaces in which people can learn more flexible (Burbules, 2014). In this sense, ICT can support contextualised, experiential, interdisciplinary and interconnected learning in contemporary society.

Reaching a harmonious point in the integration of technology that the posthumanist perspective offers us (Barad, 2003; Braidotti, 2015; Haraway, 2008), beyond the technophilia/technophobia dichotomy, seems like a significant achievement. In order to achieve this, and in accordance with the post-humanist perspective and the new materialisms, it would be necessary to leave behind the culture-nature binomial and not separate the two realities, producing in the first place a decentralisation of "humankind" to achieve continuous relations between the human, the natural, the mechanical, the technological, among others (Barad, 2003; Braidotti, 2015; Cano, 2017). This integration is a fact today, there is a hybridisation and the virtual is already connected to the physical world, also facilitating learning or relationships with other spaces. It is worth asking to what extent we are in a physical or virtual environment. In reality, there is a continuum, technologies have been integrated and taking up space over the years, naturalising their presence even, for example, in the everyday vocabulary, as for example, the first global cyborg recognised by a government, Neil Harbisson, illustrates very well, when commenting that we no longer say "the cell phone has run out of battery", but "I'm out of battery". This concept of posthumanism is not a closed term, but rather describes the moment and our process of development as a species. Thus, Sadin (2017) in his essay "Augmented Humanity", announced a new

man who is related to technology and does not necessarily have to be a robot, but rather reflects the new cybernetic reality that encompasses many spheres of our lives.

Finally, we would also like to highlight the relevance of the body-mind union understood from Spinoza's monistic perspective, thus overcoming the traditionally inherited Cartesian dualism that places the mind above the body (Cano, 2017; Damasio, 2009). This break transforms the way of understanding educational processes, opening the way to plural and integrative scenarios in learning where the body is involved in it and attempts are made to unite the cognitive, the disciplinary, the relational, etc. The incorporation of technology in schools is an unstoppable reality that must be accepted, assumed and critically rethought. In this sense, its potential will increase depending on the relationships that we are able to establish with the rest of the components of the curriculum and the continuous critical reflection on its design and use (Cabero, 2007).

3.   UBIQUITOUS LEARNING FOR AN EDUCATION IN MOTION

3.1.   What is ubiquitous learning

Today we are in a socio-cultural context of constant changes in the educational field, requiring teachers to be continuously adapting and learning. One of the great challenges that has arisen in education is the incorporation of ICT, which allows us greater accessibility to information anywhere and anytime. This social reality created by technological advances also affects the educational field, promoting learning that is not limited to a specific space, but is learning that moves from one place to another in which teachers and students build networks and learning communities according to their interests, passions, needs and hobbies. Therefore, learning takes place in various formal and informal contexts, both physically and virtually, throughout life (Banks, 2007; Erstad *et al.*, 2016). Given today's digital needs and trends, where anyone can create and broadcast information in such a way that learning can take place anytime, anywhere, ubiquitous learning emerges as a possible answer to address digital competence within educational processes. Cope & Kalantzis (2010) bring us the term ubiquitous learning, which they define as knowledge that occurs anywhere and anytime through ICT. Ubiquitous learning comes directly from mobile learning, which is learning that occurs through mobile devices, with wireless connectivity and for training purposes, having an important role when students are learning in their environment (Specht *et al.*, 2013). Smartphones allow a series of uses due to their tools, with different functions that enable the permeation of the formal and informal structures discussed above, support training at any time, greater communication between teachers and students, and an increase of motor practice together with an important motivational component, as shown by Aznar *et al.* (2019).

Despite the fact that ICT has a ubiquitous capacity that allows learning at different times and involves transferring the traditional classroom to other contexts, thus blurring spatial and temporal barriers, attention must also be paid to making educational spaces

more flexible within the centre and to the transformation of traditional elements. In this way, we understand schools without walls, favouring exchange with what is "out there", based on concepts such as the transferred school and nature classroom (Cartón & Miguel, 2017), as privileged training spaces in which motor skills are the vehicle of access to the environment(Santos & Martínez, 2008), which allows us to open the door to interdisciplinary and interconnected learning with technological mediation. Another core concept is that of the permeable school (Trilla, 1995) based on the dialectical relationship with the medium and the shared experiences between educational agents and situations without closing themselves in on their own territory. Thus, our commitment is to take advantage of and project learning from the inside out and vice versa from the school institution to the environment, highlighting in parallel some of the advantages associated with the use of mobile devices in physical activity: increased motivation, ease of collecting information in situ, its ubiquity and the possibility of learning in/with motion (Aznar *et al.*, 2019; García & Sánchez, 2014).

This break would allow both work with ICT and other resources, as well as the possibility of carrying out different methodologies and space-time organisations from the classroom itself towards the physical, urban and natural environment. However, the integration of technology in the "augmented and extended" classroom does not have to imply new forms of learning, as collaborative learning processes are also necessary along with appropriate teaching (Jorrín-Abellán & Stake, 2009).

We would like to point out the importance of thinking of more friendly, multiform and flexible educational spaces that allow student mobility and that offer other ways of organising students to enable the development of different dynamics in motion, seeing that technological support keeps the use of ICT within its socio-educational and didactic meaning, for which at least three types of fundamental knowledge and skills are required in order to meaningfully incorporate it into educational practice: pedagogical, technological and content or subject knowledge(Ladrón de Guevara *et al.*, 2019).

3.2. Some ICT tools that support an education in motion

Next, we present by category a series of technological tools used in our field of knowledge that, together with an adequate didactic development, make it possible to carry out activities beyond the class to transfer them to the classroom (parks, mountains, streets, etc.), taking place anywhere and anytime. It seems important to clarify that we locate the classroom as that place where our students learn to be and to live, rather than the physical setting within an educational institution.

3.2.1. *Geolocation*

This is the real geographic location of an object such as a mobile device, a radar or other object. The location provides a knowledge of the context and information about what is around, such as significant buildings, museums, parks, etc. A mobile device with GPS and an application

that develops it based on Google Maps or similar technology can be used with educational applications. All these applications allow the performance of outdoor activities, interacting with the environment and acquiring information through mobility, it being essential that the mobile device capture the signal from the satellites in outdoor places. In addition, it allows ubiquity in the design of geopositioned activities. Today we often see these applications being used informally. These geographical tools used for personal and/or group activities in an informal way are referred to by Turner (2007) with the term *neogeography*. Examples are Wikiloc, Geocaching, AdventureLab, GPS orienteering, Strava, Eduloc, Casual Learn, Google Maps, and others.

3.2.2. *Augmented reality*

It is the technology that superimposes virtual information on the physical world through the combination of virtual and real objects, offering various contributions in the educational field and facilitating learning in different spaces (Azuma *et al.*, 2001; Krevelen & Poelman, 2010). The superimposing of Augmented Reality (AR) information on the physical space can be done through the following resources: firstly through QR codes, two-dimensional barcodes with a linked URL which when scanned provide extra information (video, image, text, etc.); secondly, through markers, geometric drawings that contain linked content (image, video, etc.), which are read through specific AR apps; and finally through geoposition, where by superimposing information on specific coordinates and finding out the position of the person on the device's GPS, the app provides the information. We propose as examples of apps that work with AR in the field of education Wallame, Layar, Arloon, Augment, and others.

3.2.3. *Social media*

Social media are tools that facilitate communication and the exchange of information among people, with young people being the profile that most use these media through mobile devices. Students use these networks to exchange information in different spaces and times within formal and informal contexts, also offering immediate feedback on the information we share. The integration of social networks at an educational level enables greater socialisation and the creation of a community that works with content, also serving as a link with more professionals, creating a common area of interests in which to communicate and share information and knowledge. Some examples of these social networks are Instagram, Twitter, Facebook and YouTube.

4. A LEARNING IN MOTION EXPERIENCE IN ALGERIA

Although every day a greater number of satisfactory technological experiences in education are incorporated, their incorporation into the classroom without losing sight of the teaching element remains a challenge. To do this, taking into account our previous experiences over the years, both in teaching and in research in relation to this topic, we start

from a training that seeks moments for the participants themselves to speak, giving rise to dialogue, reflection and growth, while we share practical proposals for learning in motion.

We propose a didactic sequence in which we invite teachers to build and design educational scenarios in motion supported by ICT, taking into account their own educational context. It seems important to us to create learning based on the experiences that they will develop throughout the course, also based on the collaborative construction of the activities and resources that they will implement for the creation of their own curricular materials to finally increase their "backpacks" of content and resources that support learning in motion. To do this, we propose three different steps: (i) participation in different educational settings based on learning in motion to promote pedagogical and technological internalisation as users, using technological tools based on geolocation, Augmented Reality, Social Networks and other mobile applications and/or programs; (ii) the collaborative identification of the potentialities and limitations that technological tools offer us within the educational approach; (iii) the creation of educational designs based on learning in motion supported by ICT and contextualised in their teaching practices.

Among the results that we hope will be generated in the future as a result of these training practices, we would like teachers to deconstruct the learning processes and to create plural and integrative educational scenarios where the body has a presence. We also expect a critical attitude towards the integration of technology in the field of education, with teachers assessing both the benefits and the limitations it can bring, taking into account the different ways of learning, being and living in the classroom. And, focusing on the potentialities offered by ICT together with an appropriate methodological design, we dream of training spaces "without walls", with more friendly and flexible settings that allow learning in motion, where they can carry out contextualised and interdisciplinary teaching/learning designs.

5. CONCLUSIONS

Our experience makes us realise that learning is not limited to a specific space and time, but that it needs dialogue and interrelation among the contexts, people, resources, spaces and subjects that make it up. That is why technology-supported learning in motion can blur the institutional boundaries of learning, taking into account the social, contextual, bodily, ubiquitous, affective, technological, interdisciplinary, and other dimensions.

We would like to end the chapter with the reflections and positions generated as a result of this formative experience on learning in motion, based on a triple interconnected meaning. First it sets us moving in its bodily dimension during the activities. Second, and in accordance with the characteristics that ICTs offer us, they enable a movement between spaces and times, connecting them and blurring the boundaries of learning. And, finally, learning is in constant movement and change, it is "nomadic", taking different paths and connections.

6. BIBLIOGRAPHY

AZNAR, I., CÁCERES, M. P., AND TRUJILLO, J. M.: «Impacto de las apps móviles en la actividad física: un meta-análisis». *Retos: nuevas tendencias en Educación Física, Deporte y Recreación*, n.º 36, 52–57 (2007).

AZUMA, R., BAILLOT, Y., BEHRINGER, R., FEINER, S., JULIER, S., AND MacIntyre, B.: "Recent advances in augmented reality". *IEEE Computer Graphics and Applications*, v. 21, No. 6, 34-47 (2001).

BANKS, J. A., AU, K. H., BALL, A. F., BELL, P., GORDON, E. W., GUTIÉRREZ, K. D., ZHOU, M.: 'Learning in and out of school in diverse environments'. University of Washington, Seattle 2007 .

BARAD, K.: "Posthumanist performativity: toward an understanding of how matter comes to matter." *Signs: Journal of Women in Culture and Society*, v. 28, No. 3, 801-831 (2003).

BRAIDOTTI, R.: «Lo posthumano». Gedisa, Barcelona 2015.

BURBULES, N. C.: «Los significados de "aprendizaje ubicuo"». *Education Policy Analysis Archives*, No. 22, 1-10 (2014).

CABERO, J.: «Nuevas tecnologías aplicadas a la educación». McGraw-Hill, Madrid 2007.

CANO, M.: «Cartografías ecosóficas y situadas. Hacia una justicia zoe-centrada y feminista». *Ecología Política*, n.º 54, 42-40 (2017).

CARTÓN, J., AND MIGUEL, A.: «El aula naturaleza: oxígeno para la escuela». *Cuadernos de Pedagogía*, No. 479, 59-62 (2017).

CONROY, D.E., YANG, C.H., AND MAHER, J.: "Behavior change techniques in top-ranked mobile apps for physical activity". *American Journal of Preventive Medicine*, v. 6, No. 46, 649-652 (2014).

COPE, B., AND KALANTZIS, M.: "Ubiquitous learning". University of Illinois Press, Urbana and Chicago 2010.

DAMASIO, A.: «En busca de Spinoza: neurobiología de la emoción y los sentimientos». Criticism, Barcelona 2009.

ERSTAD, O., KUMPULAINEN, K., MÄKITALO, Å., SCHRØDER, KC, PRUULMANN-VENGERFELDT, P., AND JÓHANNSDÓTTIR, T.: "Learning across contexts in the knowledge society". Sense Publishers, Rotterdam 2016.

FANNING, J., MULLEN, SP, AND McAULEY, E.: "Increasing physical activity with mobile devices: a meta-analysis". *Journal of Medical Internet Research*, v. 14, No. 6, 1-11 (2012).

GALLEGO-LEMA, V., MUÑOZ-CRISTÓBAL, J.A., ARRIBAS-CUBERO, H.F. AND RUBIA-AVI, B.: «El Practicum en Educación Física en el medio natural». *Movimento*, v. 25, No. 1, (2019).

GARCÍA, N., AND SÁNCHEZ, S.: «Incorporación de dispositivos móviles a la Educación Física escolar». *Spanish Journal of Physical Education and Sports*, No. 407, 79-86 (2014).

HARAWAY, D.: "When species meet". University of Minnesota Press, Minneapolis 2008.

HINOJO F.J., AZNAR I., CÁCERES M.P., TRUJILLO J.M. AND ROMERO J.M.: "Problematic Internet use as a predictor of eating disorders in students: a systematic review and meta-analysis study". *Nutrients*, v. 4, No. 11 (2019).

JORRÍN-ABELLÁN, I.M. AND STAKE, R. E.: 'Does ubiquitous learning call for ubiquitous forms of formal evaluation? An

evaluand oriented responsive evaluation model'. *Ubiquitous Learning: an International Journal*, v. 1, No. 3 (2009).

KIRK, D.: «Con la escuela en el cuerpo, cuerpos escolarizados: la construcción de identidades internacionales en la sociedad postdisciplinaria». *Ágora para la Educación Física y el Deporte*, n.º 4, 39-56 (2007).

KREVELEN, D.W.F. VAN, AND POELMAN, R.: "A survey of augmented reality technologies, applications and limitations". *The International Journal of Virtual Reality*, v. 9, No. 2, 1-20 (2010).

LADRÓN DE GUEVARA, L., CABERO, J., AND ALMAGRO, B. «El conocimiento tecnológico, pedagógico y disciplinar del profesorado universitario de Educación Física». *Retos: nuevas tendencias en Educación Física, Deporte y Recreación*, n.º 36, 362-369 (2019).

MCLAREN, P., AND JANDRIC, P.: "Postdigital dialogues on critical pedagogy, liberation theology and information technology", Bloomsbury Publishing, London 2020.

SADIN, E.: «La humanidad aumentada». Caja Negra, Buenos Aires 2017.

SANDERCOCK, G.R.H., ALIBRAHIM, M., AND BELLAMY, M.: 'Media device ownership and media use: Associations with sedentary time, physical activity and fitness in English youth'. *Preventive Medicine Reports*, No. 4, 162-168 (2016).

SANTOS, M., AND MARTÍNEZ, L.: «Las actividades en el medio natural en la escuela. Consideraciones para un tratamiento educativo». *Wanceulen E.F. Digital*, No. 4, 26-53 (2008).

SPECHT, M., TABUENCA, B., AND TERNIER, S.: «Tendencias del aprendizaje ubicuo en el internet de las cosas». *Virtual campuses*, v. 2, No. 2, 30-44 (2013).

TURNER, A.: "Neogeography - towards a definition". 2007. Retrieved from https://highearthorbit.com/articles/neogeography-towards-a-definition

TRILLA, J.: «La escuela y el medio. Una reconsideración sobre el contorno de la institución escolar». In various authors. *Volver a pensar la educación*, Morata, Madrid 1995.

Systemic approach to the teaching and learning processes

HENAR RODRIGUEZ NAVARRO
University of Valladolid
Henar.rodriguez@uva.es

1. INTRODUCTION

The main axis of this didactic proposal revolves around systemic thinking applied to the teaching and learning processes of the classroom. We have called the contribution that we present in this chapter: "The systemic cycle of the teaching and learning process", in this case adapted to the university context, in other articles we have applied it from a school approach applied to the curriculum offered by said institution (Rodríguez and Cole, 2018; Rodríguez Navarro, 2020; Rodríguez Navarro, Aragón Rebollo and Moya Otero, 2020).

We find antecedents in this line that refer to the learning cycle, (Kolb and Fry, 1975) whose main contribution consisted in establishing a sequence in the form of a spiral that begins with a concrete experience (immersion), to formulate abstract concepts (conceptualisation) and verify said process (application). These authors proposed a picture of cognitive styles, this being the maximum exponent of their contribution. This origin helped us to use the metaphor of the spiral and to consider that even in the case of a scheme or model, it is advisable to design different learning itineraries in a way that conforms to the basic concepts of the personalisation of learning.

The distinguishing feature of this proposal lies in: (a) Including perceptual processes and sensory experimentation within the student's learning process, through the contributions that cognitive neuroscience offers us and (b) the incorporation of cognitive biases as a conscious process of teaching and learning (Kanhmenan and Tersky, 1973; 2000; 2013).

2. PURPOSE AND BACKGROUND OF THE SYSTEMIC APPROACH IN THE TEACHING AND LEARNING PROCESSES

The purpose of this didactic proposal is to suggest to university teachers a different way of looking at things when it comes to focusing on the teaching and learning processes with their students. We do this through a sequential pedagogical structure, whose phases

take a spiral shape and are capable of connecting the significant culture of today with the most up-to-date educational theories.

What is the theoretical background that we have recovered from the scientific literature in order to develop it? Or, in other words, what is the systemic theoretical concept underpinning the pedagogical approach?

We start from two spheres, the social and the individual. Both are essential for the teaching and learning process to occur. The scientific literature offers us many investigations that support this basic process for learning, the best known is that of the *Law of Double Formation* of the psychologist Lev S. Vygostky (1989). This contribution in its day served to make educators understand the context as a key to improving the student's maturational development, placing the social plane at the centre of the school's maturational and cognitive operations. That is, students learn first by interacting and then each one internalises it, thus stretching their development and learning zone.

The student's change mechanism therefore starts from this social sphere, in the interaction between individuals, who at the same time constitute society through their interactions, and through these interactions, contexts form and change learning and development or schemes of the same always from an approach that places *situated learning* in a concrete context (Lave, Wenger, 1991). In turn, the keys of socio-constructivism have helped a lot to establish didactic sequences for learning (*scaffolding,* the *zone of proximal development* (ZPD) and the *guiding activity*).

The individual sphere of this same teaching and learning process, however, refers to the intra-psychological aspects, where the processes related to the regulation of the body and the maturation of the individual are emphasised. Both parties (the social and the individual) are part of the same coin. One without the other cannot be understood or coexist. It is in this individual sphere, where the relationship of the body with the environment takes on special importance and it is understood that cognition not only feeds on social interaction, but requires internal processes for the scholar to become aware and true learning to take place. The processes of perception and observation are included as in this initial phase within the process and are taken into account for subsequent cognitive interpretation and assimilation.

3.   **WHAT DOES THE SYSTEMIC LEARNING CYCLE CONSIST OF? HOW TO APPLY IT IN UNIVERSITY CURRICULA?**

Below we will describe the different phases through which this didactic structure with which to focus the teaching and learning processes is applied in practice.

We start with the first phase called: "Perception and observation of the phenomenon that we want to teach and learn." We continue with the second referring to "Representation and cognitive interpretation", we follow on with a third: "Identification of cognitive biases", a fourth: "Transformation of knowledge". Each of these phases that we will look

at below are part of a flexible structure to be incorporated into the thematic nuclei of university curricula, making the necessary adjustments depending on the content you want to work on.

Stage 1: Perception and observation of learning

It is at this moment that the university teacher may wonder: What attitude do I show towards the students when I tackle this learning? How do I prepare the classroom environment so that the content is adapted to the educational purpose? How do I present and prepare the content to make it gradually more abstract? By looking at the prism from the student's point of view we can help you ask the following questions at the same time: What do I see? What do I feel when I see it? Can I describe what I see?

It is inevitable that the process of inter-subjectivity does not act at this time, since classical philosophy, we have asked ourselves if what we see with our own senses is true or not. It is not a matter, on starting the teaching process, of digging out the learning objectivisation processes, but of being aware of the colour of the glasses we are looking through. This is how these questions can help us. We begin to be aware of our own teaching process as university teachers, that is what is innovative: making awareness aware so to speak. Current studies in cognitive neuroscience and other related studies highlight the importance of including multi-sensory sensations in learning and relating them to the environment. Specifically, cognition can be activated through sensations such as *temperature* (Williams and Bargh, 2008), *body position* (Carney, Cuddy and Yap, 2015), *movement* (Loetscher, Schwarz and Brugger, 2998), *distance* (Lieberman and Trope, 2008) and *attitude* (Balcetis and Dunning, 2007).

Stage 2: Cognitive representation and interpretation

Once the multisensory representations of the environment have been created, it is necessary to represent them based on the content at which they are directed. If, for example, the interpersonal relationships of an educational institution are being studied, this representation could be drawn, through the different options offered by technology (infographics, mind map, idea organiser, etc.).

The questions that the students can ask to organise their learning would be directed towards: What do I see? Can I define what I see? Can I draw it, represent it, even discern it? Can I tell my partner about it? Can I listen and understand what others have seen? Is what others have presented different from the vision that I've expressed? The teacher, however, will ask themselves: What do I hear or what do I see? (without judging), what similarities and differences exist between each of my students? What feeling does the presentations I see from my students provoke in me? Does my role as a teacher question something that I hear or see in my students? Is there anything that makes me feel bad or good about their answers, and if so why? How do I organise the information I hear to

prepare the student for the next phase? What is the thought process that I am following? What about my students? (Rodríguez Navarro, Aragón Rebollo, Moya Otero, 2020, 5).

Like the model we initially spoke of in Kolb and Lak, (1999), these presentations allow the construction of categories of abstraction with which to operate. Lakoff and Johnson's studies specifically alluded to how we access abstract concepts by linking them to descriptions based on sensory-motor experiences. Hence the importance of the teacher's recovering the responses of their students and relating them to the content set out in the university curriculum. To do this it is important to take into account several things: _the language that students use to express their ideas, _unite experimentation with the underlying abstract concept, _use space-time aspects of the content itself, _even use the body and movement to express how the phenomenon we want to transmit would behave, as a prelude to abstraction.

Stage 3: Identification of cognitive biases

Now is when the teacher must make an effort to make his or her own teaching process conscious, trying to detect which are the cognitive biases that we automatically tend to build as teachers when we are teaching.

The objective of this phase is to identify which are the paths of thought that both teachers and students undertake, observing what deviations occur most frequently. It is about identifying and offering meta-cognitive tools of the teaching and learning process itself.

Kahneman and Thersvky, (2013), and other subsequent studies (Barsalau, 1999; Loetscher, T., Schwarz, U., Schubiger, M., and Brugger, P., 2008), speak of three heuristics that we use to make judgements. These are: (a) *representativeness*, which has to do with expectations and the Pygmalion effect (Rosenthal and Jacobson, 1978); (b) the *availability of examples or scenarios*, which is related to the normality criteria that we have established ("the normal thing is to do an exam at the end of the course, for example, without considering other evaluation possibilities") and (c) *adjustment from an anchor*, which is related to symbolic interactionism and the meanings we assign to certain events or symbols (Mead, 1980).

A practical strategy to put into operation the awareness of these itineraries can be to inquire about what our own teaching biases are that are manifested in our university classes.

Questions that we can ask ourselves to identify our biases may be the following: How much does my expectation about this phenomenon influence the answer I give or the interpretation I make? Why does it motivate me or why don't I like what I'm learning? Am I repeating the same thing that I have done or thought of at other times? That is, questions oriented towards motivation, the identification of expectations about this learning (*Heuristic of Representation*).

We can also ask ourselves questions about: Have I heard what I'm answering or thinking many times? Is it fashionable? Where have I heard it or who said it to me? Why did they say

it to me? How long have I been hearing it? Has this idea changed at all since I heard it until now? Do I think the same as other people? Why do I think there are differences between the answers of my classmates and those of my teacher and my own? Questions that seek to unmask the *theory of normality* that we have implicit in our thinking, that is, to bring to light thoughts of the type: It's always been like that, so it is now too" (*Probability Heuristic*).

As well as this other group of questions: Have I always thought the same about this content, or when I was younger, did I think otherwise? What different things did I think? Why in past courses did I think one thing and now another? How has what I know now about this topic changed from what was explained to me at school? What specific aspects of this evolution can I identify? What has been the evolution of other classmates regarding this learning? What elements have they identified that I have not, and vice versa? Guide the thought with actions that make conscious the social representations and *dialogued symbols* (Mead, 1934) that exist behind the information presented (*Anchor Heuristics*). (Questions that we drew up and presented in the following publication (Rodríguez Navarro, Aragón Rebollo and Moya Otero, 2020, 8).

Stage 4: Transformation

This phase is about applying and transforming the initial perception of the content that we were working on with our university students. The social sphere of learning that we talked about at the beginning takes on great importance because we try to put what we have learned into a social context. Teacher and student may ask questions such as: What social, contextual and cultural aspects have influenced me to learn this content? How has my process been since I perceived it, represented it, interpreted it, identified it, related the elements, compared it with other opinions, identified the paths and the deviations of my mind? And now, what has it become? How can it be applied with concrete examples in my immediate context? How can this learning help others and society? How does it help me?

Engeström's idea of *expanded learning* (Engeström, 1987) is related to the purpose of this transformation phase, by placing the person within a social context that transforms or modifies their culture. This in turn will lead to a change in the perception of the first phase, thus forming a spiral cycle from which we focus on learning and teaching in a systemic way.

4. Final contributions

We have presented in this chapter a didactic structure based on systemic thinking from a double perspective: that of teaching and that of learning. At the same time, we justify from the scientific literature which are the authors and readings on which we have based our work to carry it out.

It is an innovative proposal because it puts the focus of education and the pedagogical proposals that we carry out on self-observation and identification of possible cognitive biases that can contribute to teacher improvement. In turn, university students identify

these perceptions and biases mentioned also to detect deviations in the learning of the content they are working on and that they will have to apply as future professionals.

Therefore, it constitutes a didactic structure in which to fit the contents of the university curricula that one wishes to work on through systemic thinking, as well as a self-analysis exercise (teacher and student) that explains a didactic form on which the contents of this stage can be focused.

This model is being applied and refined in several educational centres at all levels; for now we are receiving good results linked to thorough school transformation processes, although we are aware that it needs to be lightened up with technological and practical proposals that are more accessible to all teachers. The current lines of this work attempt to combine the results of the model with those offered by the Universal Design for Learning (UDL) and also with processes of emotional well-being in accordance with sustainability. We hope this approach will serve as inspiration when designing didactic programmes in university curricula.

5. Bibliographical references

Balcetis, E. Dunning, D. (2018). Cognitive dissonance and the perception of natural environments. *Psychological Science*, 18, 917-921.

Barsalou, L.W. (1999): Perceptual symbol systems. *Behavioural and Brain Sciences*, 22, 577-660.

Carney, DR; Cuddy, AJ, and Yap, AJ (2015). Review and Summary of Research on the Embodied Effects of Expansive (vs. Contractive) Non-verbal Displays. *Psychological Science*, 26 (5), 657-663.

Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki. Orienta-Konsultit.

Kahneman, D., & Tversky, A. (1973). The psychology of prediction. *Psychological Review*, 80 (4), 237-251.

— (2000). *Choices, Values and Frames*. New York, USA. Russell Sage Foundation Cambridge University Press.

Kahneman, D., (2013). *Pensar rápido pensar despacio*. Barcelona. Edición de Bolsillo.

Kolb. D.A. and Fry, R. (1975). *Toward an applied theory of experiential learning. In*

C. Cooper (ed.), *Theories of Group Process, London: John Wiley*.

Lave, J., & Wenger, E. (1991). *Situated learning. Legitimate peripheral participation*. Cambridge, MA. Harvard University Press.

Liberman, N., and Trope, Y. (2008). The Psychology of Transcending the Here and Now. *Science*, 322 (5905), 1201-1205.

Mead, G.H. (1934). *Mind, self & society*. Chicago. University of Chicago Press.

Rodríguez, H., and Cole, M., (Coords.), (2018). Contribuciones a la educación desde una perspectiva socio-cultural coordinadores. *Revista Interuniversitaria de Formación del Profesorado*. RIFOP. 93.32.3.

Rosenthal, R. and L. Jacobson, L. (1964). *El efecto Pigmaleón*. Madrid, Ed. Marova.

Vygotsky, Lev S (1978). *Pensamiento y lenguaje*. Madrid, Paidos.

Williams, L.E., and Bargh, J.A. (2008). Experiencing Physical Warmth Promotes Interpersonal Warmth. *Science*, 322-606.

Planning of university teaching (projects and guides) and tutoring

Joaquín PAREDES-LABRA

UAM (Autonomous University of Madrid)

1. INTRODUCTION

Planning is a fundamental process for organising teaching. The generation of a teaching project and the corresponding guide for the student make it possible to specify how the university students will work in class. The planning defines such fundamental aspects as the methods or methodology implemented in the class, the type of evaluation (criteria, activities and instruments) and the resources provided for self-study. The teaching project is specified in the didactic guide of the course, defining the teacher's premises to facilitate learning by the student, recognising the institutional capacities to put them into practice, providing resources for the study and offering guidance on the main difficulties habitually encountered by other groups to begin studying a subject, achieve the objectives of the course, understand topics or carry out its main activities.

Tutoring of students is part of the institution's and the teachers' efforts to facilitate their integration in the university and help them pursue their studies and realise their career aspirations after completing them.

2. TRAINING FRAMEWORK AND ITS CHARACTERISTICS

Teacher training must always be respectful of the contexts and purposes of the educational systems that it seeks to strengthen. The methodological proposal of this type of action is a process of reflection and contrast between the teaching done at the university, the experiences of others and didactic theory, in order to complete strategies, enhance available resources and open spaces for self-assessment, in such a way as to transfer this active experience to present and future activities. Therefore, the outlook for the training of university teachers is twofold. On the one hand, it involves investigating one's own practice in the planning and mentoring area. On the other, it requires questioning one's own assumptions and procedures, "looking in the mirror" to reflect on them. The purpose

of this is to understand the nature of the challenges posed by the transformation of the Spanish university system to adapt to the "Bologna process" and its own context.

The introduction of the European credit transfer system or ECTS means incorporating the work carried out by the student into the planning. To do this, an update of the teaching projects is necessary, specifically an approach to the concept of planning with a variety of different methods and student work that is flexible as regards ways of learning, autonomous in carrying out learning activities, and involves students' active participation in learning.

With regard to tutoring, to achieve the idea of the autonomous student, universities must step up tutoring services. This entails getting to know students better and generating a package of activities at university, faculty and degree award level.

2.1. Background

To characterise planning and tutoring, it is appropriate to reflect on the university teacher as planner, on the ways in which curricula are designed and the planning components, as well as the characteristics of the teaching and tutoring programme.

2.1.1. *The university teacher as planner*

Planning teaching is a demanding and regular activity that follows different traditions. The most classic is the "culturalist" approach, that of the teacher who organises the transmission of content to students in the best possible way. Other traditions are the "technological" (not meaning "using technology" but "deriving practical applications from basic research"), which responds with confidence to the demands made in the classroom; the "humanist" tradition, where the teacher, when thinking about teaching, clarifies to himself his or her way of teaching; the "practical" tradition, where the teacher makes a forecast of the needs of work with students in the classroom and outside of it; and the "social constructionist" approach, where he or she prepares a teaching-learning process involving the students' daily lives in a number of ways.

In Europe, with the adoption of the European Higher Education Area (EHEA), the profile appears of a teacher who is not only an expert in his or her discipline and the cultural content to be transmitted, but also has skills in the teaching and learning process, in methods and techniques, evaluation and control of the classroom, communicative and managerial skills (typical of the technological approach), meta-cognitive and affective skills (typical of the humanist approach) and social skills (typical of the social-constructionist approach).

Planning in the EHEA also introduces other values, such as information for all participants, possibilities for managing the requirements of the environments where learning takes place, coherence between subjects and within courses, the continuity, progressiveness and systematicity, as well as comparability of what is done.

2.1.2. *Curriculum design in the EHEA*

Three types of curricular design will be identified, namely: discipline-based, linked to the logic of a subject or the systematic description of a field of knowledge; behavioural, basically geared to attaining certain learning objectives, often referred to as "pedagogy by objectives"; and cognitive-contextual, linked to the dialogue established between the socio-historical forces that built the disciplines and the consequences of the educational practices related to these disciplines in the forming of future citizens and professionals. The last two involve an effort to contextualise learning, while the first focuses exclusively on the content to be learned.

The EHEA model is based, however, on planning aimed at achieving previously defined competencies.

Competencies are, simply put, characteristic ways of proceeding when in professional practice. Professional practice translates into degrees and professional profiles (within an academic title, career or degree).

The best-known design of university competencies responds to the Tuning model, generated through the consensus of agents. The agents are academics, businessmen and users of the university system (students and practising professionals who have recently graduated). In some cases, there are also competency requirements established by the national administration for certain regulated professions. In Spain, the model was going to be proposed with a certain national coherence, based on coordinated studies on the professional competencies for each degree (in so-called "degree white papers"), but in the end the universities were given total freedom in the planning.

Competencies can be transversal (covering all or much of a group of subjects), generic (covering a group of university profiles under a single qualification) or specific (for a particular university profile).

These designs are partly conditioned by national, regional and local administrative levels. At the European level, some competencies for all university students were proposed. For example, qualifications indicating completion of the first university cycle (a 3- or 4-year degree) (Dublin descriptors, https://core.ac.uk/download/pdf/16372362.pdf) are awarded to students who:

— have shown that they possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually at a level that, although supported by advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study;

— can apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the development and defence of arguments and thesolving of problems within their area of study;

— have the ability to gather and interpret significant data (usually within their area of study) to make judgements that include reflection on significant social, scientific or ethical issues;

— can transmit information, ideas, problems and solutions to both specialised and non-specialised audiences;

— have developed the learning skills necessary to undertake further studies with a high degree of autonomy.

Transversal and generic competencies could also be required at the national level, while at the local level competencies specific to one or more degrees are achieved.

The planning models are subjected to quality assurance processes, which verify, based on the autonomy of design of each university (sometimes with administrative instructions), compliance with the plans put in place and adaptation to the social and professional demands of the degrees analysed.

2.1.3. *The components of planning and their dynamic interrelationship*

The way of presenting the teaching to degree course students is specified in a curriculum. This involvesstructuring the methodological sequence for a course or a degree. Generally, it is made up of "subjects", thematic contents related to a field of study that are deduced from the set of competencies that a student is expected to acquire in order to pass the necessary requirements to graduate in it.

In the Spanish educational model, undergraduate curricula are divided into 240 ECTS credits (of the European credit transfer system), 60 per year. For practical purposes, one credit is equivalent to 25 hours of student work, so a bachelor's degree involves between 1,500 and 1,800 hours of student work per year.

2.1.4. *The subject's curriculum and programme*

In the curricula, the free mobility of students through the EHEA, the employability of the students, the coherence between competencies, general objectives and organisation of the teachings must be sought; along with the coherence between competencies, evaluation, subjects, internships and final degree work. In addition, respect for human rights, universal accessibility and "design for all" mechanisms (Resolution ResAP-2001 of the Council of Europe) (teaching on equal opportunities, accessibility and culture of peace), student support procedures and course completion requirements.

As a result of the search for these criteria in the curricula, the contents and learning of each subject are delimited (selecting a few competencies for each subject, avoiding overlapping or clarifying in great detail how course work is complemented in different subjects), the student's work volume is organised (taking into account the limit defined by the credits assigned to the subject), horizontal and transversal coordination is sought and the work carried out is public (which implies responsibility in the communication of training proposals, the generation of public student guides and specific evaluation criteria).

2.1.5. *Tutoring*

In relation to tutoring, it is essential to understand (and agree) first the meaning of university life (which goes beyond passing subjects, allowing the relationships between students and the institution to be richer), understand the context and the characteristics of the students we receive at universities (their academic possibilities, the resources they have, the difficulties they regularly encounter), knowing in some detail what the universities are doing to welcome and guide students (which is not much, but there are examples of attempts at all-in pastoral services for new students), prepare an onboarding plan (with volunteer staff, materials and meetings) and keep the attraction of networking among students and teachers alive (beyond admission to the institution and even afterwards when they graduate).

2.2. Objective

The didactic objectives of the action were for the university teacher to:

— analyse the methodological changes involved in the introduction of ECTS credits in teaching;

— become aware of the functions of a university teacher that are promoted (teaching how to learn, knowing how to plan activities, develop materials, work on continuous evaluation);

— review the adaptation of his or her personal teaching project by analysing each of its elements;

— work in a team;

— appreciate the promotion of the use of the resources available to the student at the university;

— adapt programme evaluation processes;

— understand the meaning of university life for students;

— understand the context and characteristics of the students we receive;

— know in some detail what universities are doing to welcome and guide students;

— become aware of the tutorial role at the institutional, faculty and curriculum levels;

— prepare an onboarding plan;

develop communication strategies that link with the interests of the students.

2.3. Methodology and expected results

The methodologies will be the following: presentation of the main elements to consider in planning and tutoring processes and guided practice on some elements that are included in planning.

The methodological proposal is a process of reflection and contrast between the teaching experience in the university, the experience of others and didactic theory, in order

to complete strategies, enhance available resources and open spaces for self-assessment, in such a way as to transfer this active experience to present and future work.

The activities and their materials are the centre of the process and much of the product of the work in each session.

The evaluation criteria are active participation in the training activity, and reaching a quality level (45 points out of 100) in updating the programming, contained in an open instrument, with the following aspects:

— Descriptive aspects. Complete. ECTS estimation. Appropriateness.

— Professional contextualisation. Curricular contextualisation. Connection with competencies and subjects. Personal contextualisation. Itineraries of origin and training requirements of the students.

— Objectives. Several. Varied. Procedural and attitudinal. Competencies. Transversality.

— Contents. Sequenced. Classic structure. New structure: Introduction. Headings and subheadings. Materials or references to study it. Working method of the topic. Main difficulties. Bibliography for extension.

— Teaching methodology. Variety. Details. Programme and times.

— Evaluation. Criteria. Activities. Instruments. New narratives in your students' productions.

— Bibliography. General. Extension. Other resources.

3. GOOD PRACTICES

In the training process, teachers were invited to imagine the university as a house where guests are received. Through an artistic proposal and organised in groups, different "houses" were imagined in which to welcome future students.

Furthermore, it was proposed to generate a didactic guide from the topics addressed in the action. Good practices were to base the development of new teaching guides for specific subjects on the so-called white papers, studies generated by professional bodies for basic Spanish degrees.

Among the benefits of producing a team teaching guide are the generation of a feeling of teamwork, the importance of selecting content and significant activities for students, the search for coherence in the training processes and the evaluation and the identification of common problems among new university teachers.

For example, younger university teachers find it more difficult to expand the nature of the objectives of their teaching guides, which are generally conceptual, and to achive consistency between learning objectives, methods used and the evaluation procedure proposed.

Among the good practices that these procedures are expected to generate are initiatives such as specific tutoring systems, improvements in coordination between teachers,

search for specific training for teachers, generation of complementary activities, generation of teaching laboratories, interdisciplinary and innovation projects, reduction of average class sizes, modification of schedules and calendars, service learning initiatives, coordination with local initiatives and employment and "double degrees".

The teaching guide for each subject is a document in which the training programme is specified and developed, carrying out a programming of the different teaching-learning activities. It is generally developed in a team. It is a key piece in the university methodology transformation process.

4.   CONCLUSIONS

The Algerian university system is going through a transformation similar to that experienced 10 years ago in Spain. The proposal made sought a double approach, of respect for the careers of its teachers, helping them to investigate their teaching practices, and of opening the door to teaching focused on university students by providing the Spanish system as an example to discuss.

The group was very responsive to all the details of the planning and mentoring processes. And a large group of participants got involved in the activities and debates planned in the training action. Some of them, despite the pandemic that came immediately afterwards, generated teaching guides with a proposal focused on students, which was presented to and analysed by the group.

5.   BIBLIOGRAPHY

VARIOUS AUTHORS: "Universia Rio 2014 Charter." Claves estratégicas y propuestas para las universidades iberoamericanas», *Rev. iberoam. educ. super* v. 5 No. 14, s.p. (2014).

COLAS, P.; DE PABLOS, J.: «La universidad en la Unión Europea: el espacio europeo de Educación superior y su impacto en la docencia», Aljibe, Archidona, 2005.

DA RE, L; ÁLVAREZ PÉREZ,P.; CLERICI, R.: «Adaptación al contexto universitario italiano del modelo de tutoría formativa para la prevención del abandono y la mejora del rendimiento académico», *Investigar con y para la sociedad* n.º 2, pp. 721-730 (2015).

GIL BELTRÁN, J.M.; FLORES, R.: «Cómo articular un plan universitario de acción tutorial», en Herrán, A. y Paredes, J. (Coords.), *Promover el cambio pedagógico en la universidad* (p. 213-228), Pirámide, Madrid 2012.

GUILARTE, C.; MARBÁN, J.M.; MIRANDA, S.: «Principios básicos para el diseño de guías docentes de asignaturas en el marco del EEES», Universidad de Valladolid, Valladolid, 2008.

FERNÁNDEZ SÁNCHEZ, R.: "Collaborative action and tutorial guidance in the university", University of Extremadura, Cáceres, 2015.

MICHAVILA, F. (COORD.): «Propuestas para la renovación de las metodologías educativas en la universidad», Ministerio de Educación, Madrid, 2006.

Miguel Díaz, M. de (Coord.): «Metodología de enseñanzas y aprendizaje para el desarrollo de competencias: orientaciones para el profesor universitario ante el espacio europeo de educación superior», Alianza editorial, Madrid, 2006.

Paredes, J.; Herrán, A. de la: «Cómo enseñar en el aula universitaria», Pirámide, Madrid, 2010.

Zabala, A. and Arnau, L.: «Como aprender y enseñar competencias. 11 ideas", Grao, Barcelona, 2011.

A look at the culture of peace from the research angle

Sebastián SÁNCHEZ FERNÁNDEZ

University of Granada
University Institute for Peace and Conflict Research

1. INTRODUCTION

1.1. What is the Culture of Peace?

The first definition of Culture of Peace (CoP) was made at the International Congress of Yamoussoukro, Côte d'Ivoire, in 1989 and was adopted as a UNESCO Programme in 1995, as it was later developed in a publication of the organisation itself (UNESCO, 1996). It would soon become a global movement with the direct involvement of broad sectors of society on all continents, which led the United Nations to proclaim the year 2000 as the "International Year for the Culture of Peace" and the first decade of the twenty-first century as the "International Decade for a Culture of Peace and Non-Violence for the Children of the World". We have a current reference in UNESCO (2020).

In Resolution 53/243. Declaration and Programme of Action on a Culture of Peace, of 13 September 1999, after defining the Culture of Peace as "a set of values, attitudes, traditions, and modes of behaviour and ways of life based on [a series of principles and commitments]" (Article 1), and guiding its development in the following two articles, it expressly acknowledges that "education at all levels is one of the principal means to build a culture of peace" (Article 4).

The *2000 Manifesto*[1], of particular significance since it was drawn up by a group of Nobel laureates[2], summarises, in simple language, the six key principles that define and determine the Culture of Peace, inviting everyone to sign it and commit to respecting them in daily life:

---

[1]   Retrieved on June 10, 2020 from: https://www.culture-of-peace.info/history/Manifesto-launch.pdf .

[2]   The Nobel Laureate promoters and first signatories of the Manifesto were: Norman Borlaug, Adolfo Pérez Esquivel, Dalai Lama, Mikhail Sergeyevich Gorbachev, Mairead Corrigan Maguire , Rigoberta Menchu Tum, Shimon Peres, José Ramos Horta, Joseph Rotblat, Desmond Tutu, David Trimble, Elie Wiesel and Carlos Felipe Ximenes Belo.

1.   Respect the life and dignity of each human being, without discrimination or prejudice;

2.   Practice active non-violence, rejecting violence in all its forms: physical, sexual, psychological, economic and social, in particular towards the most deprived and vulnerable such as children and adolescents;

3.   Share my time and material resources in a spirit of generosity to put an end to exclusion, injustice and political and economic oppression;

4.   Defend freedom of expression and cultural diversity, giving preference always to dialogue and listening without engaging in fanaticism, defamation and the rejection of others;

5.   Promote consumer behaviour that is responsible and development practices that respect all forms of life and preserve the balance of nature on the planet;

6.   Contribute to the development of my community, with the full participation of women and respect for democratic principles, in order to create together new forms of solidarity.

1.2.   Educational and social implications

One of the most important purposes assumed in research and studies on and for peace is to promote the visibility of peaceful and non-violent modes of behaviour of people and human groups in the various contexts and locations in which they occur (Muñoz and Bolaños, 2011). This objective takes on particular importance in the case of peace education research, since showing and recognising the manifestations of peace in daily life could be converted relatively easily into a pedagogical knowledge base capable of generating strategies and didactic resources for the training of students and all members of educational communities in the values of a culture of peace in the learning environment and in society.

Despite the educational potential of this principle of applying the results of research for peace to academic practices, not enough specific work has been done in tangible terms. This may be due, among other reasons, to the lack of express clarification of the contents of Education for Peace in the curricula of the different stages of the educational system, to deficiencies of the specific training on this subject on the part of the teaching staff, and to the lack of involvement and participation of educational communities and families in the essential coordinated training actions required by training in this type of content. But without doubt the very characteristics of the object of study - the culture of peace and its manifestations - also play a part.

As Sánchez and Sánchez (2012) point out, we often do not know how to discover the manifestations of the culture of peace in the situations in which they occur. It is not that there are no experiences of peaceful coexistence, solidarity, friendship, collaboration, the peaceful regulation of conflicts, etc. among human beings. These events occur very frequently in our habitual behaviour, even in the closest environments (family relationships, professional,

school, leisure, etc.), and indeed are much more frequent than violent behaviour, but we are not used to detecting them and even less to teaching and disseminating them.

Muñoz (2001) argues that if we wait for all manifestations of violence to disappear before working on and developing peaceful situations, we are hardly going to achieve it, since relationships between individuals and groups are seldom perfect. On the other hand, if we assume imperfection, problems and conflicts, trying to overcome and/or solve them while at the same time learning from our experiences in this regard, we will also advance in the construction of networks with peaceful, imperfect but ever less violent realities and situations. Just as research into positive peace discovered the structures of violence, research into *imperfect peace* pushes us towards knowledge of structural peace.

In addition, in research for peace, the concept of conflict as something inherent to life has been acquiring decisive importance (Molina and Muñoz, 2004), which leads us to affirm that where there is life there is conflict and, consequently, that we have to learn to live with it. The types of conflict, their origins, manifestations and influencing factors have been studied, observing that sometimes they cause painful and violent situations, but that in many other cases they are resolved, regulated or transformed in a non-violent way, showing that conflicts are an inherent characteristic of life. We have to learn to live with them and, above all, to take advantage of them as situations on the basis of which to organise and develop training experiences to learn strategies for their peaceful management (Sánchez, S., Pérez de Guzmán, V., Rebolledo, T. and Rodríguez, R., 2019).

However, this perspective from which we place the emphasis on the peaceful aspects of human relations and non-violent conflict management processes should not lead us to forget the existence of violence or to refuse to see it, since this would imply not only a naive approach but, above all, a slack and unrealistic intellectual attitude. In the face of any manifestation of violence, it is always necessary to show solidarity with the victims and not let violent behaviour go unpunished (Martín Morillas, 2004; Sanmartín, 2013).

2. TRAINING PROPOSAL

The proposal is structured around five objectives aimed at achieving the connection between our social and individual practices and their visibility and analysis from the perspective of research for peace, while trying to convert the information and scientific knowledge generated on culture of peace into pedagogical knowledge available to be applied and, where appropriate, used in educational practice.

For each of the objectives, we suggest a series of dimensions and areas of reference on which to focus our inquiries in order to contextualise the conditions and circumstances in which the different manifestations of the culture of peace occur. Likewise, the techniques and instruments for collecting information that we consider most appropriate for the development of each objective in their corresponding dimensions and reference areas are indicated (Table 1).

Objectives	Dimensions	Techniques and instruments for collecting information
Analyse whether social and educational practices participate in the principles of the culture of peace	Democratic citizenship	*Ethnography* *Field work* *Research-action* *Case studies* *Discussion groups* *Triangulation* *Interpretive analysis* *Observation* *Journals* *Questionnaires* *Scales* *Interviews*
	Education for peace and human rights	
	Improved coexistence	
	Prevention of violence	
Make visible and recognise the manifestations of the culture of peace, as well as the experiences and modes of behaviour that favour coexistence	School and university	*Documentary, audiovisual and telematic analysis* *Ethnography* *Field work* *Research-action* *Case studies* *Discussion groups* *Triangulation* *Interpretive analysis* *Observation* *Journals* *Narrations* *Questionnaires* *Interviews*
	Home	
	Public spaces	
	Leisure	
	Habits and routines	
	Religious practices	
	Social networks	
	Communication media	
	Studies and research	
	Groups and associations	
	Labour relations	
	Institutions and services	
Know and analyse conflict management strategies in interpersonal and intergroup relationships	Avoidance	*Case studies* *Discussion groups* *Triangulation* *Observation* *Narrations* *Questionnaires* *Interviews*
	Provocation	
	Regulation	
	Resolution	
	Transformation	

Objectives	Dimensions	Techniques and instruments for collecting information
Convert the information generated into pedagogical and didactic knowledge	Curricular proposals	*Documentary, audiovisual and telematic analysis*
	Organisational proposals	*Case studies*
	Values and attitudes	*Discussion groups*
	Activities and experiences	*Triangulation*
		Interpretive analysis
		Journals
		Narrations
	Materials and resources	*Questionnaires*
		Interviews

Table 1. *Objectives and dimensions for the study of the manifestations of the culture of peace and its educational application* (Own elaboration)

In relation to the first objective, we would emphasise that in common situations we can promote a culture of peace through *the peace of small things*, from greeting and smiling to giving help and sharing, to make these peaceful demonstrations, albeit with conflicts, form part of our ways of life and constitute our relational cultures as the best strategy to oppose them to the culture of violence, and thus prevent and neutralise it. It is necessary to be aware of the importance of most of our habitual modes of behaviour for the construction of cultures of peace, for only then will we be in a better position to manage our personal, family and professional relationships as an essential source of learning for the improvement of relationships of coexistence, in both social and learning settings.

Regarding the second and third objectives, most of our behaviour in our interpersonal and group relationships constitutes a favourable contribution for the construction of peaceful spaces for coexistence albeit not exempt from conflicts, which we generally manage in a positive way. On the other hand, when conflict degenerates into violence, the negative impact of the violent event prevents us from recognising the multiple non-violent situations experienced in similar conditions. Therefore, it is necessary to create learning situations in order to be aware of the dimensions of and reasons for both types of behaviour and thus differentiate the violent from the peaceful-conflictive, analyse their origins and evolution, and internalise appropriate management strategies as the best strategy for preventing violence (Sánchez, 2016).

Finally, the generation of a series of contributions for the design and implementation of the proposals derived from the application of the results obtained and their conversion into pedagogical and didactic knowledge for training citizens on the values and principles of the culture of peace in school/college and social spheres is essential both to reinforce the applicability of research for peace in educational practices and to improve its quality, especially in terms of value judgements and citizenship. One case of good practices is

the Andalusian Plan for Education and the Culture of Peace and Nonviolence of 2001, analysed and evaluated by Martínez and Sánchez (2013).

3.   BIBLIOGRAPHICAL REFERENCES

MARTÍN MORILLAS, J. M. (2004). Qué es la violencia. In B. Molina and F.A. Muñoz (Eds.). *Manual de Paz y Conflictos* (pp. 225-247). Granada: University of Granada and Ministry of Education and Science of the Regional Government of Andalusia.

MARTÍNEZ, C. and SÁNCHEZ, S. (Eds.) (2013). *Escuela, espacio de Paz. Experiencias desde Andalucía*. Granada: University of Granada

MOLINA, B. and MUÑOZ, F.A. (Eds.) (2004). *Manual de Paz y Conflictos*. Granada: University of Granada and Ministry of Education and Science of the Regional Government of Andalusia.

MUÑOZ, F.A. (2001). *La paz imperfecta*. Granada: University Institute for Peace and Conflict Research. Recovered from: https://www.ugr.es/~fmunoz/documentos/pimunozespa %C3 %B1ol.pdf

MUÑOZ, F.A. and BOLAÑOS, J. (2011). *Los habitus de la paz. Teorías y prácticas de la paz imperfecta*. Granada: University of Granada.

SÁNCHEZ, S. (2016). Cultura de Paz y Derechos Humanos. El papel de la educación. In J.L. Villena (Coord.), *Derechos humanos y justicia universal en la Frontera Sur* (pp. 25-46). Granada: University of Granada.

SÁNCHEZ, S., PÉREZ DE GUZMÁN, V., REBOLLEDO, T. and RODRÍGUEZ, R. (2019). La Cultura de Paz y Conflictos. Implicaciones socioeducativas. *Collectivus. Revista de Ciencias Sociales, 6* (1), 235-250.

SÁNCHEZ, S. and SÁNCHEZ, A. (2012). La convivencia escolar desde la perspectiva de la Cultura de Paz. *Convives, 0,* 36-41.

SANMARTÍN, J. (2013). *La violencia y sus claves*. Barcelona: Ariel.

UNESCO (1996). *From a culture of violence to a culture of peace*. Paris: UNESCO.

UNESCO (2020). *UNESCO centre for Training in Human Rights, World Citizenship and Culture of Peace*. Recovered from: https://www.sedh.gob.hn/documentos-recientes/200-from-culture-of-violence-to-a-culture-of-peace/file

Cross-discipline service-learning projects

Susana LUCAS MANGAS

University of Valladolid

1. Introduction: what is service-learning?

1.1. What characteristics define service-learning?

The search for teaching strategies to contribute to involving students in socially responsible projects that promote the quality of life in the community has been a recurring challenge for various organisations and at various levels of education and continuous training. One possible teaching and psychosocial strategy that meets this challenge is service-learning.

Channelled through projects focused on cooperative dialogue between stakeholders in the education system and society to contribute to human and community development.

Development of projects that require the theoretical and methodological organisation of the cross-discipline training process as a frame of reference for subsequent actions in the personal, social and vocational development of students. Empowerment process, together with the community, in which the development of competencies in the face of real challenges aimed at protecting and promoting human rights and the quality of life of the community is shared.

The literature on the development of service-learning projects agrees in considering five essential *shaping components* to be applied with a sufficient duration and intensity so that they have the intended effects or impacts:

— *Leading role of the students in the whole process of the project*. Giving them a voice, based on their skills and resources.

— *Attention to a real need of the community*: defines the community approach of the project and the success of its results, since establishing links between the community

and mutual learning processes helps those who participate understand that they can contribute something.

— *Connection with curricular learning objectives throughout the entire project*, these being just as important as the service activity carried out.

— *Development of the service project in all its phases*: its design culminates in meeting the assessed community need.

— *Reflection throughout all phases of the project.* It facilitates the internalisation of the actions carried out, and their learning, the connections between theory and applied practice and the continuous evaluation of the various phases.

Components that clarify another question that is usually raised about what is not or what is different in service-learning with respect to other solidarity and community development practices and which are summarised in the definitions of service-learning; by way of illustration, here are some of them:

— On the cover of the CIVICUS European Project Guide (General Foundation of the University of Valladolid, 2006) it is defined as a *teaching method that combines community service with academic training, by focusing on aspects such as critical and reflective thinking and civic responsibility. Service-learning programmes help to involve students in the organisation of services aimed at meeting the needs of their community while developing the academic knowledge acquired along with a sense of civic responsibility and commitment to that community.*

— In the Spanish educational context, the most commonly used definition is the following (Puig and Palos, 2006: 61): *educational proposal that combines learning processes and community service in a single well-articulated project, in which participants are trained by working on real needs of the environment with the aim of improving it.*

— With the aim of cooperating in defining even more in what sense service-learning contributes to "improving" and "transforming the community", a further definition is incorporated within the wide variety that already exists (Lucas, 2021): *a psychosocial intervention strategy originating from education (training or research projects) that combines learning and service processes "together with" the community (geographically close or distant, with a local or more general, even worldwide, perspective), in an entrepreneurial project of cooperative dialogue, in which participants are trained by being involved in the needs and challenges of the environment (and in accordance with the educational competencies, objectives and/or content), in order to contribute to sustainable human-community development, to promote its quality of life.*

> Its role as mediator of learners allows students and educational organisations (in our case universities) to be linked with society, through the acquisition of mutual learning, in which both parties help and are helped, building a relationship of interdependence based on planning, critical reflection and shared evaluation of significant and complete information that is systematised throughout the project (and in accordance with the educational competencies, objectives and/or content), in its various organisational phases (preparation, planning, implementation and evaluation-monitoring).

In short, the nature of service-learning projects is characterised by the combination of these essential characteristics.

1.2.   Who participates in the development of service-learning projects?

The following partnership is involved (Batlle, 2020; Lucas and Navarro, 2011; Martínez-Odría, 2017; Mora and Torres, 2018; Xarxa d'Aprenentatge Servei de les Universitats Catalanes, 2019):

— *Teachers*: who identify and guide the structuring of the learning and community service objectives.

— *Students*: who play a leading role in interaction with the community, the implementation of actions and the development of an academic reflection that integrates various perspectives (academic, vocational and civic).

— *Community partner*: social organisations and entities, social groups or community leaders with whom needs and resources are evaluated, both at the individual level (competencies) and at the group, organisational and community level, and the way of working is built (educational centres; public entities and multilateral organisations, international, national, regional, local organisations, research centres, etc.; social entities - Associations, NGOs, Foundations, etc.); and the private sector - social programmes of private entities, companies, etc.). Sometimes, a community partner can be the staff in charge of the solidarity organisation with whom contact is established and the population can be the people with whom this community partner, for example, a social entity, performs its own services.

— *Tutor/monitor support staff*: optional; contributes to maintaining fluid communication between the teaching staff, the community partner and the students to organise, plan and develop each action carried out in the project and document the experience.

The population and the community with which the service is carried out must also be recognised and treated as a significant agent: ("With", not "for".) It is a mutual service, it translates into a "service *together with* the community".

The general value of these types of projects is that they build bridges between educational institutions and communities. The literature on service-learning agrees on the benefits it offers for all the people who participate, organisations and entities involved in the development of the project (Ruiz-Corbella and Manjarrés, 2018). The creation of diverse networks in many countries reinforces this roadmap.

2.   TRAINING FRAMEWORK ON HOW TO DEVELOP SERVICE-LEARNING PROJECTS

In addition to knowing what it is, its key components and intervention principles, it is necessary to know how to combine it with the curricular development in different phases, following quality criteria throughout the process; that is, it must present adequately defined programming criteria, with a sufficient duration and a significant intensity to respond to

a need evaluated as a priority in the community and that leads to an institutional commitment to objectives and actions.

Its purpose is to clearly and explicitly programme both the competencies and the learning objectives as well as the expectations that the community has about the contribution that the students could make.

All community intervention is complex, due to the multitude of scenarios, problems and populations with which it is possible to intervene; in this sense, it could be said that there is no single methodological proposal for action. However, it is possible to establish agreements on the most significant issues, as a common thread. Based on these, a series of phases are sequenced to develop a service-learning project (Lucas, 2021):

1. *Preparation:* identification and definition of the problem (or action challenge) and needs assessment (in which space to locate the project and with whom; motivation of the participating staff; establish links, alliances, from networking; assess social needs; define the service action and its relevance and define the learning).

2. *Planning:* design and programming of the action, decide what to do to achieve it (concrete definition of the service-action; pedagogical, management and organisational aspects), answering three questions: 1) what need/s or problem/s does the student respond to: objective/s; 2) what specific service activity/s or actions will be carried out and with whom, how to evaluate the quality of the service and the impact that this service produces in the community?; 3) what learnings are achieved through the development of the project?

3. *Execution:* implementation of the action. Once the action plan has been designed, the project execution strategies are established. It is necessary to specify what is the organisational capacity to execute and maintain the project, and whether there are sufficient human, technical and financial resources to implement it.

4. *Evaluation and monitoring,* both of the learning and of the service, of both the process and the results. It requires defining the criteria and instruments for multifocal evaluation, planning the monitoring and projecting future perspectives, so that it inspires other students, teachers and other participating agents to promote new projects.

The integration and coordination of these phases requires motivation, emotional development, maturity in decision-making, interpersonal and group communication skills, conflict management-resolution in coherence with the principles of human rights; capacity for analysis and synthesis, reflection and critical thinking; and ability to express ideas in writing.

3.   EXAMPLES OF GOOD PRACTICES

The publication of Good Practices allows us to develop educational resources within the framework of service-learning projects that will serve as a reference for their application in the various areas of intervention in future lines of action. Exercise of social responsibility

to continue contributing to sustainable development from the university (European Commission, 2017; CRUE, 2015; SDSN Australia/Pacific, 2017).

The support resources compiled are agreed in establishing the following classification according to their fields of application: environment; promotion of health; citizen participation; cultural heritage; generational exchange; help for fellow citizens; support for training; international cooperation (…). At University level, the Grup ApS (UB) (2017) and Martínez-Martín (2008) present various experiences that demonstrate this versatility; similarly, Xarxa d'Aprenentatge Servei de les Universitats Catalanes (2019:14-18) compiles examples by area of knowledge; furthermore, Lucas (2021) compiles a wide range of Good Practices at the University of Valladolid and at the Universities of Burgos, León and Salamanca.

Here are some summarised observations on two of the examples of cross-discipline Good Practices that are being developed at the University of Valladolid, within the framework of the Educational Innovation Project (PID) "Legal Clinic, a form of service-learning for the protection of human rights":

— *"Culture of Peace: education for environmental and social sustainability"*: has been carried out since the 2014-2015 academic year and since the 2018-19 academic year all the University Campuses of the University of Valladolid have participated. It is developed by participating in the Global Campaign for Education - GCE - (https://campaign-foreducation.org/en/) and in programmes in accordance with its objectives (see, Lucas, Herguedas and Marbán, 2019 - in the Good Practices section); Likewise, this project has participated in the "Round Table on Good Service-learning Practices at the University of Valladolid" within the framework of the teacher training course organised by the centre for online teaching, training and teaching innovation (Vice President for Teaching Innovation and Digital Transformation, academic year 2020-2021). And it continues to respond to it in accordance with the Sustainable Development Goals.

— Project "Knowing ourselves": it is presented at the Conference "Building together: I Conference on Good Collaboration Practices between universities and Plena Inclusión Castilla y León", held in Valladolid (October 2018) and also at the I International University Symposium on Research on Mixed Methods in Education and Social Sciences (SIMMCE)[1]. It is a process of cooperative and networked work, a process of empowerment of inclusive communities, with a double objective: of reducing stereotypes and

---

[1]   Lucas, S., Matía, V., Mohino, J. and Rodríguez, J.L. (2020). Knowing Ourselves project: human rights, self-determination and quality of life. *I International University Symposium on Research into Mixed Methods in Education and Social Sciences (SIMMCE)*, organised by the Transdisciplinary Centre for Research in Education of the University of Valladolid, January, Faculty of Education and Social Work.

prejudices in future education professionals towards people with intellectual disabilities and of promoting, in these people, two of the components of quality of life, human rights and self-determination.

On other examples and even at various levels of education and training, you can consult the websites of the established service-learning networks (such as CLAYSS and IARSLCE -at international level - or REDAPS and Red ApS (U) -in Spain-).

4.   CONCLUSIONS

The objectives that serve as a guide and horizon around what and how to develop service-learning projects, aim to carry out research, collect and share Good Practices, lessons learned, resources and education and training materials; encourage dialogue, cooperation, networking and information sharing.

The development of these socially responsible entrepreneurial projects with the Community requires close coordination, cooperation and collaboration between students, teachers, community partners and society. This requirement can be reinforced by actions aimed at linking stakeholders in each project, contributing to the exchange of knowledge, lessons learned and Good Practices.

Objectives and lines of action consistent with what was proposed by the United Nations General Assembly (2015), by the Human Rights Council (2015-2019) and by SDSN Australia/Pacific (2017).

5.   BIBLIOGRAPHY

UNITED NATIONS GENERAL ASSEMBLY. (2015). *Report of the Secretary-General on the work of the Organization* (Supplement No. 1). United Nations.

BATLLE, R. (2020). *Aprendizaje-servicio. Compromiso social en acción.* Madrid: Santillana.

CAMPAÑA MUNDIAL POR LA EDUCACIÓN CAMPAÑA MUNDIAL POR LA EDUCACIÓN. (2021).

[descriptive page of the organisation]. https://campaignforeducation.org/en/who-we-are/about-gce/

CLAYSS (nd). www.clayss.org .

CONFERENCIA DE RECTORES DE LAS UNIVERSIDADES ESPAÑOLAS (CRUE) (2015). *Institucionalización del Aprendizaje-Servicio como estrategia docente dentro del marco de la Responsabilidad Social Universitaria para la promoción de la Sostenibilidad en la Universidad.* Recovered from: <http://www.crue.org/ DocumentosCompartidos/Recomendaciones/criterios técnicos/APROBADA INSTITUCIONALIZACIONApS.pdf

HUMAN RIGHTS COUNCIL PLAN OF ACTION FOR THE THIRD PHASE (2015-2019) of the World Programme for Human Rights Education (A/HRC/27/28) https://documents-dds-ny.un.org/doc/UNDOC/GEN/G14/099/55/PDF/G1409955.pdf?OpenElement

IARSLCE.International Association for Research on Service-Learning and Community Engagement (IARSLCE). http://www.researchslce.org

Grup ApS (UB) (2017). Ubicar los proyectos de aprendizaje-servicio: experiencias en la Universidad de Barcelona. In L. Rubio and A. Escofet (Coords.), *Aprendizaje-Servicio (ApS): claves para el desarrollo en la universidad, pp. 29-39.* Barcelona: Octaedro.

Lucas, S. (2021). *Aprendizaje-Servicio en la Universidad. Desarrollo de proyectos emprendedores socialmente responsables con la comunidad.* Dykinson.

Lucas, S. and Navarro, G. (2011). *Estrategias de integración curricular de la responsabilidad social universitaria a través del Aprendizaje-Servicio.* In J.M. Román, M.A. Carbonero, and J.D. Valdivieso (Comp.), *Educación, aprendizaje y desarrollo en una sociedad multicultural* (pp. 945-964). Madrid: Publications of the National Association of Psychology and Education.

Lucas, S., Herguedas, C. and Marbán, J.M. (2019). Proyectos interdisciplinares de aprendizaje-servicio en el marco de la Campaña Mundial por la Educación en la formación universitaria: "la educación un camino hacia la paz y la sostenibilidad". In A. Martínez Odría and P. Carrascosa (Coords.), *Educar en el compromiso social. Los proyectos de aprendizaje-servicio en la formación universitaria,* pp. 135-158. Zaragoza: San Jorge University (Koiné, Collection of the Faculty of Communication and Social Sciences).

Martínez-Martín, M. (2008). Aprendizaje-Servicio y construcción de ciudadanía activa en la universidad: la dimensión social y cívica de los aprendizajes académicos. En M. Martínez (Ed.), *Aprendizaje-Servicio y responsabilidad social de las universidades* (pp. 11-26). Barcelona: Octaedro.

Martínez-Odría, A. (2017). Breve aproximación de los fundamentos pedagógicos del Aprendizaje-Servicio. In A. Martínez-Odría and I. Gómez-Villalba (Coords.), *Aprendizaje-Servicio. Educar para el encuentro* (pp. 51-87). Madrid: Khaf.

Mora, C.L. and Torres, C.F. (2018). *Aprendizaje-Servicio. Guía para su implementación.* Cali: Pontificia Universidad Javeriana (2nd edition).

Puig, J.M. and Palos, J.P. (2006). Rasgos pedagógicos del aprendizaje-servicio. In *Cuadernos de Pedagogía,* n. 357, pp. 60-63.

Ruiz-Corbella, M., and Manjarrés, A. (2018). La evaluación por competencias en los proyectos de Aprendizaje-Servicio. In M. Ruiz-Corbella and J. García-Gutiérrez (Edits.), Aprendizaje-Servicio. Los retos de la evaluación (pp. 97-116). Narcea.

REDAPS. Spanish Service-Learning Network. (nd). https://aprendizajeservicio.net/

S-L Network (U). University Service-Learning Network. (nd). http://redapsuniversitaria.wixsite.com/apsuniversidad

SDSN Australia/Pacific (2017). *Getting started with the SDGs in universities: A guide for universities, higher education institutions, and the academic sector.* Australia, New Zealand and Pacific Edition. Sustainable Development Solutions Network–Australia/Pacific, Melbourne. https://ap-unsdsn.org/wp-content/uploads/University-SDG-Guide_web.pdf

Xarxa d'Aprenentatge Servei de les Universitats Catalanes (2019). *Fer aprenentatge servei a la universitat.* Barcelona: Author.

University of Valladolid, volunteer work

María Jesús IRURTIA
Elena BETEGÓN
University of Valladolid
Volunteer Association of the University of Valladolid

1. INTRODUCTION

> "An open heart is an open mind"
> (Dalai Lama)

> "Be the change you want to see in the world"
> (Mahatma Gandhi)

Volunteers work and serve the community freely and altruistically by their own choice. The different motivations that lead people to volunteer fall within the personal, private world and, according to some research, it seems that what defines the impulse towards voluntary behaviour is solidarity and interest in social welfare (Marín-Escobar, 2010; Schroeder *et al.*, 1995; Yubero & Larrañaga, 2002). Which does not necessarily imply, according to these same authors, that the motivation is exclusively for altruistic reasons, although it does imply the hope of providing benefit to and improving the well-being of another person. Therefore, volunteers are those people who participate consciously, responsibly and who fight for social justice, mutual respect and cooperation in any activity that involves volunteering through an entity created for this (Sennett, 2012).

The Volunteering Association of the University of Valladolid (*Asociación de Voluntariado de la Universidad de Valladolid*, UVAVOL) was founded in 1995 to meet a demand from members of the Valladolid university community (students, teachers, and administration and services staff) who felt the need and the impulse to contribute their knowledge and desire to help society in a philanthropic way.

However it was not until 2001 that the Conference of Rectors of Spanish Universities (*Conferencia de Rectores de las Universidades Españolas*, CRUE) published the document in which the universities as a whole undertook an active and leading role in these transversal processes of human development (González *et al.*, 2011). It was at this time that the association saw its role strengthened to generate new strategies to carry out its objectives.

In its Resolution 40/212 of 17 December 1985 the United Nations General Assembly decreed International Volunteer Day (Federation of Associations for the Prevention of Child Abuse; *Federación de Asociaciones para la Prevención del Maltrato Infantil* [FAPMI], n.d.). In this way, the volunteer movement has gained strength and both governments and the United Nations and civil organisations have come together to celebrate 5 December as a special day to increase visibility and raise awareness of the importance of all that volunteering means and contributes.

UVAVOL's fundamental objective, the promotion of social responsibility in universities, is broken down into general objectives that are included in Article 3 of the Association's statutes, approved in 1997 and amended 2004, which are shown later. Likewise, to achieve this, the following purposes are proposed, independently of any ideological or religious allegiance (University of Valladolid, UVA, 2021, p. 2):

    1. The carrying out of activities of general interest, such as assistance, social, civic, educational, cultural, scientific, sports and health services, cooperation for the development of the environment, advocacy of the economy or research, development of the Association, promotion of Volunteering or any other of a similar nature.

    2. The eradication of situations of marginality.

    3. Contributing to the construction of a solidarity-based society in which all citizens enjoy a decent quality of life.

UVAVOL works in collaboration with the rector's delegate for university social responsibility and the social affairs service of the UVA. The Association is the main link between the local entities that act with volunteers and the UVA and covers its 4 campuses: Palencia, Segovia, Soria and Valladolid. The areas of action are divided among: development cooperation, forming part of the Castilla y León Development NGO Coordinator maintaining contact with bodies from other countries and close ties with the UVA Cooperation Office; people with disabilities, collaborating with the Secretariat for Social Affairs in its Programme for the integration of students and people with disabilities; children and young people, providing school support aimed at minors whose social-family situation may make it difficult for them to develop adequate skills when studying in various institutions; seniors, together with the Secretariat for Social Affairs, collaborating with the Intergenerational Coexistence Programme; environment, collaborating in Valladolid by reforesting the landscape of the province; immigration, supporting various entities (Table 1) and health, collaborating with a number of different organisations that work with sick people. There are agreements, particularly that with the University Clinical Hospital (Figure 1).
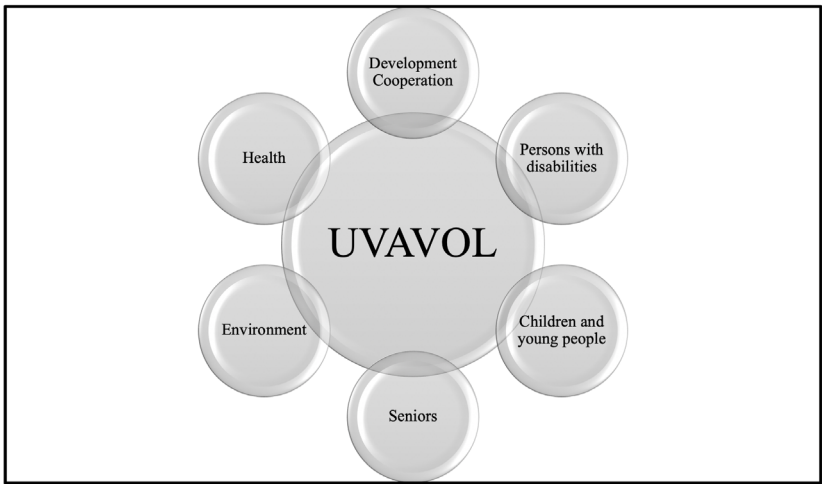
Figure 1. *Fields of action*

The activities and relationships of the Association are aimed at all types of people and groups, seeking the full integration of university students in society. To this end, it is part of the Castilla y León Development NGO Coordinator, maintaining contact with entities from other countries and close ties with the UVA Cooperation Office. It also maintains relations with the city councils and town halls of the various towns and cities in the autonomous region, as well as with entities with great commitments at the provincial, national and/or international level such as the Red Cross, Oxfam Intermón, ONCE (foundation for the blind), Proyecto Hombre (help for addicts), ASPACE (cerebral palsy), RED INCOLA (support for immigrants), Creciendo en Nepal ('Growing up in Nepal'), Cadena de Sonrisas de Argelia ('Chain of Smiles of Algeria'), ACLAD (help for addicts) and Enfermos e Infancia ('Sick and Children') among others.

Entities	Purposes
Red Cross	Different areas
ACCEM	Immigration and social inclusion
Oxfam Intermon	Fair Trade
Ayuda en Acción	Poverty and inequality
ONCE	Visual disability
Proyecto Hombre	Drug addiction

Entities	Purposes
ASPACE	Disability Cerebral palsy
INCOLA NETWORK	Immigration and social inclusion
Fundamay	Disabled seniors
ACLAD	Social exclusion
Sahara Commission	Awareness and development for the Sahara
Creciendo en Nepal	Nepalese children and adolescents
Cadena de Sonrisas	Creative and cultural

Table 1. *Entities with which the Association collaborates.*

2. CONTEXT

2.1. Background

The AVUVA was created in the nineties, under the aegis of the Vice President for Students and Social Affairs of the UVA. In response to a social phenomenon that caused the year 1997 to be declared "INTERNATIONAL YEAR OF TOLERANCE". This social movement reached the university community and manifested itself in a deep interest in participating in solidarity initiatives within the community itself (Rodríguez-Rojo, 2020). The UVA, being a cultural institution whose purpose is to train its members in a comprehensive manner, undertook to provide coverage and support by participating directly in the drafting of the statutes.

All of this encouraged the development of specific objectives that support the activities, especially training activities and, in turn, promote the creation of a practical theoretical course focused on real life experience that promotes collaboration with social associations and institutions and thus strengthens the volunteer's relationships and projects universities into society, giving the University institution a universal character.

2.2. Objectives

The specific objectives established in Article 3 of the statutes are (UVA, 2021, p.2):

1. Promote and facilitate the solidarity-based participation of members of the university community and other people with special ties to the University of Valladolid (UVA) in voluntary activities, in situations and circumstances of general interest and of a social nature, for which their action will be based on the principle of coordination

with the competent university structures in the matter, especially with the Secretariat of Social Affairs.

2. Encourage and promote relationships with other entities and volunteer organisations that carry out their tasks in the same field as the university volunteer programme, for the development of joint activities, in order to better contribute to the achievement of social solidarity goals.

3. Capture and organise the human, material, infrastructure and other contributions and resources made available to the UVA volunteers, establishing a regular line of action.

2.3. Methodology

To achieve these objectives, the Association shall at all times conform to the framework of the law on volunteering (Official State Gazette; *Boletín Oficial del Estado* [BOE], 2015), most particularly the following (Observatory of University Cooperation for Development, OCUD, 2021, cited in Rodríguez-Rojo, 2020, p. 56):

— the recommendations of the NATIONAL VOLUNTEER PLAN 1997-2000, especially those referring to Universities (Ministry of Labour and Social Affairs, 1996)

— the development cooperation strategies set by the CRUE (Conference of Spanish University Rectors) (2000)

— the code of ethics for volunteer organisations, proposed in an extraordinary general assembly by the platform for volunteering in Spain (2000)

Based on these objectives, UVAVOL established the goal of volunteer training and since 2011 a programme entitled "COMPLETE YOUR TRAINING (Completa tu Formación, COMFO)" has been taught focused on learning, research, experimentation and transformation (Figure 2). This project has mobilised more than five hundred members of the university community and the course has been completed by more than three hundred. In carrying out this project we have had the support of various professionals who have contributed altruistically to the training. All this under three fundamental premises:

a. Provide social and civic education and training to university students.

b. Serve as a bridge between the university and social movements, Non-Governmental Organisations (NGOs) and Civic Associations that take responsibility in a strictly professional and regulated way for both theoretical and practical training of students.

c. Stimulate the critical and socially committed awareness of UVA students by generating projects that can affect all layers of society to achieve a common good.

d. Provide spaces where university students can exercise their social commitment.
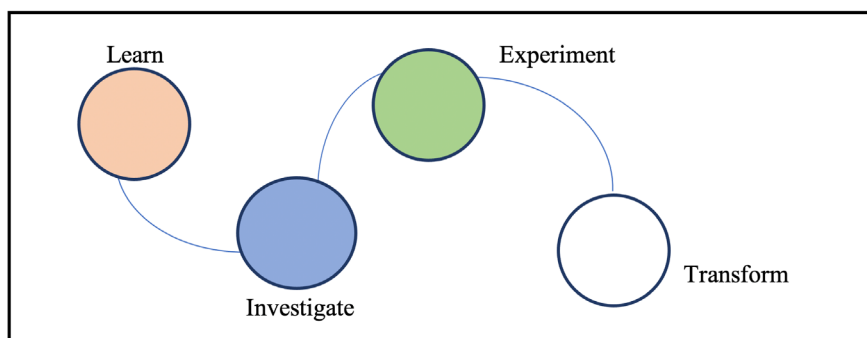
Figure 2. *COMFO programme bases*

2.4. Training framework

With these premises, COMFO is created as a space for training and coexistence whose contents must be interdisciplinary and systemic, responding to a multidimensional reality that allows solutions to be provided for the social problems that volunteers may encounter in their work. Therefore, the topics proposed annually seek to respond to this social demand, taking human rights as a starting point.

Some examples can be found on the Association's official website where the various activities carried out are reported and explained (www.voluntariado.uva.es).

2.5. Evaluation

The AVUVA submits an annual report of its actions to the UVA, containing the opinions of the participants in all its activities, fundamentally the COMFO. This is done with the idea of improving and adapting to the demands of a changing reality.

3.   CONCLUSIONS

In this time of pandemic, volunteers from all organisations, including those from UVAVOL, have responded by helping with medical, psychological and social care, working in the background or putting themselves at the forefront if the situation so requires, with a common goal, to promote cooperation and global citizenship with social responsibility. UVAVOL hopes to secure awareness and to teach the values of equality and reciprocity, channel the participation and creativity of the population from a democratic perspective, as well as to stimulate social responsibility, transmitting it to society as a whole (Batlle, 2018; De Alba-Fernández *et al.*, 2012; Pérez-Domínguez, 2009).

UVAVOL volunteers work with different sectors of the population, from children to the elderly and with their different idiosyncrasies. Our greatest challenge is spreading enthusiasm for altruistic action.

[…] volunteer work is an organised form of participation of citizens who freely assume a triple commitment: to cooperate in the identification and denouncement of unfair situations, to seek solutions to problems that affect society as a whole and to collaborate actively in the improvement of cultural, environmental and social activities (CRUE, 2001, cited in Rodríguez, 2020, p. 51).

4.   REFERENCES

Batlle, R. (2018). El impulso del Aprendizaje-Servicio desde los Ayuntamientos. *Revista del Consejo Escolar del Estado, 5*(8), 251-261.

De Alba-Fernández, N., García Pérez, F.F., and Santisteban, A. (2012). *Educar para la participación ciudadana en la enseñanza de las Ciencias Sociales.* Díada Editora.

Federation of Associations for the Prevention of Child Abuse, FAPMI (nd). *Resolution 40/212, of 17 December 1985 approved by the United Nations General Assembly on the International Volunteer Day for Economic and Social Development. (A/RES/40/212).* Retrieved 4 May 2021 from https://www.bienestaryproteccioninfantil.es/

González, O., Bravo, AI, Mata, R., & Rastrilla, A. (2011). *Memoria de Responsabilidad Social 2010/2011.* Unpublished material.

Marín-Escobar, J. C. (2010). Revisión teórica respecto a las conductas prosociales. Análisis para una reflexión. *Psicogente, 13*(24), 369-388.

Observatory of University Cooperation for Development, OCUD (2021). *Universidad: Compromiso Social y Voluntariado.* Retrieved May 3, 2021 from http://www.ocud.es/files/doc511/univ-compsocial-voluntariado-2001.pdf

Official State Gazette, BOE (2015). *Law 45/2015, of 14 October on Volunteering.* https://www.boe.es/buscar/pdf/2015/BOE-A-2015-11072-consolidado.pdf

Pérez-Domínguez, F. (2009). La responsabilidad social universitaria (RSU). Social Council of the University of Huelva.

Rodríguez-Rojo, M. (2020). *Cartas al voluntariado de la UVa.* University of Valladolid.

Schroeder, D. A., Penner, L. A., Dovidio, J. F., & Piliavin, J. A. (1995). *McGraw-Hill series in social psychology. The psychology of helping and altruism: Problems and puzzles.* McGraw-Hill.

Sennett, R. (2012). *Juntos. Rituales, placers y política de cooperación.* Yale University Press

University of Valladolid, UVA (2021). *Estatutos de la Asociación de Voluntariado de la Universidad de Valladolid.* Retrieved May 3, 2021 from https://www.uva.es/export/sites/uva/1.lauva/1.19.normativa/_documentos/IX.12.-Estatutos-de-la-Asociacion-de-Voluntariado-de-la-UVa.pdf

Yubero, S., & Larrañaga, E. (2002). Concepción del voluntariado desde la perspectiva motivacional: conducta de ayuda vs. altruismo. Pedagogía Social. *Revista interuniversitaria, 9,* 27-39.

Literature review: use of multidisciplinary open access databases

Jairo RODRÍGUEZ-MEDINA

University of Valladolid (Spain)

jairo.rodriguez.medina@uva.es

1. INTRODUCTION

The review of scientific literature is one of the first steps in the research process. It starts practically from the moment the research question or questions are posed and does not end until the conclusions are written. It is a process aimed at identifying what has been investigated previously, how the problem has been approached, what results have been obtained and, fundamentally, what are the problems for which a satisfactory solution has not been found, the so-called research gaps. Relating and framing research in the context of existing prior knowledge is one of the basic characteristics of all academic research activities, regardless of discipline (Snyder, 2019).

The exponential increase in scholarly output in all fields in recent decades increases the complexity of this task. This process requires skills to identify, locate, review, and analyze previous literature and be able to link the results of different scientific works in a coherent and logical manner (Efrat Efron & David, 2019). Fortunately, the tools available to researchers to tackle this task have also improved substantially in recent decades. Unfortunately, however, some of them are not available to all researchers. Hence the relevance of the open access databases that have been developed in recent years, facilitating access to scientific information for the community.

In this module we presented one of them, *The Lens*, one of the scientific information databases with the largest coverage at present (more than 220 million records), which draws on other sources such as *Microsoft Academic*, *Pubmed* or *Crossref*. According to some recent studies, probably only *Google Scholar* surpasses it in coverage (Gusenbauer, 2019; Martín-Martín *et al.*, 2021). However, unlike the latter, *The Lens* allows filtering searches by a wide variety of fields: author affiliation, funding sources, keywords, dates, etc. Moreover, it is the only free tool that allows filtering by affiliation to study research output at the institutional level.

On the other hand, literature review, due to the large amount of information it requires processing, requires the use of management tools such as bibliographic managers. Without the use of such tools, the time and effort required to successfully complete this process can increase significantly. Correctly citing and referencing the documentation consulted is essential for the development of a scientific field. Errors in citations and references can lead to the rejection of a research article. They are also essential to recognize the work of other authors and to avoid plagiarism. Reference managers facilitate the work, both for citing and referencing documentation and for retrieving information. Therefore, in the second part of the module, one of the most complete reference management tools, Mendeley, was presented. This tool makes it possible to obtain, archive, organize, synchronize, and share bibliographic references easily and intuitively. It is therefore a basic tool for any researcher.

2.   FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1.   Background

In the process of literature review it is key to objectively analyze the quality of scientific research (Vitanov, 2016). The idea of undertaking this process using the scientific method requires the application of data collection and analysis techniques specific to bibliometrics (Scharnhorst *et al.*, 2012). From this perspective, first, literature review could be defined as a systematic (not casual) process of analysis of the scientific literature on a given topic (Efrat Efron & David, 2019). This process can be research, or it can be in the service of other research objectives. However, a systematic literature review should not be an annotated bibliography in which the main articles or publications on a given topic are summarized or listed. The literature review should go beyond the mere summary or synthesis of publications by trying to identify gaps in the research (Robinson *et al.*, 2011). To this end, the review must provide a critical evaluation of the methods used in previous research, analyze in detail the data analysis techniques used and their appropriateness in relation to the objectives set out in the studies, as well as the generalizability of the results obtained in previous research. To do so, it is essential to have tools that allow the retrieval, organization, comparison, and analysis of academic documentation.

Ravitch and Riggan (2017) structure the objectives of the literature review around three broad categories: (a) to establish the context of the study; (b) to identify the most suitable methodology and research design; (c) to identify areas to research on to improve knowledge about a given object of study. When the objective is the first, to establish the context of the study, the review should serve to define and clarify the key concepts and constructs used in the research. It should also make it possible to situate the research problem in its historical context, establish the theoretical framework from which it will be approached and identify the most current controversies related to it. If the objective of the review is the second, to identify the most appropriate methodology and research

design, the review process should allow for a critical revision of the methodological assumptions and the data collection and analysis techniques previously employed. Finally, if the objective is the third, to identify areas for research to improve knowledge about a given object of study, the outcome of the review should justify the need for new research or different approaches to an object of study.

Whatever the objective of the systematic review is, it is a complex process that requires multiple skills and developing a set of tasks that can be summarized in six major phases (Efrat Efron & David, 2019):

1. Selecting a research topic or problem. Sometimes it is not easy to clearly define what the research problem is and, in fact, the literature review should help to improve this definition/selection of the research problem.

2. Locate the sources of scientific documentation. In this phase it is essential to identify the appropriate descriptors or keywords, develop search strategies and locate records, and identify the appropriate databases for your field of study.

3. Evaluate and analyze sources. In this phase it is crucial to determine the value of each of the documents located for our study and to discard those that do not meet the inclusion criteria. Using bibliometric analysis tools such as those shown in this module can greatly facilitate this task.

4. Organize and synthesize the results of the review.

5. Articulate the dialogue between the various authors. In this phase, the narrative of the review should be constructed, synthesizing the findings obtained and providing the researcher's personal vision.

6. Refine, edit, and write the final literature review.

2.2. Objectives

The training module was structured around four activities. The first two were oriented to literature review and management of multidisciplinary open access databases. The following objectives were set:

1. Identify criteria for the selection of the appropriate scientific information database.
2. To perform basic searches by keywords.
3. To sort and filter the lists of results according to various criteria.
4. Perform advanced searches of scientific literature using refinement tools and Boolean/logical operators.
5. Create a personal account.
6. Review a paper's citation network, cited papers, and citing papers.
7. Search scientific literature by institution.
8. Search scientific literature by author profile.
9. Perform a practical task of searching and refining scientific literature.

The third activity was oriented to the retrieval and analysis of the information obtained in these databases. Finally, the fourth activity was devoted to the management of references and the use of APA standards. The objectives were as follows:

1. To download, analyze and graphically represent a set of data obtained through a scientific information database.
2. To learn the basic tools for analyzing bibliographic data.
3. To become familiar with the main scientific literature management tools.
4. To use *Mendeley* to manage the documents used in research.

2.3. Methodology

Mixed sessions were organized, combining the presentation of contents by the teacher with the resolution of practical tasks by the participants. In all sessions, doubts and questions raised by the participants were answered. A space was provided for handing in homework. The tasks submitted by the participants were reviewed and feedback was provided on their execution. Finally, the doubts and problems that arose during the session were solved.

In the first session, objectives 1 to 3 were addressed and in the second session, objectives 4 to 9. The first block provided some criteria for the selection of the database. The second block presented *The Lens* database and some reasons for its use. The third block illustrated how to access the database and how to create an account on the platform. The fourth block showed the basic search procedure. In the fifth block, the tools for refining and sorting searches were presented. Finally, a practical task was presented, on a voluntary basis, to apply the knowledge acquired to a real search.

The second session illustrated the use of Boolean operators to refine searches for scientific information in open access multidisciplinary databases. Next, it was shown how to create a personal account in The Lens database. We then illustrated how to review the citation network of a scientific article, both references cited, and citations received, and how to search by institution and author profile. Finally, a practical task was proposed, on a voluntary basis, to apply the knowledge acquired to a real search.

During the session dedicated to the analysis and graphical representation of bibliometric data, the basic concepts of micro or individual, meso and macro or global levels of analysis were presented, as well as the different types of analysis: statistical, temporal, geospatial and network. Some of the most used tools in bibliometric data analysis were presented: *VOSviewer* (Van Eck & Waltman, 2010) and the *bibliometrix* package (Aria & Cuccurullo, 2017) in *R* (R Core Team, 2020). It was illustrated how to perform a basic descriptive analysis from a set of bibliographic data and how to perform the analysis of the social structure of the field of knowledge from a set of records of an author and the representation of the co-authorship network. Finally, it was shown how to perform the analysis of the conceptual structure of the field of knowledge through the analysis of

keywords. Finally, a voluntary practical task was proposed to apply the acquired knowledge to a real data analysis.

In the last session, some reasons why it is convenient to use bibliographic managers during the realization of a research project were presented. The bibliographic manager *Mendeley* and some of its functionalities were presented. The integration of *Mendeley* in word processors was illustrated, as well as its use for citing and referencing documents. In addition, the APA standards for citing and referencing articles and documents were presented.

3. CONCLUSIONS

Literature review is an arduous and laborious process that requires significant effort and dedication on the part of researchers. Even more so in a context of exponential increase in scientific publications. As Harris (2020) points out, a single project can be excellent if it is completed in one year, but it can be terrible if it takes five years and costs the health of those responsible for it, hence the importance of having tools that facilitate the task for researchers. One way of understanding the literature review is as a process of review selection and documentation selection. This definition covers a wide range of tasks that should be approached, if possible, with all the technical aids available. To do so, it is necessary to know them, have them available, and apply them. In this sense, open access tools, such as those shown in this module, are, in our opinion, the most appropriate for tackling these systematic review processes. The involvement of the participants shows that their interest in the use of open access multidisciplinary databases for the review of scientific literature, as well as in the use of free and open-source software for the analysis of bibliometric information, has been awakened.

4. REFERENCIAS

ARIA, M., & CUCCURULLO, C. (2017). Bibliometrix: An R-tool for compre- hensive science mapping analysis. *Journal of Informetrics, 11*(4), 959-975. https://doi.org/10.1016/j.joi.2017.08.007

EFRAT EFRON, S., & RAVID, R. (2019). *Writing the Literature Review. A Practical Guide*. The Guilford Press

GUSENBAUER, M. (2019). Google Scholar to overshadow them all? Comparing the sizes of 12 academic search engines and bibliographic databases. *Scientometrics, 118*(1), 177–214. https://doi.org/10.1007/s11192-018-2958-5

HARRIS, D. (2020). Literature Review and Research Design. https://doi.org/10.1007/978-94-007-4432-5_2

MARTÍN-MARTÍN, A., THELWALL, M., ORDUNA-MALEA, E., & DELGADO LÓPEZ-CÓZAR, E. (2021). Google Scholar, Microsoft Academic, Scopus, Dimensions, Web of Science, and OpenCitations' COCI: a multidisciplinary comparison of coverage via citations. *Scientometrics*, 126, 871–906. https://doi.org/10.1007/s11192-020-03690-4

R CORE TEAM (2020). R: A language and environment for statistical computing. R

Foundation for Statistical Computing, retrieved from https://www.R-project.org/

Ravitch, S. M., & Riggan, M. (2017). Reason and rigor: How conceptual frameworks guide research (2nd ed.). SAGE.

Robinson, K., Saldanha, I. & McKoy, N.A. (2011). Development of a framework for identify research gaps from systematic reviews. *Journal of Epidemiology, 64*(1), 1325-1330. https:// 10.1016/j.jclinepi.2011.06.009

Scharnhorst, A., Börner, K., & Besselaar, P. Van Den. (2012). *Models of science dynamics. Encounters between complexity theory and information sciences.* Springer.

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research, 104,* 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics, 84*(2), 523-538.

Vitanov, N. K. (2016). *Science dynamics and research production. Indicators, indexes, statistical laws, and mathematical models.* Springer.

Adrar University teachers under Covid-19

Bachir BOUHANIA
Omayma KERTHIOU
University of Adrar Ahmed Draya
Faculty of Arts and Languages
Department of English

1. INTRODUCTION

The World Health Organization (WHO) declared the global Covid19 pandemic in March 2020. Since then, the world is witnessing one of the most terrible scourges of the 21st century at a worldwide scale. Effects of this plague are felt everywhere, at the social, political, and economic levels. Because of lack of vaccine, and with the aim to control the contamination and stop its spread, world institutions imposed partial or full lockdowns to all public spaces like cafés, gyms, markets, stadiums, schools, restaurants and shops. Countries like Algeria, resorted to regional shutdowns depending on the spread of the contamination.

World widely, the quasi totality of universities and higher education institutions (HEIs) imposed social distancing protocols; the use of preventive equipment such as face masks and protective hydro-alcoholic gels, then partial and full lockdown (Ali, 2020) followed soon after to lead to a total clearing of university facilities as ultimate preventative measures. All scientific meetings and manifestations were cancelled, and all face-to-face (FTF) interactions and in-person teachings were postponed or cancelled.

Algeria's higher education is still suffering from this outbreak which has deeply impacted its noble mission because of the nationwide school closures. Coping with this *new normal*, national HEIs chose alternative ways to FTF teaching, such as online distance learning or digital learning, or virtual (electronic) e-learning through Moodle platforms, or through audio-video programmes like Google Meet, Google Class, and Zoom.

Along this line of thought, the present paper seeks to investigate the University of Adrar EFL teachers' perceived obstacles in using the Internet during the 2019-2021 pandemic. The study aims at providing data about distance/digital learning and teaching obstacles as felt and perceived by the teaching staff. The study addresses five main questions:

— RQ1: How did the teachers react to Internet-based EFL teaching before the pandemic?

— RQ2: What are the main problems encountered during the lockdown?

— RQ3: Did distance teaching enhance or interrupt the learning process?

— RQ4: Is the university ready to implement Internet-based EFL teaching and learning?

— RQ5: What are the teachers' needs to cope with this new teaching method?

To carry out the research, a questionnaire was sent online to the teaching staff of the department of English, University of Adrar; semi-structured interviews during informal meetings were the next means of data elicitation aiming at more reliable explications. The questionnaire subdivides into three main sections. The first enquires about teachers' personal reactions to Internet-based EFL teaching during the Covid-19 pandemic and whether they needed any training to cope with it; the second asks questions about the main obstacles, barriers and issues encountered by teachers, and whether there were any optimistic or adverse impacts on the teaching-learning process. The last section examines the readiness of the university to tackle Internet-based language teaching.

This research is significantly important, for it studies the effects of the Covid19 lockdown on the teaching staff as they are actually perceived. It investigates the teachers' attitudes towards the rapid implementation of online teaching. It unveils the challenges and problems that the administration is facing while striving to implement the new technological tools efficiently.

2.   Literature review

Kindergartens, primary, intermediate and secondary schools were urged to send back learners to their homes because, mistakenly, they were suspected of transporting and spreading the virus (Gonzalez & Bonal, 2021). Hence, millions of children were confined to their homes, which have become their new classrooms. Yet, not all homes could transform into classes (Lidegran *et al.*, 2021) and not all parents could assume the education and training of their children (Pitzalis & Spano, 2021); the main problems being the learners' lack of supervision and lack of motivation to take class. More than that, practical issues like non-availability of digital tools (laptops, PCs, smartphones, etc.), overall lack of preparation to emergency remote teaching (ERT) and bad internet connections (Trust & Whalen, 2020) were prominent impediments.

University students experienced the same issues, most particularly that educational inequalities took place because of families' low economic capital. Unequal learning opportunities had profound impacts on the learners' skills, achievement of knowledge, and academic accomplishment. Furthermore, distance learning through technology widened the social gap between students with dissimilar socioeconomic backgrounds.

All throughout the world, the socio-educational landscape changed and knew a meta-morphosis (Murphy, 2020), for school institutions have switched to an online emergency remote teaching (ERT) (Gonzalez-Smith & Schlaak, 2021). ERT, as a consequence of the covid19 pandemic, is the new alternate way to dispense education because of the crisis. Yet, ERT differs from distance education (DE), since it provides learners with momentary teaching that, oftentimes, consists of unplanned instruction designs due to the rapid shift to the new methods of online teachings. DE, on the other hand, is a pre-pandemic substitute mode of education used for decades (Keegan, 1980). DE is largely defined as a modern approach to teaching whereby teachers and learners are separated in time and space, and where the teaching material is given paramount importance because it carries both strategy and methods of teaching and learning (Keegan, 1996). An important feature of DE is that it aims at providing learners with knowledge and information for a certain period of time, only (Hodges *et al.*, 2020). Besides, DE instructors must prepare their courses and design instructions beforehand (Gonzalez-Smith & Schlaack, 2021).

Class closures steered numerous challenges to teachers, policy-makers, and students (Flores, 2020), who had to adapt quickly to online techniques and forget about paper-based assessments, tests, and exams. They also needed to set innovative organizational and cognitive strategies to cope with the new methods of teaching and learning (Walker and Handley, 2019). Shifting from old standard face-to-face (FTF) classes to modern remote digital ones has become an inevitable option.

School lockdowns were hard to accept, particularly by learners and instructors in disadvantaged countries of Africa, Asia, and southern America (UNESCO, 2020). The pandemic has so deeply affected education world widely that some countries like China, India, Malaysia, South-Korea, and USA started to roll call children online. In some other countries, technological devices were not available for everyone; hence, the governments had to propose computers and mobile phones to learners and teachers to help them carry on the educational process. Then again, many homes did not have Internet access, or had iffy Internet connections; consequently, the central authorities had to make gigantic efforts to provide Internet networks everywhere and for everybody.

In the Middle East and North Africa (MENA), research carried in 2020 has shown that more than 103 million learners suffered from the pandemic full lockdown, since they were obliged to stay at home (Audah, Capek, and Patil, 2020). The closure had damaging effects on the community of students and young learners; consequently, many governments decided to take prompt measures to confront this challenge. Some central authorities promoted open education channels and online portals for delivering lectures (Algeria, Jordan), or through services provided by online learning institutes like iCademy Middle East of the UAE, or through developing e-learning programs to aid learners continue their learning in Saudi Arabia. The Sultanate of Oman encouraged the use of online platforms like Google Classrooms, Schoology, Seesaw, Blackboard, and Moodle

enabling students and teachers to maintain the teaching-learning process from home (Naqvi & Zehra, 2020).

Distance (electronic) teaching-learning started in Algeria around 2006 when the educational authorities launched e-learning systems with the help of famous foreign companies like "Thomson" and "Microsoft" (Benadla & Hadji, 2020). The application of distance learning was carried out through Information and Communication Technologies (ICT), and all national HEIs were advised to spread the use of these facilitating pedagogical means. Thereafter, Algerian universities shifted towards a wider use of modern tools of communication and networking to both staffs and learners. However, the implementation of ICT to the national HEIs caused a lot of troubles to the main actors of the process, the teachers and the learners (Guemide & Benachaiba, 2012).

Teachers found it rather impossible to reach their universities when roads were closed, and planes and trains were at a standstill. They were also at financial risks while confined at home for months; many found their salaries cut by half. The teacher's "professional identity" (Etedali, 2021) was seriously affected. Professional identities result from the interaction of three factors: context, change, and relationships; they give meaning to their roles and profession based on their beliefs, values, and commitments to their jobs (Rogers & Scott, 2008). Professional identities shape the way teachers perceive themselves compared to others.

Shifting from a standard traditional teacher's professional identity to a new "digital identity" is a must not an option, especially under Covid19 circumstances. Hopefully, the shift is not abrupt since most teachers, if not all, have access to the Internet and ICTs thanks to their computers and mobile phones. Yet, transferring meaning through ICTs, online communication media and the Internet is quite demanding for those who are not used to it.

Part-time distance learning students registered in Open universities suffered from educational authorities and staffs who had biased gazes on DE and its learners compared to their in-class counterparts (Zermane & Aitouche, 2020). Nowadays, DE is fared as a low-quality method of teaching; an attitude that is reinforced by the use of ERT.

On another level, distance learning during Covid19 pandemics took the form of an open educational channel programme broadcast on national television; these means of technological communication and information concerned not only secondary school pupils preparing their baccalaureate exam, but also middle-school learners. Yet, Algerian families are large; hence, for some learners finding a discreet place to study was a major impediment.

E-learning received different definitions from a diversity of researchers. Horton (2006, in Benadla & Hadji 2020), for instance, says that e-learning is using computers and information technology to generate "learning experiences" (p.1). According to the European Commission, e-learning is the use of new multimedia technologies and the

Internet for improving the quality of learning and facilitating access to resources and services as well as remote exchanges and collaboration) (European Commission, 2001).

The above-mentioned definitions stress on improving quality of learning since it is central to the process. Yet, Mikidache (2021) features that e-learning may not only focus on improving quality of teaching, but also on its provision of new skills, or on its organisational capacity. A tentative simplistic definition would be, e-learning uses electronic devices, computers, laptops, tablets, and smart phones to provide learners with lectures through the Internet; those last may be synchronous or asynchronous on delivery. Ultimately, e-learning aims at designing and managing efficient pedagogical systems, curricula, and programmes (Zermane & Aitouche, 2020).

Synchronous teaching-learning is a pedagogical method of course dispensing where instructors and students interact through videoconferencing; they can chat and exchange ideas simultaneously. Asynchronous mode of delivery, on the other hand, is characterized by no direct teacher-learner interactions; the teachers upload courses on online platforms, such as Moodle, and allow free access to students at any time (Rasmitadila *et al.*, 2020).

In Algeria, the National Centre for Distance Learning and Professional Education (*Centre National de la Formation et de l'Enseignement Professionnels à Distance, CNEPD*) was the first public educational institution to implement an e-learning platform in 2018. The centre aimed at helping learners growing their specialized and procedural skills. Ultimately, the centre's main goal was developing educational prospects to people with physical or geographical limitations (Zermane & Aitouche, 2020). Thus, the CNEPD chose the BeeForm e-learning platform that was launched in 2017 to provide national companies and institutions with digital tools for coaching on a wider level.

Dismissed classes were programmed through Zoom or Google meet and Google classroom. Oftentimes, partially online (hybrid) classes took place whereby lectures were delivered on the net for some time, while others were held in class for another time. Moodle was chosen by the Algerian universities as the best means of asynchronous lectures for its accessibility, flexibility, suppleness, and learner-centeredness (Dhawan, 2020). That was done through lessons uploaded to the platform in Pdf format, or in PowerPoint (PPT) slides, or through videos that could be watched synchronously or asynchronously at will.

Switching to digital and distance e-learning has, unexpectedly, brought to the surface several challenges such as Internet expenses, irregularity of materials used to deliver the lectures, and accessing students' personal information (Murphy, 2020; UNESCO, 2020). More than that, inequal accessibility to technological means (Morgan, 2020), absence of motivation on the part of learners, lack of verbal interactions between teachers and students, and inefficient use of technology by teachers were very handicapping to the success of the modern method.

Absence of teacher-student interaction proved to be the most important hindrance in EFL teaching. This is because, more than content, other features are involved in the

process of EFL teaching-learning, features like kinesthetics (body language), face expressions, and context (Granados, 2020). For this reason, students could not increase their learning potential and develop new skills for a life-long learning process (Dhawan, 2020); they were *lost in translation* and incapable of developing any intellectual abilities (Sarnou & Sarnou, 2021).

Internet teaching was not flawless; it brought to the fore many obstacles that had to be confronted not only by the teachers but also by the administrative authorities such as departments, faculties, universities and the Ministry of Higher Education and Scientific Research (MESRS). The most notorious drawbacks were how to properly assess *online* the learners in virtual learning environments (VLE) (Sa'di *et al.*, 2021), and the strong unlikelihood to preclude students' cheating and academic dishonesty.

Online teaching demanded priming the teachers to use the technological software effectively and adequately, composing online downloadable lectures along exams and evaluations, mastering videoconferencing, and managing classes at a distance (Freihat, 2020). Teachers were forced to adapt to new methods and approaches; they had to adjust their skills and acquire new competencies to face those challenges (Naqvi & Zehra, 2020).

Teachers' positive or negative attitudes towards integrating this modern technology into education, particularly in foreign language teaching, is an issue per se. Since the teachers apply new methods on the field, their role and appreciations (Teo, 2008; cited in Freihat, 2020) must be acknowledged; more than that, their beliefs regarding the feasibility of online (synchronous/asynchronous) teaching is of paramount importance to the decision-makers at the macro (MESRS), meso (academies, faculties, universities), and micro (teachers, instructors) levels.

Changes in the curriculum, methods and approaches to language affect the teaching practices, particularly now that, under the Covid19 pandemics and lockdowns, the use of technology has become the only reasonable solution to "keep the wheels of education rolling" (Etedali, 2021) without any risk. The next sections give an overview of research on distance e-learning in the Arab world and Algeria.

3. ONLINE TEACHING IN THE ARAB WORLD

Back in time, researches about the integration of online teaching-learning processes, or technology enhanced learning (TEL) were still at their beginning (Al-Asmari, 2005; Power and Kannara, 2019). Yet, and after more than two decades, teachers who were eager to integrate this new method of teaching are still hesitant and complaining about it; language teachers, in particular, are critical about the adoption of this technological tool for the reason that it is constrained by time, it needs teachers' individual skills to operate the computer software, it necessitates caring about the learner's socio-cultural background, having had trainings in computer use, and having acceptable experience in teaching and learning.

Oyaid (2009) declared that Saudi teachers who were eager and positive towards the use of ICT and Internet technology were the most confident; whereas, the less confident showed negative attitudes to ICT and Internet classes. This was due to computer competence and skills, a reality which had a decisive impact on attitudes and perception of online lecturing.

Almalki and Williams (2012) reported that, in Saudi Arabia, the teachers who were highly expected to employ technology in their classes were those who effectively progressed in their pedagogies. Saqlain, Qarni and Ghadi (2013) conveyed the same tendency. Their investigation saw the participation of twelve Saudi English language teachers, who have shown significant willingness to incorporate technology in their pedagogy. However, Saqlain, *et al.* (2013) concluded their research with the participants' complaints about the absence of funding, dearth of technology in schools, deficiency in technology training, and inexperience with Intel programmes.

Farooq and Soomro (2018) noticed ambivalent attitudes of teachers at the English centre of Taif University, Saudi Arabia. Although the instructors are aware of the importance of integrating ICT to language teaching, they are still hesitant to come up with technology-based activities like remote online assessments and evaluation means to English language learners. To account for this, they stated that they needed computer trainings to enable them integrate that technology in their teaching process. Otherwise, they make use of the available devices in the classrooms, such as data-show and whiteboards, for some activities only.

At the level of foreign language teaching, online courses are still in their early stages. Starting from that observation, Freihat (2020) set out to investigate the *perceived* needs and obstacles faced by university teachers at *Imam Mohammad Ibn Saud Islamic University*. His main research questions were: "what are the perceived obstacles to implementing Internet-based English as a foreign language teaching (EFL) teaching from the viewpoint of English Department instructors at IMSIU? And what are IMSIU English Department's instructors' perceived needs for training in using the Internet for language teaching?" (Freihat,2020, p:164).

The intention of Freihat (2020) is to investigate university teachers' feelings towards using the Internet in their classes. He confirms what Oyaid (2009) already asserted, which is that teachers and instructors have a deep impact on the implementation of any new method of language teaching-learning. Among his final conclusions are that teachers' attitudes towards the use of online courses enlighten researchers about the most probable drawbacks regarding the integration of the Internet to education and, consequently, how to overcome them. Furthermore, Freihat (2020) underlines that teachers' helplessness to manipulate the Internet and its tools in education is the most important impediment to the new language pedagogy.

4.　DISTANCE TEACHING-LEARNING IN ALGERIA

In Algeria, online learning, open learning, web-based learning, computer-mediated learning, and blended learning are the main means of technology enhanced learning. They are also known as distance and digital teaching-learning through computers and the Internet. Though relatively new, the majority of Algerian HEIs are used to ICT tools such as computers, data-show, projectors, multi-media instruments, and whiteboards for a blended pedagogy within virtual learning environments (VLEs). Yet, their spread was not extensive.

Blended learning is one of the best techniques to redesign VLEs. However, it necessitates sound principles to be successful. Among these are: "the conscious and active human intervention, good learning design and pedagogical input, and the sensitive handling of the process by trained professionals" (Power & Kannara, 2019, p:63). The latter represent the foundation on which quality blended learning is built. All three confer a great importance to the human involvement in the process because their experience as teachers, course and syllabus designers is a valuable asset that contributes to the success of the whole method.

The Open University (University of Continuing Education) was among the first to apply distance teaching (Nesba, 2021). Instruments used for promoting both DE and Media Enhanced Learning were mainly CD-ROMs and printed courses sent through regular postal mail. These means of distance teaching-learning were characterized by their good quality, by being self-directed, taking the learner as the core of instructional materials available to learners (Benchennane, 2016, p:146). They aimed at helping learners who couldn't attend class because of some social, family and work commitments (Lowe *et al.*, 2019). Those who had full-time jobs, or special needs, or who resided in distant geographical areas were the first to benefit from the DE system. The Covid19 pandemic changed this state of affairs; Algerian universities had to shift towards a more digital pedagogy and online mode of teaching to enable both teachers and learners to carry on their roles remotely and safely through distance online platforms like Moodle and Facebook (Ghounane, 2020). The implementation of that inevitable and challenging remote online practice of teaching-learning was done hurriedly in some universities. Benadla & Hadji (2021) confirm this statement and assert that:

> "…with the spread of Covid 19, Algerian universities have been compelled to undertake remote and digital teaching. The University of Dr. Moulay Tahar in Saida has arbitrarily hastened in implementing E-learning as an alternative teaching measure to maintain both positive educational outcomes and keep students safe and healthy." (p:55).

Many negative aspects followed the rush in implementing e-learning; they hindered benefitting from distance and digital learning and teaching. These are, for instance, lack of any standards of pedagogical quality among universities and faculties, lack of control of content delivery, evaluations, and exams (Cojocariu *et al.*, 2014; Affouneh *et al.*, 2020). In a few words, the new method of teaching was executed in such a haste that it gave birth to disadvantageous outcomes leading HEIs to a *trial-and-error* era (Naqvi & Zehra, 2020).

Implementing TELs to all HEIs at the same time and with the same manner proved to be detrimental and catastrophic, for Algerian higher education institutions do not have the same human and technological potentials. The best way would have been implementing TEL according to the particular characteristics of each institution, even schools and faculties. Alternatively, the administrative authorities had to deal with substantial issues related to the application of online learning; issues such as finding funds to invest in equipment and its maintenance, training teaching and administrative staffs to use it appropriately, and insuring qualitative online content and its delivery. More than ever, Algeria needed a successful and competitive higher educational system to convey knowledge effectively, efficiently, and fairly through the Internet to all students.

At another level, the MESRS had to confront serious problems related to Internet use for teaching and learning. Among these, one can cite Internet connection which, in some remote areas like mountains, countryside, and Ksour (old village-oases in the Sahara), is not always available. Computer devices like PCs and laptops are not accessible to everyone, students in particular, which makes access to lectures restricted rather than far-reaching (Dhawan, 2020). Last but not least, the Ministry had to cope with inadequate and mediocre training (Benadla & Hadji, 2020) of the teaching staffs, which led to dissatisfaction on the part of the learners.

Absence of real synchronous teacher-learner interaction in distance e-learning causes a lot of trouble to the students. Their reluctant attitude vis-à-vis the new method of language teaching and the remoteness of the instructors' feedback are echoed in their catastrophic grades and their unexceptional academic achievement. Some researchers relate this fact to the learners' "weariness and feeling of isolation" (Yusuf & Banawi 2013, in Benadla & Hadji, 2020). Moreover, these negative reactions might also result from the teachers' lack of experience in using the technological tools, devices and applications. The educational authorities have also a share in that fail, since they forced teachers to change and quickly adapt their teaching style.

5. RESEARCH ON E-LEARNING AT THE LOCAL LEVEL

The Algerian Scientific Journals Platform (ASJP) shows that research about distance learning in Algeria's higher education is more than frequently addressed. Results concerning key words like "(distance learning) + (Algeria) + (education)" give 16893 entries; after applying filters like "(distance learning) + (Algeria) + (higher education)", the number reduces to 1374 with the most recent publication being in July 2021. However, most enquiries are neither cross-sectional, nor nationwide in scope; they are case studies at the secondary school level, or at the higher educational one.

Interest in distance learning, or what many refer to as e-learning in Algerian HEIs is triggered by its importance in shifting traditional methods of teaching to blended hybrid ones, to finally settle on electronic distance teaching-learning models. For instance, Benchennane

(2016) carried out a research study at Mustapha Stambouli University of Mascara about DE at the University of Continuing Formation (UFC). She reports that the teaching-learning process "operates in an exclusively open and distance learning (ODL) mode of education" (p:145). The courses are sent in print with respect to ICT principles. She reaches the conclusion that, for students, distance learning is a positive move towards modern methods of teaching-learning. Students, she says, underscore the unique features of distance and open learning at the UFC; these are open access to courses, flexibility and quality of the lectures, use of multimedia resources, and use of ICTs. The administration and the teaching staff, according to her, must build upon the positive perception of distance learning by students, and to start from that to improve the effective and efficient use of technology in the various HEIs

Many researchers stress on the usefulness of distance language education. Nesba (2021), for example, declares that, at the University of El-oued, teachers and learners are generally satisfied with the new method of language teaching. To the former it is a mandatory method of teaching that calls for many challenges due to the pandemic and to the fast technological changes. For the latter, it has reduced anxiety due to geographical distance and face to face classroom interactions. MA and BA students find it quite attractive to obtain their diplomas.

Sarnou and Sarnou (2021), explore how the shift to Moodle platforms during the Covid19 pandemic affects Algerian EFL classes. Following this aim, they examine the attitudes of six teachers and twenty-four MA students from Mostaganem University towards the use of Moodle as an alternate mode of delivery to classroom interaction. Their aim is to investigate obstacles encountered by the teachers using Moodle during the Covid19 pandemic. The researchers arrive at various conclusions; among these is the fact that, for teachers and students at Mostaganem University, downloading/uploading lectures to/from Moodle is neither beneficial nor effective. One of the most hindering obstacles is the trouble of accessing the platform, and impossibility to reach the lectures and to download them. Next, is the frustration students feel because of absence of teachers to interact with and discuss about the contents of the lectures. Nonetheless, one positive conclusion they report regards the use of Google Meet and Facebook closed groups; they are successful since they allow teachers and learners to interact verbally and exchange ideas.

During the Covid19 pandemic, difficulties encountered are either academic or technical in nature. Their influence on EFL teaching in Algeria impacts also on the communication skills of both teachers and learners (Avsheniuk *et al.*, 2021).

6.   METHODS

This empirical study seeks to find teachers' attitudes towards the use of technology in EFL. Most particularly, the research focuses on the challenges regarding the implementation of this innovative method of teaching adopted during the crisis. A mixed-methods approach was used; it consisted of an online survey and a semi-structured interview with EFL teachers at the department of English, University of Adrar.

7. PARTICIPANTS

Since the current study's attention was on the experience of EFL teachers of the Department of English Language at Ahmed Draia University during the Pandemic Era from 2020 up to today, the research targeted the teachers of the department in question only. The total number of participants was 12 out of a population of 17 EFL teachers. This count considers both present researchers; yet, these last did not participate to the study. The participants had different academic statuses. The figure below illustrates the percentages of participation according to the respondents' academic status.
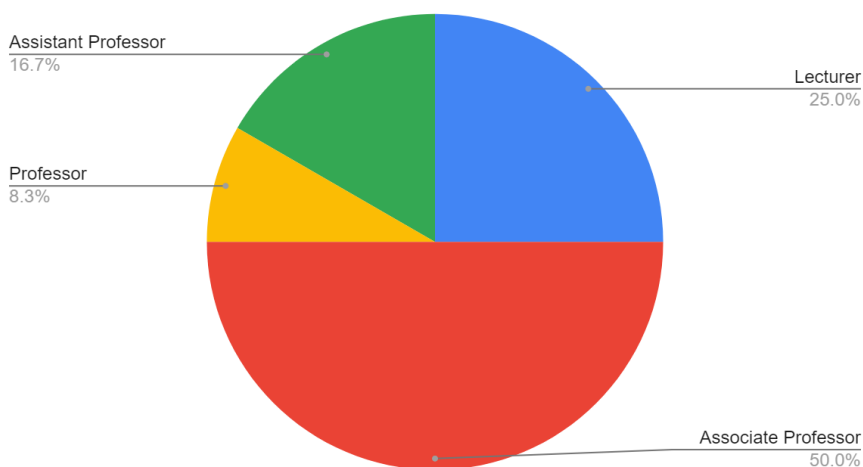
Figure 1: Participants' percentage according to academic status

8. DATA COLLECTION PROCEDURES

An online questionnaire was sent to all the teachers of the Department of English at the University Ahmed Draia of Adrar. It consisted of 08 questions, which could split into four main sections. The questions address the teachers' experience with technology and online teaching. The first section covered the knowledge and experience of the teachers in tech use and E-Learning platforms during the pre-Covid era. The second section focused on the teachers' reaction to online-based teaching during the pandemic, while the third tackled the teachers' problems and needs encountered while using technology in teaching English. And the final section was about what does the university need to do to implement efficiently this new technique, and did this last enhance or interrupt the teaching-learning process or not?

9. FINDINGS

Since the switch to hybrid learning followed protocols imposed by both the Ministry of Higher Education and the University Ahmed Draia of Adrar, online support had to be offered to students and teachers in order to assist them with their classes. During the first switch after the lockdown in 2020, all of the classes were moved online to the E-Learning platform of the University. Accounts were created for teachers and students alike; the former posted their lectures to the students for access and remained available for any questions by email.

Teachers were also asked to deliver live classes using Zoom or Google meet. For a lot of teachers and students who were not acquainted with the technology, the experience was challenging.

When asked about the usage of technology in class before Covid19, two teachers admitted that they did not use any. While two others were already using the university's platform. 8 participants answered that their tech use was either projecting PPTs, or videos and audios to their classes, or using emails to send lessons/homework.

The reaction of the EFL Teachers towards the switch varied from one teacher to another. While some had a positive reaction, others had a negative one. One participant commented that their reaction was positive "though there were some difficulties as far as the students were concerned". Another replied that the switch was not smooth; hence, they had to redo their lesson plan to adapt them to the new medium.

After the switch and adoption of the hybrid method, teachers had a lot of options. 58.3% of the participants relied on Google Classroom to deliver their online classes. 8.3% favoured the University's Platform; whereas, 33.3% relied on Flipgrid and Google meet. After two years of hybrid teaching, only one participant admits to still finding the switch difficult.

Count of Did the switch become easier with time?

No
8.3%

Yes
91.7%
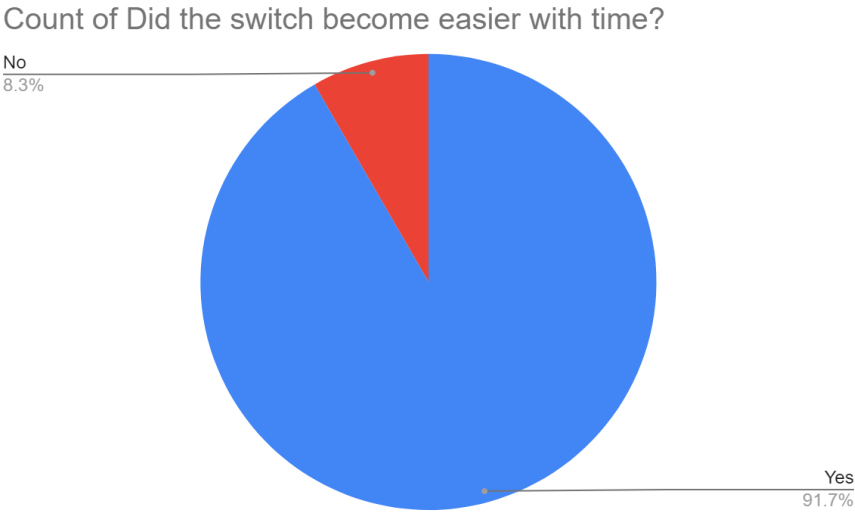
Figure 2: Participants' feeling towards the switch

When it comes to the main problems encountered while teaching online, the internet was the number one issue in common for every teacher and student. A participant commented that "sometimes the problems were mainly technical, such as weak internet flow or cut off. Other times it was the students' high non-attendance rate and weak (or lack of) interaction during online lectures".

The participants' views were divided regarding the effect of DE on the learning process in general. 7 participants believe that it enhanced the process. One commented that the majority of students intellectual and academic levels increased, but there were some students whose level did not change. While the rest of the participants believe that it interrupted it and proved less effective than the traditional way.

Count of In your opinion, is the University ready to implement EFL teaching/Learning Online?
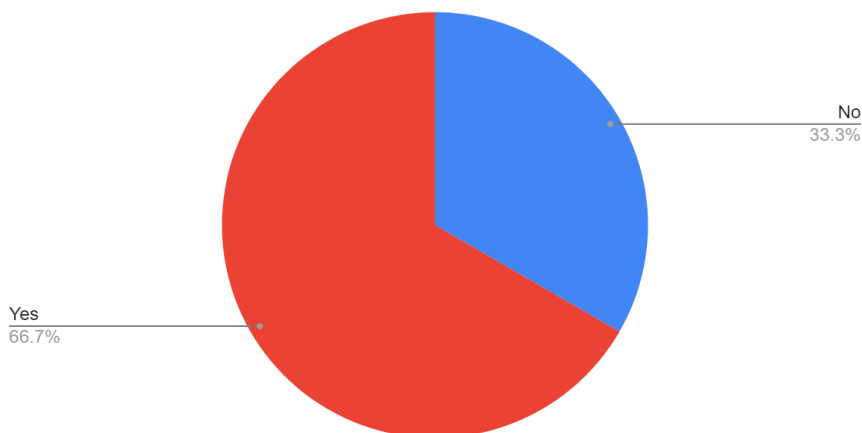
Figure 3: Participants' opinion regarding the university's readiness to implement online teaching

When asked about the teachers' needs to cope with the new teaching method online, one participant commented that teachers have to be well informed about online teaching and online communication, for it is totally different from FTF interaction. One participant suggests launching 'peer teaching' to allow both students and teachers to play a vital role in the teaching-learning process.

Count of If it were up to you, would you teach in hybrid form?

No
33.3%

Yes
66.7%
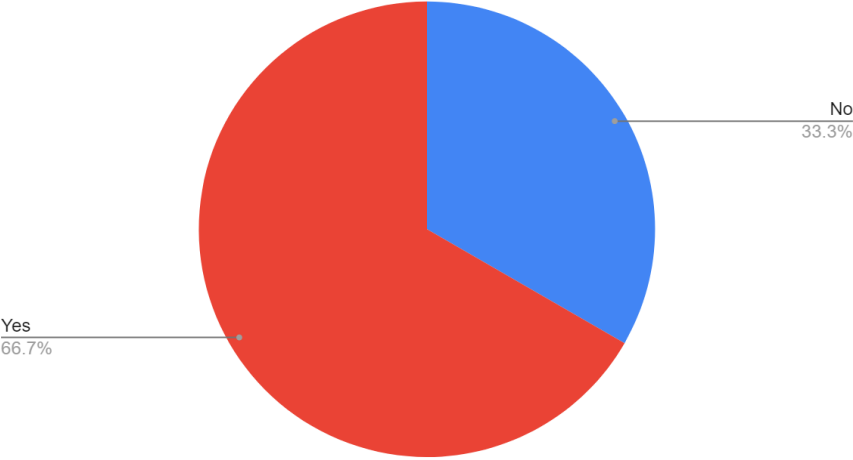
Figure 4: Personal preference to hybrid teaching

Some participants, i.e.: 33.3%, would prefer to avoid hybrid teaching altogether because they believe that some EFL modules cannot be taught in this form. One participant prefers FTF synchronous classes because they believe that human contact is important in the learning process, since it allows more teacher-learner and learner-learner interactions.

Count of Since we switched to online learning, what platform have you been using?

University's E-Learnin…
8.3%

Other
33.3%

Google Classroom
58.3%
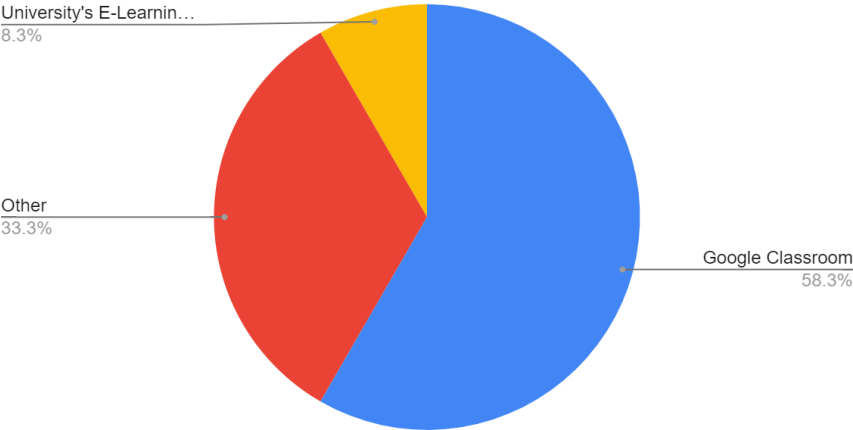
58% of the participants use the educational platform offered by Google classroom for several reasons. As it is part of privileges of professional emails, it is very easy to use for both students and teachers. Live sessions via Meet can be started directly from the classroom and it works perfectly with other platforms such as Flipgrid which is used mainly by the teachers of Oral Expression. We can safely assume here as well, that teachers appreciated the levelling up due to the switch. As not only they have finally joined the world of online education, they learned new methods and techniques of teaching, improved themselves in keeping their classes interesting and their students engaged. When asked if the experience was beneficial to them, all participants approved.

10. DISCUSSION

The academic world was already using ICTs and online educational platforms for a long time before the pandemic. A lot of universities offered online classes for whoever wished to take them. In the Algerian University, online platforms did exist from before the shutdown but were rarely used. 66.7% of the participants say that they heard of online platforms but only two of them used them with their students. One might assume that the lack of interest in the platforms before COVID was due to the fact that they were not seen as facilitators and that might be because of the absence of curiosity from the teachers and lack of enforcement from the administrators. We can notice that the lack of interest persisted at first when the university was suddenly shoved into the virtual world, but that was not without a valid reason. When asked about the main problems encountered online two main answers stood out. Lack of interest and/or absence of students and internet issues. When teachers were rushed to drastically change their methods, adapt their lessons with the new technologies and learn how to use them to catch up with the rest it was very exhausting for them. Participants admitted that the lack of interest of students did have an effect on their productivity as teachers.

Due to smartphones and internet access, it became challenging for teachers to maintain students' interest in the classroom. The challenge increased when the class became part of the distraction. With this, teachers had to accustom themselves to online evaluation as well. Having an online test created unrest for both teachers and students. While the latter had issues with access because of the internet, the former struggled with cheating. We should take into consideration the age gap between the two generations that in a way gives the students an advantage when it comes to the internet.

The switch from face-to-face teaching to online then to hybrid was and still is challenging to a lot in the academic circle. Teachers and students alike experienced the change with mixed feelings. The pandemic pushed the world to an unprecedented situation that tipped all balances and sent the world to hide. With total shutdowns at first, followed by semi-shutdowns with social distancing later, Algerian universities faced extreme challenges taking the classroom to the virtual world.

Nevertheless, all experiences have something to offer upon which to build for the future. This might be the case for most Algerian universities in general and Adrar's in particular. It was high time to hop on the bandwagon of E-Learning.

Teaching or learning online implies a pre-existing knowledge of technology and communication. It is then expected that both teachers and students have this knowledge. However, we do know based on early feedback; at the beginning of the shutdown, that a lot of students do not own or have access to a computer, not all of them own a smartphone, and that even teachers have access to a bad network in a lot of areas. Needless to say, the challenges met in accessing the information or providing it plus the lack of mastery of tech tools made the experience very challenging and unbearable for many. While the main challenge for the students was attendance, for the teachers it was the mastery of the tools and to find the best ways to deliver good content to the students.

Almost all participants struggled at first when it all started. They faced challenges regarding video conferencing, how to record a session and share it with the class, how to give assignments, and how to grade them. But after two years of use, not only they came to a point where they no longer need assistance but they also started to explore the different options available online. We can safely say that the participants from the department of English of Ahmed Draia University reached a stage where they have chosen what works best for them, their modules and students.

The findings show that, for the majority of teachers, self-efficacy in using technology is the most notorious challenge they have to face during the Covid19 epidemic. The use of technology in EFL enables them to confront the various pandemic-related issues. Thanks to the novel methods of DE, they innovated their practice of language teaching and brought new techniques to their online classes.

The teachers of the department of English at Adrar university gained a lot of experience out of the use of technology in EFL. Thus, many positive points can be considered, such as:

— gaining considerable positive experience in teaching online,
— using innovative techniques in language teaching,
— enhancing language teaching through technology-based programs,
— being up-to-date with technology in foreign language teaching,
— training to the use of online programs and tools,
— improving the use of online programs with regard to local students' standards,
— appreciating online sessions for preventing risks of contamination, and finally
— valuing online sessions for their convenience, flexibility and accessibility.

However, DE and e-learning do not have positive sides, only; many negative ones are reported by the teachers. The most important are:

— DE and e-learning cannot supplement FTF classes,
— DE and e-learning limit and hinder teacher-learner interaction,

— DE and e-learning reduce students' intake, comprehension and acquisition,
— DE and e-learning increase students' educational inequalities,
— DE and e-learning impede students' formative and summative assessments,
— DE and e-learning encourage academic dishonesty as no software can prevent it,
— DE and e-learning call for training and preparation, and finally
— DE and e-learning can not be applied without any strategy.

11. CONCLUSION

There is no doubt that the academic years 2019-2020-2021 have seen tremendous changes in higher education due to lockdowns imposed by the Covid19 pandemic. Shifting from FTF classes to (VLE) online classes has left deep impacts on the educational spheres, teaching staffs, and the learners. The administrations were surprised by the rapid spread of the epidemics, and to block it and slow down its pace, they had to close all teaching facilities and shift to online procedures.

The move to VLEs has brought to the fore unpredicted educational inequalities between both teachers and learners. For the former, the lack of training in the use of internet tools and programmes was the most prominent hindrance; while for the latter, the challenges were tightly linked to economic and technical factors such as lack of technological devices and bad internet connections. All those facts have adversely impacted the distance, electronic, virtual teaching-learning process in an irreversible way. Their negative effects are reflected in the students' bad scores and grades.

The results of the questionnaire and the semi-structured interviews lead to several conclusions. Generally, EFL teachers at the department of English of the University of Adrar are positive towards the use of technology in language teaching as it is the only one resort to avoid Covid19 contamination. It compelled teachers to adapt themselves to the virtual classrooms, to be ready to work in both synchronous and asynchronous classes, and to be up*to-date with any new online teaching techniques (Lowe *et al.*, 2019).

Some of them, however, complain about the quick implementation of asynchronous classes, which forced them to take training sessions to master these technological tools and programmes. They believe that the way is still long to go with regard to (1) problems of academic dishonesty such as cheating to online assessments; (2) difficulty to check and control students' attendance, motivation and interest in online lectures; and finally (3) the impossibility to examine the leaners and assess their progress and comprehension.

As change is inescapable, teachers have different views regarding online teaching; most of them are still sceptical. Many of them admit that their scepticism results from the idea that nothing can replace face-to-face teaching. While this can be the case for scientific fields of study that require the student's presence in the lab, we cannot say for sure that EFL students have to be present in class to be able to grasp the content. Some participants noticed that the experience did enhance the learning process. We notice also

that the participants who have been having a positive view of the process are the ones who have been exploring the web and experimenting the different applications with their learners. We believe that teachers' attitudes towards online learning emanate from their attitudes towards the usage of the Internet and technology in general.

The above-mentioned inferences confirm those reported in other researches and studies within the Arab world and outside it. They must be taken into consideration by not only the ministries of education or higher education, but also by syllabus designers and strategy planners for any future lockdowns and pandemics. For some researchers, the universities need to have an "exigency strategy" which should include, among other things, "intensive e-teaching and e-testing training for faculty, high-tech invigilation and plagiarism software, reliable e-learning platforms with sufficient Internet bandwidth, setting up an e-assessment council at the university level. (Sa'di *et al.*, 2021, p:37)

It is important that both teaching and learning communities accept the shift to VLEs and forget about the traditional ways, particularly that the pandemic is still around. It is also quite important that the higher education authorities design future strategies to confront any other possibilities of lockdowns; they must find other alternatives to traditional FTF teaching-learning which would be more agreeable for both teachers and learners.

12.   ABOUT THE AUTHORS

Professor Bouhania is specialized in Sociolinguistics; he teaches linguistics and phonology at the University of Adrar since 1997. Former head of department, he is the actual Erasmus+ institutional representative. https://orcid.org/0000-0002-4019-0449

Electronic address: bouhania.bachir@univ-adrar.edu.dz

Kerthiou Omayma is the actual head of the department of English, university of Adrar. She is preparing her doctorate in didactics at the University Djillali Liabés of Sidi Bel-Abbess.

Electronic address: omayma.kerthiou@univ-adrar.edu.dz

13.   REFERENCES

AFFOUNEH, S., SALHA, S., N., & KHLAIF, Z. (2020). Designing quality e-learning environments for emergency remote teaching in coronavirus crisis. *Interdisciplinary Journal of Virtual Learning in Medical Sciences*, 11(2), 1–3.

ALI, W. (2020). Online and Remote Learning in Higher Education Institutes: A Necessity in light of COVID-19 Pandemic. *Higher Education Studies, 10*(3), 16–25.

ALMALKI, G. and WILLIAMS, N. (2012). A strategy to improve the usage of ICT in the Kingdom of Saudi Arabia primary school. *International Journal of Advanced Computer Science and Applications*, 3(10), 42-49.

ALSHUMAIMERI, Y. A. (2008). Perceptions and Attitudes toward Using CALL in English Classrooms among Saudi Secondary EFL Teachers. *JALT CALL Journal, 44*(2), 29-66.

Alswilem, D. (2019). Saudi English Teachers' Use of Technology in Secondary Classrooms: -Perceptions, Barriers, and Suggestions for Improvement. *ALLS* 10(6), 168-178,

Audah, M., Capek, M., & Patil, A. (2020). COVID-19 and digital learning preparedness in Jordan. *World Bank Blogs*. Available at https://blogs.worldbank.org/arabvoices/covid-19-and-digital-learning-preparedness-jordan.

Avsheniuk, N., N. Seminikhyna, T. Svyrydiuk & O. Lutsenko. (2021). ESP Students' Satisfaction with Online Learning during the COVID-19 Pandemic in Ukraine. *AWEJ*, special issue on Covid19 challenges, April 2021.

Benadla, D. & M. Hadji, (2021). EFL Students Affective Attitudes towards Distance E-Learning Based on Moodle Platform during the Covid-19 Pandemic: Perspectives from Moulay Tahar University of Saida. *AWEJ*, special issue on Covid19 challenges, April 2021.

Benchennane, Dj. (2016). Experiences In Distance Education: Case-study Mustapha Stambouli University of Mascara. *Annals of Languages and Litterature* 4(2), 145-155.

Cojocariu, V.-M., Lazar, I., Nedeff, V., & Lazar, G. (2014). SWOT analysis of e-learning educational services from the perspective of their beneficiaries. *Procedia-Social and Behavioral Sciences* 116, 1999–2003.

Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, Vol. 49(1), 5–22.

Commission of the European Communities, Communication from the Commission to the Council and to the European Parliament, e-Learning Action Plan. Brussels, 28.3.2001, 11-14.

Etedali, M.M. (2021). Digital Identity and Teachers' Roles: A Post-COVID-19 Vision. *Academia Letters*. Article 1791. https://doi.org/10.20935/AL1791.

Farooq, M.U., & Soomro, A. F. (2018). Teachers and Technology: Trends in English Language Teaching in Saudi Arabia. *International Journal of English Linguistics*, Vol. 8(5).

Freihat, N.M (2020). Needs and Obstacles of Using the Internet in Language Teaching from Instructors' Perspective; the case of the department of English at Imam Mohammad Ibn Saud Islamic University. *Arab World English Journal (AWEJ)* 11(4), 163-180. DOI: https://dx.doi.org/10.24093/awej/vol11no4.11

Ghounane, N. (2020). Moodle or Social Networks: What Alternative Refuge is Appropriate to Algerian EFL Students to Learn during Covid-19 Pandemic. *AWEJ* 11(3), 21-41. DOI: https://dx.doi.org/10.24093/awej/vol11no3.2

Guemide, B., & Benachaiba, C. (2012). Exploiting ICT and E-Learning in Teachers' Professional Development in Algeria: The Case of English Secondary School Teachers. *Turkish Online Journal of Distance Education-TOJDE*, 13(3), 33-49. Available at: https://eric.ed.gov/?id=EJ997805.

Gonzalez, S. & Bonal, X. (2021). COVID-19 school closures and cumulative disadvantage: Assessing the learning gap in formal, informal and non- formal education. *European Journal of Education*. 2021; 00:1–16. wileyonlinelibrary.com/journal/ejed. DOI: 10.1111/ejed.12476.

Gonzalez-Smith, M. & Schlaack, N. (2021). Teaching during a Pandemic: Elementary Candidates' Experiences with Engagement in Distance Education. *IAFOR Journal of Education* 9(4), 7-22.

Granados, A. (2020). How is COVID-19 affecting ESL students? *Education N C.* Available at https://www.ednc.org/how-is-covid-19-affecting-esl-students/.

Hodges, C.B., Moore, S., Lockee, B. B., & Bond, M. (2020, March 27). The difference between emergency remote teaching and online learning. *EduCAUSE Review.* https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remoteteaching-and-online-learning

Keegan, D. J. (1980). On defining distance education. *Distance education* 1(1), 13-36. Retrieved October 27, 2021 from https://www.learntechlib.org/p/164197/.

Keegan, D. J. (1996). *Foundations of Distance Education*, 3rd edition. Routledge.

Lidegran, I., Hultqvist, E., Bertilsson, E., Borjesson, M. (2021). Insecurity, lack of support, and frustration: A sociological analysis of how three groups of students reflect on their distance education during the pandemic in Sweden. *European Journal of Education.* 2021; 00:1−14. wileyonlinelibrary.com/journal/ejed. DOI: 10.1111./ejed.12477.

Mikidache, F. (2021). Université Algérienne : L'e-learning un dispositif de formation à distance. *Mafahim* 2(1), 361-376.

Murphy, M. P. A. (2020). COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post-pandemic pedagogy. *Contemporary Security Policy*, 41(3), 1-14. https://doi.org/10.1080/13523260.2020.1761749.

Naqvi, S. & Zehra, I. (2020). Online EFL Emergency Remote Teaching during COVID 19, Challenges and Innovative Practices: A Case of Oman. *AWEJ Proceedings of 2nd MEC TESOL Conference 2020*, 17-35 . DOI: https://dx.doi.org/10.24093/awej/MEC2.2

Nesba, A. (2021). Distance Language Education: Reality and Prospects. *Didaskein* 2(1),175-188

Oyaid, A. (2009). *Education Policy in Saudi Arabia and its Relation to Secondary School Teachers' ICT Use Perceptions and Views of the Future of ICT in Education.* Ph.D. thesis, The University of Exeter, United Kingdom.

Pitzalis, M. & Spano, E. (2021). Stay home and be unfair: The amplification of inequalities among families with young children during COVID- 19. *Eur J Educ.* 2021;00:1−12. wileyonlinelibrary.com/journal/ejed. DOI: 10.1111/ejed.12481

Power, J. & Kannara, V. (2019). Best-practice model for technology enhanced learning in the creative arts. In *Learning with Technology in a Digital Age*, Clara Walter (ed.), Wilford Press.

Rasmitadila, R., Aliyyah, R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. (2020). The Perceptions of Primary School Teachers of Online Learning during the COVID-19 Pandemic Period: A Case Study in Indonesia. *Journal of Ethnic and Cultural Studies* 7(2), 90-109. https://doi.org/10.29333/ejecs/388

Rogers, C. R., & Scott, K. H. (2008). The development of the personal self and professional identity in learning to teach. In M. Cochran-Smith, S. Feiman-Nemser, D. J. Mcintyre, & K. E.

Demers (Eds.), *Handbook of Research on Teacher Education: Enduring Questions in Changing Contexts* (pp. 732–755). New York: CRC Press.

Saʿdi R.A., A. Abdelraziq & T.A. Sharadgah, (2021). E-Assessment at Jordan's Universities in the Time of the COVID-19 Lockdown: Challenges and Solutions. *AWEJ*, special issue on Covid19 challenges, April 2021, 37-54.

Saqlain, N., Al-Qarni, F., & Ghadi, N. (2013). Are English language teachers in Saudi Arabia ready to integrate technology? *Procedia - Social and Behavioral Sciences, 103*(13th International Educational Technology Conference), 146–153.

Sarnou, H., and Sarnou, D. (2021). Investigating the EFL Courses Shift into Moodle during the Pandemic of COVID-19: The case of MA Language and Communication at Mostaganem University. *AWEJ*, special issue on Covid19 challenges, April 2021.

Syahrin, S., and Salih, A. A. (2020). An ESL Online Classroom Experience in Oman during Covid-19. *Arab World English Journal*, 11 (3), 42-55. DOI: https://dx.doi.org/10.24093/awej/vol11no3.3.

Teo, T. (2008). Pre-service teachers' attitudes towards computer use: A Singapore survey. *Australasian Journal of Educational Technology*. 24(4), 413-424. DOI: https://doi.org/10.14742/ajet.1201

Trust, T. & Whalen, J. (2020). Should teachers be trained in emergency remote teaching? Lessons learned from the COVID-19 pandemic. *Journal of Technology and Teacher Education*, *28*(2), 189–199.

UNESCO, "School closures caused by Coronavirus (Covid-19)," UNESCO, 2020. https://en.unesco.org/themes/education-emergencies/coronavirus-school-closures, July 14, 2020.

UNESCO. (2020, March 24). 1.37 billion students now home as COVID-19 school closures expand; ministers scale up multimedia approaches to ensure learning continuity.

Walker, R. & Handley, Z. (2019). Designing for learner engagement with computer-based testing. In *Learning with Technology in a Digital Age*, Clara Walter (ed.), Wilford Press.

Yusuf, N., & Al-Banawi, N. (2013). The Impact of Changing Technology: The Case of E-Learning. *Contemporary Issues in Education Research*, 6(2), 173-180. DOI: 10.19030/cier.v6i2.7726

Use of digital tools in a hybrid device of higher learning and flipped classroom: case of Kasdi Merbah Ouargla University

Gʜᴀᴏᴜᴛɪ ZIANI

University of Kasdi Merbah Ouargla (Algeria)

1. Pʀᴏʙʟᴇᴍ ᴀɴᴅ ᴏʙᴊᴇᴄᴛɪᴠᴇ

In Algeria, as in other countries around the world, universities are setting up systems of online courses accompanying face-to-face courses, thanks to the advent of digital technology, as stated by Nicole Poteaux (2017:24): *"Digital tools have been introduced in higher education, and continue to be used, according to ministerial incentives, local decisions, but also practices in the field strongly linked to the personality of the individuals in each teaching field."*. However, since the beginning of March 2020, the Covid-19 health crisis forced all universities in Algeria in a first phase to close university campuses until further notice and to switch to remote courses via the *Moodle* platform and other personal digital tools to protect students, teachers and staff and to ensure continued education. In a second phase, starting with the 2020/2021 academic year, lessons were organised in three blocks, each three weeks long face-to-face (L3 and M2, L1 and M1, L2), i.e. in each block students had to complete courses online on the *Moodle* platform (viewing of educational content in Word, PDF, HTML, video, etc.) and use other digital tools to communicate with each other and with the teacher outside the classroom itself, and then come to the university to discuss, debate and solve problems in the presence of the teacher. This is the concept called the "flipped classroom", which can be summarised as *"Lectures at home and Homework in class*, to use the expression of Marcel Lebrun *et al.*, (2017: 126). Flipped classrooms are among the new forms of education that have emerged with the arrival of digital technology (Lalle **and** Bonnafous, 2019). Although they are new to most teachers, flipped classes are being introduced in higher education because they allow better performance in terms of quality of exchange and deepening of knowledge (Cloonan and Sassi, 2017). The mediation of knowledge between teacher and learners is ensured by the use of external communication tools (telephone, e-mail, Facebook) and beyond the pedagogical intentions of the teacher (according to the needs of the students), and by the tools internal to the *Moodle* platform and the virtual classroom, which are taken into account in the

teacher's pedagogical scenario (Ziani, 2020). Thus, these communication tools make it possible to reinforce presence at a distance, as highlighted by Jacquinot-Delaunay (2002). According to Geneviève Lameul (2017:332), the pedagogical use of digital technology induces a change in the teacher's pedagogical activity. It promotes new teaching methods and profoundly transforms teaching, to use the expression of Brigitte Albero (2014). The flipped classroom is currently a focus of the educational scenarios of most teachers.

Our research, which complements a previous study on the usefulness of the *Moodle* platform in a distance learning programme in the time of Covid-19 (Ziani, 2020), aims to study how the use of digital tools facilitates the implementation of different forms of "flipped classrooms" in a hybrid higher education system. By using the sociology of ICT use, this study should enable us to provide some answers to two questions: to what extent do the uses of digital tools (as teaching and/or learning tools) play a role in the implementation of flipped classrooms? What are the different forms of flipped classrooms? (Lebrun *et al.*, 2017:128)

First, we specify the theoretical framework in which we place the study of the use of digital tools and flipped classrooms in the context of a crisis. Then, we will present the methodology used for the empirical study. We will then present the results obtained with a discussion of the qualitative analysis of the semi-structured interviews.

2. THEORETICAL FRAMEWORK

In the context of hybrid higher education associating technical devices with face-to-face courses (Perriault, 1996), the use of digital tools is based on access to online courses placed on a *Moodle* platform and information shared via communication tools external to the latter to learn individually and/or collectively both inside and outside the institution. In this context, the user construct themselves as subjects who are responsible for what they do and autonomous in their relationship to the objects they manipulate (Soumagnac, 2019:153). In this sense, uses are considered as "*the expression of a process consisting of complex interactions linking an individual and a device which may or may not be a technical apparatus*" (Chaudiron and Ihadjadene, 2012). For Françoise Paquienséguy (2006: 2), in a pedagogical context, any technical object must have the capacity to function as a device to be considered a digital information and communication technology, because it is the subject of a double construction: technical, because of its material nature, and social, since it embodies the ambitions, the wills and the strategies of those who designed it. We will remember that technical objects considered as technical devices only have meaning when used by humans, in our case students and teachers (Akrich, 1987: 2). By adopting a vision oriented much more towards the digital, Philippe Bonfils and Philippe Dumas (2007:4) define socio-technical devices as being "*a privileged place of interaction between communication and transmission (they are partly characterised by a specific and new articulation between a medium that allows transmission and communication). On the other hand,*

they are a place of mediation, composed of multiple interacting semiotic, aesthetic and technical factors that sensorially and indirectly connect social actors".

Here is a simple definition of the flipped classroom:*"students must read lesson chapters and prepare questions before coming to class, during which an in-depth discussion will take place between the students and the teacher based on these questions following a "response to the need to know" logic"* (Mazur, 2009, quoted in Thobois Jacob, 2019: 16). The implementation of the flipped classroom started in the 1990s at Harvard in the United States by Physics Professor Eric Mazur (Laudine, 2014: 3). He asks his students to read his reference work and his course notes before his actual course in order to devote his dedicated support to the difficulties expressed by the students, to in-depth studies and to various exercises (Dumont and Berthiaume, 2016: 15, cited in Tchatouo *et al.*, 2017). This definition does not capture all aspects of the flipped classroom since in the flipped classroom approach the class should be devoted to understanding and group work. Before the face-to-face course, students prepare by, for example, accessing the online course platform, reading educational content, and watching videos which will be worked on in class. We therefore use as a definition of the flipped classroom the one given by Antoine Defise:*"a pedagogical strategy where the transmissive part of the teaching (presentation, instructions, protocol, etc.) is performed "remotely" prior to a face-to-face session, in particular using technologies (e.g.: online video of the course, reading of documents on paper, preparing exercises, etc.) and where learning based on activities and interactions takes place "face-to-face" (e.g.: exchanges between the teacher and the students and between peers, group projects, laboratory activities, seminars, etc.)"* (Defise, 2014 quoted in Lebrun, 2015:74). It is a matter of refocusing learning on the learner, and preparing the learner to become active in the classroom. As a result, learners are actively engaged outside the classroom and express their needs in class. In the context of our study, we take "the flipped classroom" as a pedagogical device for posting digital information online, articulating knowledge-building activities outside the classroom and other student-centred activities in class.

Alain Stockless (2019), points out that the "flipped classroom" concept came about due to the development of digital technology, which created a crack in the walls of the class (the notion of wall is symbolic), which led to a change of attitude with regard to the possession of knowledge and interactions between the different users. Learning spaces are breaking down barriers and we only have to think of the concepts of flipped classrooms and hybrid courses, where the space-time relationship takes on a whole new meaning.

3. METHODOLOGY

We have chosen to conduct semi-structured interviews with teachers in the context of hybrid higher education. These interviews are based on the precise description of a course including the use of digital tools. Thus, we must interpret the teachers' statements in order to find the clues we are looking for. Our study is anchored in an epistemological

framework known as interpretative because the hybrid system is analysed from a comprehensive and qualitative approach (Lessard *et al.*, 1997). This interpretive framework allows us to grasp and understand the meaning that teachers give to their teaching practices and to flipped classroom strategies. This point of view places our gaze in a position of relative complementarity, in interaction with the gaze of the situated actors (Derèze, 2019:39). We conducted face-to-face semi-structured interviews with 10 teachers from different disciplines at Kasdi Merbah Ouargla University. We analysed our interviews using thematic analysis. This method of analysis *"which currently entails the inclusion of thematic elements in the margins of the transcripts or documents analysed, i.e. words or groups of words that make it possible to gradually grasp the essence of the message or account analysed.* (Paillé, 2007: 414). This thematic analysis *"cuts across all the interviews and thus seeks a thematic coherence"* (Albarello, 2002: 80). Hence, it is a matter of identifying within the discourse the elements that are repeated and those that mark the contradictions.

The ten teachers were randomly selected, and they finally agreed to participate in this research:

Code	Sex		Grade	Discipline
	M	F		
E1	×		Lecturer	Information and Communication Sciences
E2	×		Lecturer	Philosophy
E3		×	Assistant teacher	Information and Communication Sciences
E4	×		Professor	Psychopedagogy
E5	×		Professor	Psychopedagogy
E6		×	Assistant teacher	Information and Communication Sciences
E7		×	Lecturer	Educational Sciences
E8		×	Lecturer	Computer science
E9	×		Lecturer	Computer science
E10			Professor	Physics

4.   RESEARCH RESULTS AND DISCUSSION

Following the transcription and translation of the interviews from Arabic into French and their qualitative analysis, the results obtained are as follows:

4.1. Flipped classrooms from the teachers' perspective

From the teachers' point of view, it seems that most teachers are unanimous about the fact that the flipped classroom is a hybridisation between online and out-of-class activities, and discussion activities and questions in class (face-to-face), as seen in the testimonies from these teachers:

"the flipped classroom is a newly applied pedagogical approach, that has been in existence, I believe, since 2003 more or less in the United States, but first the teacher gives us a book to read at home, and we discuss it in class with peers and the teacher. In other words, the teacher makes sound or video recordings and puts them online on the platform or sends them to the students via email, and the students study this content at home and come to class to discuss it with their teacher. The flipped classroom is not just considered an approach, but also a strategy that integrates several teaching techniques (E1, information and communication sciences)

"this method is very effective especially in this pandemic context. For me, the flipped classroom consists of posting courses online on the Moodle platform. The student then downloads these courses and revises them at home, and when they meet face-to-face, the teacher gives short summaries and explanations to the students (E4, Psychopedagogy)

Thus, we can link these points of view to the fact that in order for teachers to be able to outsource the lecture part of the courses which puts the learner in a situation of self-learning at home, they must invest in the design of online educational content. The time thus freed up in face-to-face lessons is devoted to discussion and debate activities that will allow students to develop their intellectual processes, to use the expression of Dumont and Berthiaume (2016:9).

However, we have identified a minority of new teachers who are unaware of the flipped classroom approach. It seems that they have an authoritative view of teaching because their teaching practice is focused much more on the transmission of knowledge. Digital tools are used to facilitate transmission. After being trained to post courses online on *Moodle* they understood that the class is reserved for discussions and debates. By evoking the learning practices of students mobilising digital technology, some interviewees criticise the fact that some students did not view of the courses on *Moodle*, which prompted the teacher to redo the summaries and sometimes the lessons in class:

"I am a new teacher, that's why I was not aware of the approach, but after being trained on the use of Moodle, the teacher explained the flipped classroom approach to us…At the beginning, when I noticed that the students did not consult the lessons at home, I reviewed the course completely in class, but there was not enough time" (E6, Information and Communication Sciences)

In this case, student commitment at this stage of learning remained very low because they were not aware of the method and they seemed to believe that the *Moodle* platform was an additional support and face-to-face classes were reserved for lessons. Some research points out that the flipped class phenomenon is not yet fully understood (Enfield, 2013, cited in Nizet *et al.*, 2016).

4.2.   Use of digital tools

4.2.1.   *The Moodle platform: a condition for implementing the flipped classroom*

Analysis of the teachers' comments on practices for mobilising digital tools makes it possible to justify the fact that the online course platform is used by the vast majority of teachers to implement the flipped classroom system. This is due to several factors that are much more external to individuals than subjective. There are teachers for whom the use of the *Moodle* platform is part of their daily teaching practices. It is much more related to the characteristics specific to their personalities such as conviction, knowledge, technical and pedagogical skills, and previous experiences (Breton and Proulx, 2006:255). The use of the *Moodle* platform by the second category of teachers is mediated by the administration and by the teachers among themselves:

> *"there were ministerial instructions for using the Moodle platform and that kind of saved the situation we are now living in, the new minister's instructions for operating the platform. Yes, there were ministerial decisions and on my side there was training on the use of the platform* (E8, IT)

> *"The university has provided all teachers with all the tools and educational resources necessary for the effective conduct of classes during the health crisis (an online training platform to post on and communicate with students, software to enable the production of documents compatible with this platform,etc."* (E9, IT)

4.2.2.   *Use of digital tools external to the platform: additional resources in the flipped classroom approach*

Although the *Moodle* platform includes several communication and collaboration tools, it is used as a content repository and teachers integrate synchronous sessions (Zoom, Google Meet, Skype, Messenger, and so on). In their teaching scenarios, they use other digital tools external to platform, such as Gmail, Facebook as the following excerpt illustrates:

> *"Presenting your course differently through e-learning compared to the usual conditions of face-to-face availability. Using other means of viewing conferences (ZOOM, Google-Meet, etc.)…"* (E10, Physics)

In some situations, students are not aware of flipped classrooms, and they come to class without having viewed the courses on the *Moodle* platform. As a result, the teacher must use communication tools external to the platform to fill the void, as evidenced by a teacher in Information and Communication Sciences:

> *"the techniques and technological means used in the flipped classroom practice are in addition to the Moodle platform, communication tools such as the mobile phone, WhatsApp, Instagram, and email and Facebook…"* (E3, Information and Communication Sciences)

In this flipped classroom pedagogical approach, digital tools appear as complementary means to the *Moodle* platform, and facilitate the management of distance learning, to confirm the work of Frédéric Aubrun (2018: 67).

In addition to communication tools, some teachers use utility software to design educational content (Word, PDF, video, Scorm, etc.), as one of the interviewees testified:

> "Opal *is a Scenari editorial channel oriented towards the writing of academic educational content (rich in structured text, accompanied by multi-media resources and exercises). It produces handout-type publications (ODT), websites, a SCORM module for the MOODLE platform, presentations (DHTML). It is used in particular by training organisations, and so on. It has a beginner's user mode, "Starter", which hides the most complicated features of the editor. Video editing or video capture software to generate educational videos* (E9, IT)

Generally, like the research of Dominic McGrath *et al.,* (2017: 40) has shown, the teacher must be aware of the wide range of digital resources already available in order to contextualise them and integrate or adapt them to lessons, but often they must resort to the development of new resources using technologies dedicated to the creation of educational content (texts, video, etc.). This media content work will take a lot of the teacher's time.

4.4.   Forms of flipped classrooms recorded

The assessment of the pedagogical system allowed us to distinguish forms of flipped classrooms implemented by the teachers, and according to the relationship of each teacher to the digital tool that best adapts to their pedagogical practices:

4.4.1.   *A Type 1 flipped classroom: the transmissive part via the Moodle platform*

In this type 1 pedagogical form (Lebrun *et al.,* 2017:126), the transmissive part of the teaching is posted online on the *Moodle* platform, and each week students must first view the video lessons and follow the courses available on the *Moodle* platform outside of class. Class time is devoted to work such as discussions and debates in the presence of the teacher. An interviewee explains how he implements the flipped classroom:

> "*At this time, I am responsible for uploading courses and videos on the Moodle platform, which will be viewed by students outside of class, and in class we will discuss all the important points of the course and sometimes repeat the explanation…*" (E7, Educational Sciences)

Indeed, the teacher accompanies the students in their learning, and as underlined by Marcel Lebrun *et al.* (2017), the stated intention, albeit implicit, is to restore meaning to the teacher's presence. This form of flipped classroom responds to the definition proposed by Cynthia Brame (2013), according to which the flipped classroom concept reverses traditional teaching, and students are first exposed to new content outside of the classroom, usually via reading or videos, and come to class to do the work of assimilating knowledge through problem solving, discussion, or debates.

4.4.2.   *A Type 1 flipped classroom: The transmissive part on several platforms*

In this Type 1 flipped classroom (Lebrun *et al.*, 2017:126), a first observation regarding students is that they are numerous in certain classes, and they use Facebook: some of the teachers questioned mention that to avoid problems of access to courses, they use other platforms such as Facebook and email in addition to the *Moodle* platform. Thus, according to the teachers, the various digital tools could further the interest of the students:

> *"In some classes, the number of students is high, up to 700. We have put our courses on the Moodle platform, and to avoid access problems we have also used a Facebook page for the courses…"* (E4, Educational Psychology)

> *"For example I emailed a course that they couldn't download from the Moodle platform to a few students, and they shared it between them on Facebook…"* (E3, Information and Communication Sciences)

In the context of hybrid teaching, digital tools by students (Facebook, email, etc.) are used on the "margin of the socio-technical or techno-pedagogical devices offered by an educational institution" such as the university, as also recalled Bonfils and Peraya (2011:14). Thus, teachers choose these same digital tools to facilitate student access to online courses. Each teacher chooses the digital tools that suit them, as Francis Jauréguiberry points out (2008:35), for whom "*at the individual level, the user acts in such a way that the innovation suits their personality: they integrate it into their familiar perceptual-motor schemes, their work habits and their previous experience…*"

4.4.3.   *A Type 2 flipped classroom: A variety of activities in conjunction with Type 1*

This is the flipped classroom (Type 2, distance) (Lebrun *et al.*, 2017:128) in which students prepare presentations individually or in groups outside the classroom, carrying out bibliographical research in order to develop a theme and prepare presentations. They can expand their knowledge on the courses posted on *Moodle* by searching for information in bibliographical references, as one of the interviewees testifies:

> *"students can develop their knowledge by studying other bibliographical references, their working method…"* (E4, Educational Psychology)

Another interviewee explains a form of flipped classroom (Type 2, face-to-face), where students come to class to present their presentations and discuss together with the teacher:

> *"students prepare presentations outside of class, it is they who do research and come to class to present it…"* (E3, Information and Communication Sciences)

4.4.4.   *A virtual flipped classroom*

Some teachers have used virtual versions of the flipped classroom teaching system. They introduced the use of synchronous virtual classes (Google Meet, Messenger, Zoom, etc.) as a complement to the real class.

On the one hand, one interviewee mentioned that the three-weeks of face-to-face classes was not enough to explore all the course discussions already accessed by the students outside the class. Consequently, she decided to operate the class partly in virtual mode (a virtual class), using *Google Meet* with the students in order to continue the discussions and explanations. This approach is sometimes used with a small number of students:

> *"when three weeks face-to-face is not enough to complete all courses, I schedule a session using Google Meet and communicate with students, in a small group, to discuss and explain the remaining courses…"* (E1, Information and Communication Sciences)

On the other hand, some teachers prolong the discussions and debates using communication tools where there are misunderstandings. This is illustrated by teachers E4 and E8:

> *"I use the Messenger technique with no problem with my first year students since there are 700 of them. …"* (E4, Educational Psychology)

> *"I worked with an educational group, a module manager, a guide and I, using Facebook and email for communication. …"* (E8, IT)

In this sense, it is always necessary to meet the needs of the students. The teacher is sometimes forced to use digital tools that are not offered by the university institution. They must always give students the opportunity to ask questions in order to carry out more effective interventions (Missildine *et al.*, 2013, quoted in Nizet *et al.*, 216:46).

To sum up, in the different forms of flipped classroom, student learning becomes an important issue for pedagogy. By implementing a flipped classroom approach, the teacher organises their lesson with the aim of facilitating student understanding. Thus, the teacher participates with the learner in the creation of a learning device. This system is designed in terms of putting educational content online, motivating students, and educational support.

> *"…teaching becomes learner-centred, that is to say self-learning, in which the learner must rely on their own abilities, their possibilities for the acquisition of knowledge, while on the other hand the teacher guides and manages the session…"* (E5, Educational Psychology)

> *"…the student's problem is also motivation, there is a lack of motivation because the student is used to the traditional approach, …"* (E7, Educational Sciences)

4.5. Difficulties in implementing a flipped classroom system

In view of the interviews carried out, two main categories of difficulties emerge: difficulties encountered by the students, and difficulties encountered by the teachers. They are reviewed below.

4.5.1. *Difficulties encountered by students*

According to the teachers interviewed, the students showed certain behaviours due to the difficulties encountered:

Many students were unaware that the flipped classroom approach required them to view the courses posted on the platform outside of class. Their participation in learning remains very low (Anoush *et al.*, 2011, quoted in Nizet *et al.*, 2016:45), as evidenced by this excerpt taken from an interview:

> *"…unfortunately, we find that the students who have consulted the course outside the class are active and participate with me in class. On the other hand, when it comes to those who have not understood the flipped class there is no interaction".* (E3, Information and Communication Sciences)

In this situation, it seems that the student is not aware that they are required to be autonomous in the organisation of work and the viewing of online courses:

> *"The flipped classroom requires the learner to be able to acquire knowledge autonomously … and the teacher is only a guide … and the student must be self-sufficient"* (E5, Educational Psychology)

Technical problems such as the absence of an internet connection or a connection that is too slow for a video stream or downloading documents among students in rural areas prevented them from accessing the online course platform and hindered their learning:

> *"…problems with internet connection for many students in rural areas has made it difficult for them to access distance education".* (E5, Educational Psychology)

> *"… there are students who do not have a technical device to follow the courses remotely and do not even have an internet connection".* (E6, Information and Communication Sciences)

These same problems were cited by Michel Durampart (2007). This is what he called "the digital divide", where not everyone has the same access to ICTE. The problem is mainly due to low internet speeds, which poses a problem for knowledge transfer.

The problems experienced by students have an impact on student motivation, which remains very low. Thus, some students are passive receivers of knowledge:

> *"…in addition to the problems experienced by the students which have an impact on the motivation of the students, which is very weak because they are accustomed to traditional methods and rely a lot on the teacher, they always remain in a closed framework, always as recipients and not in a dominant role, where they process and apply knowledge."* (E7, Educational Sciences)

4.5.1. *Difficulties encountered by teachers*

Teachers find themselves in a very difficult situation for the implementation of flipped classrooms: facing students who have not consulted their lessons outside the classroom, and first-year students who are not used to academic work methods. By applying this approach, the teacher must encourage students to consult the content on the platform outside the classroom and get them involved in class. Thus, as Brigitte Albero (2014) remarks, through the pedagogical integration of digital technology, the teacher is forced to apply new methods that transform teaching in depth:

> *"…I envisaged that all students would view their courses on the Moodle platform and come to class for discussions, but I find myself in a catch-22 situation in front of students who have not even watched the course. Frankly, this is not compatible with first-year students who do not even know the method of work at university…."* (E7, Educational Sciences)

The short three-week face-to-face period is a difficulty that is mentioned as a source of problems for teachers. Appropriate media for the courses (Video, Word, PDF, etc.) requires time to design, because it depends on technical knowledge (IT, applications such as screen recorders, Powerpoint, etc.) and the training offered by the administration. According to teacher E4, the lack of time has consequences on the interactions of the students with the teacher.

> *"the lack of time and the high number of students has consequences on the dialogue between teacher and students which remains weak. …"* (E4, Educational Psychology)

For some courses, there is a small number of teachers who are each responsible for covering several modules, which has negative consequences on the teaching or on the subject to be taught. :

> *"… in our department, the lack of teachers in philosophy requires that the teachers have a high load of modules, which is a problem when designing online courses, the lack of time. And this influences the teacher and even the subject being taught…"* (E2, Philosophy)

Along the same lines, one of the teachers interviewed mentioned that:

> *"… This causes the teacher to become tired, and they will not even have time to develop and update their knowledge, and finally there will be negative consequences due to the ineffectiveness of their act of teaching…"* (E7, Educational Sciences)

Although there are difficulties, teachers continue to implement the flipped classroom system in a variety of ways. This depends on ministerial incentives to apply flipped classrooms and very often on administrative support at the university level. We find this in the declarations of teacher E8, who is a member of the unit supporting the teachers to post the courses online on *Moodle*:

> *"there were ministerial instructions for using the Moodle platform and that kind of saved the situation we are now living in… We developed videos for the accelerated exploitation of the platform… and there were training courses on use of the platform and video production"* (E8, IT)

4.6. Contributions of flipped classrooms

Although teachers encountered difficulties in implementing the flipped classroom system, the perceived benefits relate to the effectiveness of this flipped classroom approach in times of health crisis. In fact, teachers consider that the courses posted online on *Moodle* allow students to review them as many times as they wish. It also contributes to the development of learner autonomy, as one of the interviewees points out:

> *"I demonstrated how students can use the Moodle platform, so now they access the platform at any time and they view courses more than once and ahead of the actual class…"* (E1, Information and Communication Sciences)

> *"if the subjective and objective conditions are met, the flipped classroom approach contributes to the creation of a self-learning environment for the student, in which they can develop their autonomy. …"* (E5, Educational Psychology)

Note that the flipped classroom allows students to progress at their own pace and access education at any time (Fulton, 2012, cited in Enfiled, 2013:14). When students use the flipped classroom approach, they are faster at developing the skills necessary for autonomy in their learning and in adjusting their habits, to use the expression of Mason *et al.* (2013).

It seems that most teachers interviewed are satisfied with the flipped classroom practice in times of crisis: the flipped classroom is a strategy combining face-to-face and distance education. Thanks to individualised teaching, learners can take lessons at their own pace outside the classroom, and in class, they are active and communicate with the teacher to self-assess and position themselves in relation to what they learned before coming to class, as declared by one teacher:

> *"…students who have consulted their courses outside the classroom are active in class and communicate with me."* (E3, Information and Communication Sciences)

As Choi (2013) claims, the flipped classroom approach offers the possibility of interactions between teachers and students and among the students themselves. Interactions are found not only outside the classroom, but also inside the classroom. The best thing about flipped classrooms is the quick feedback.

The flexibility of the flipped classroom allows the teacher to save time in class and spend more time on discussion, debate and coaching:

> *"to achieve the objectives, we know that the limiting factor is time, and to save time you have to practice the flipped classroom using digital means to save face-to-face time for discussion and support for the student…"* (E1, Information and Communication Sciences)

Finally, remember that the time saved in the flipped classroom can be spent in class with students that are having difficulties (Choi, 2013). This approach can contribute more because of its flexibility, which allows teachers to adapt it to best suit their needs.

5.   CONCLUSION

The comments gathered show that the "flipped classroom" is not a simple approach. Above all, it is an interaction system between transmission and communication which takes on a specific dimension at universities, because it is one of the solutions to strengthen teaching and could have positive impacts despite some difficulties encountered by teachers and learners. The concrete uses of digital tools by teachers show a variety of practices contributing to the emergence of forms of flipped classrooms that have made it possible to optimise teaching time by promoting interactions between learners and between learners and teachers.

We also sought to find out if the use of digital tools facilitates the implementation of the flipped classroom. Admittedly, the complexity introduced by the use of digital tools in the implementation of a flipped classroom system requires teachers to devote time to the

appropriation of digitisation applications and the creation of educational content (video, Word, PDF and other formats). Although the implementation of the flipped classroom approach has obviously not been achieved without difficulty, each teacher has opted for certain forms of the flipped classroom that respond to the educational situation experienced. The variety of these forms of flipped classroom mentioned illustrates the extent of the possibilities offered by the use of digital tools in higher education.

Our study has some limitations that should be taken into account. First of all, the compilation of the teachers' points of view does not allow us to identify all the difficulties encountered by the students, and the comprehensiveness of the flipped classroom contributions from their point of view. Also, some student practices remain invisible to the teacher. It is on this last point that our work opens up further research perspectives. This involves conducting surveys of students, which can then be cross-referenced with the points of view of the teachers.

6.   REFERENCES

AKRICH M, 1987, «Comment décrire les objets techniques?», *Techniques et cultures*, n.º 9,p.49-64, [En ligne], http://halshs.archives-ouvertes.fr/halshs-00005830/ (consulté le 29/11/2012)

ALBERO B., 2014, «La pédagogie à l'université entre numérisation et massification. Apports et risques d'une mutation», In Lameul G., Loisy C.(coord.). *La pédagogie universitaire à l'heure du numérique : questionnements et éclairages de la recherche* , De Boeck, Chapitre 1, 27-53,, [en ligne], https://hal.archives-ouvertes.fr/hal-01713913/document

ALBARELLO L., 2002, *Apprendre à chercher : l'acteur social et la recherche scientifique*, Bruxelles, De Boeck.

ANOUSH M., Littlejohn A.,Vojt G., 2011, «Are digital native a myth or reality ?, University students' ue of digital technologies», *Computers and Education*, 56, pp.429-440,

AUBRUN F., 2018, «La pédagogie de classe inversée en Learning Lab», Lyon, Groupe IGS, [en ligne], https://hal.archives-ouvertes.fr/hal-01755863/

BONFILS P., DUMAS P., 2007, «Mondes virtuels et enseignement à distance : de nouvelles perspectives ?», TiceMed 2007, Jun 2006, France. pp.1-13. sic_00260340ff, [en ligne], https://archivesic.ccsd.cnrs.fr/sic_00260340/

BONFILS P., PERAYA D., 2011, «Environnements de travail personnels ou institutionnels ? Les choix d'étudiants en ingénierie multimédia à Toulon». In: Vieira, L.; Lishou, C.; Akam, N. *Le numérique au coeur des partenariats: enjeux et usages des technologies de l'information et de la communication*, Dakar: Presses univ. de Dakar, pp. 13-28, https://archive-ouverte.unige.ch/unige:17874/ATTACHMENT01

BRAME, C., 2013, «Flipping the classroom. Vanderbilt University Center for Teaching», [en ligne], Consulté le 28/09/2021, http://cft.vanderbilt.edu/guides-sub-pages/flipping-the-classroom/.

BRETON P., PROULX S., éds 2006, *L'explosion de la communication – Introduction aux théories et aux pratiques de la communication*, Paris, La découverte.

Chaudiron S., Ihadjadene M., 2012, «De la recherche de l'information aux pratiques informationnelles», *Études de communication* [En ligne], 35 2010, mis en ligne le 01 décembre 2012, consulté le 14 septembre 2021. URL: http://journals.openedition.org/edc/2257;

Choi, E., 2013, «Applying Inverted Classroom to Software Engineering Education», *International Journal of E-Education, E-Business, E-Management and E-Learning, 3*(2)., http://www.ijeeee.org/Papers/205-ET025.pdf

Cloonan c., Sassi N., 2017, «Les classes inversées : Analyse des freins à l'adoption des dispositifs numériques par les enseignants et les apprenants», In- Actes du IXe colloque QPES" Relever les défis de l'altérité dans l'enseignement supérieur, Grenoble, du 13 au 16 juin 2017, [en ligne], https://core.ac.uk/download/pdf/156871603.pdf

Defise, A., 2014, *Effets sur l'apprentissage, les compétences et les savoirs des dispositifs de classes inversées à l'UCL*, Mémoire de Master en Sciences de l'éducation. Louvain-la-Neuve : UCL.

Derèze G., 2019, *Méthodes empiriques de recherche en information et communication*, Louvain-la-Neuve, De Boeck Supérieur.

Dumont A, Berthiaume D., 2016, *La pédagogie inversée. Enseigner autrement dans le supérieur avec la classe inversée* (De Boeck Supérieur sa).

Durampart M., 2007, «Les TICE à l'épreuve de l'interculturel, entre modèle du nord et pratiques du sud», *Hermès*, 3 (49), pp.219-227 , https://www.cairn.info/revue-hermes-la-revue-2007-3-page-219.htm

Enfield, J., 2013, «Looking at the Impact of the Flipped Classroom Model of Instruction on Undergraduate Multimedia Students at CSUN»,. *TECHTRENDS TECH TRENDS* 57, pp.14–27, https://link.springer.com/content/pdf/10.1007/s11528-013-0698-1.pdf

Fulton, K.P. (2012) 10 Reasons to Flip. New Styles of Instruction, 94(2), 20-24.

Jacquinot-Delaunay G., 2002, «Absence et présence dans la médiation pédagogique ou comment faire circuler les signes de la présence», In Guir R. (Dir)., *Pratiquer les TICE Former les enseignants et les formateurs à de nouveaux usages*. Louvain-la-Neuve, De Boeck Supérieur, «Pédagogies en développement», p. 103-113. https://www.cairn.info/pratiquer-les-tice--9782206082110-page-103.htm

Jauréguiberry F., 2008, «De l'usage des technologies de l'information et de la communication comme apprentissage créatif», *Éducation et société*, n.º 22, pp.33-34. https://www.cairn.info/revue-education-et-societes-2008-2-page-29.htm

Lalle P., Bonnafous S., 2019, «La révolution pédagogique de l'enseignement supérieur, une universalité géographique et paradigmatique», *Revue internationale d'éducation de Sèvres* [En ligne], 80 , [en ligne], (consulté le 11 septembre 2021), http://journals.openedition.org/ries/8142 ; DOI : https://doi.org/10.4000/ries.8142

Lameul G., 2017, «Usage pédagogique du numérique : Quelles transformation de l'activité de l'enseignant-chercheur ?», In Massou L, Lavielle-Gutnik N, Enseigner à l'université avec le numérique : Savoirs, ressources, médiations, Louvain-la-Neuve, De Boeck Supérieur., p. 225-241.

Laudine, L., 2014, «Flipped Classroom ou classe inversée… Une autre manière

d'enseigner avec le numérique.», *Analyse UFAPEC*. n.º 34.14 p1-8. Récupéré de http://www.ufapec.be/files/files/analyses/2014/3414-pedagogie-inversee.pdf

Lebrun M., Gilson C., Goffinet C., 2017, «*Vers une typologie des classes inversées. Contribution à une typologie des classes inversées : éléments descriptifs de différents types, configurations pédagogiques et effets.*», *Éducation & Formation*, -e-306, pp.125-146, [en ligne], https://yvetot-circ.spip.ac-rouen.fr/IMG/pdf/article_classe_inversee_m.lebrun.pdf

Lebrun, M., 2015, «L'hybridation dans l'enseignement supérieur : vers une nouvelle culture de l'évaluation ? *Evaluer. Journal international de Recherche en Education et Formation*, 1(1), pp. 65-78, https://journal.admee.org/index.php/ejiref/article/view/93

Lessard H., Goyette G., Boutin G., 1997, *La recherche qualitative : Fondements et pratiques*, Bruxelles, De Boeck, p. 32.

Mason, G. S., Shuman, T. R., Cook, K. E., 2013, «Comparing the Effectiveness of an Inverted Classroom to a Traditional Classroom in an Upper-Division Engineering Course.», *IEEE Transactions on Education*, 56(4), pp.430–435. https://ieeexplore.ieee.org/abstract/document/6481483/?casa_token=qIrX2HfxsJQAAAAA:Q1qLdDXpWPGStpTjKEAXB0P8Fz0dik-9oVusD-Rpdx1CwB42yKHmy067JB-5zCk56iwShSKyDkodg6Wfw

Mazur E., 2009, «Farewall, Lecture ?», *Science*, 323 (5910), pp.50-51

McGrath D., Groessler A., Fink E., Reidsema C., Kavanagh L. (2017) Technology in the Flipped Classroom. In: Reidsema C., Kavanagh L., Hadgraft R., Smith N. (eds) The Flipped Classroom.

Springer, Singapore, [en ligne], https://link.springer.com/content/pdf/10.1007%2F978-981-10-3413-8_3.pdf

Missildine K., Fountain R., Summer L., Gosselin K., 2013, «Flipping the classroom to improve studentperformance and satisfaction», *Journal of nursing education*, 52(10), p.597-599

Nizet I., Galiano O., Meyer F., 2016, «Vers un cadrage théorique pour comprendre la classe inversée», in Dumont A., Berthiaume D., *La pédagogie inversée*: *Enseigner autrement dans le supérieur par la classe inversée*, De Boeck Supérieur

Paillé P., 2007, «La recherche qualitative, une méthodologie de proximité», pp.409-, in, Dorvil H., Problèmes sociaux: Théories et méthodologies de la recherche, Tome 3, Québec, Presses de l'université de Québec.

Paquienséguy F., 2006, «Entre interactivité, dispositif et médiation : que devient l'usage prescrit dans les cours en ligne ?», in Enjeux et usages des TIC : reliance sociale et insertion professionnelle, Université Libre de Bruxelles, http://archivesic.ccsd.cnrs.fr/sic_00104296

Perriault J., 1996, *La communication du savoir à distance*, Paris, L'Harmattan.

Poteaux N., 2017, «Usage des outils numériques: croyances et connaissances des enseignants», In Massou L, Lavielle-Gutnik N, Enseigner à l'université avec le numérique : Savoirs, ressources, médiations, Louvain-la-Neuve, De Boeck Supérieur., p.23-41

Soumagnac K., 2019, «les usages collaboratifs : entre porosité des outils et ressources et coproduction de connaissances», pp.151-168, in Massou L., Juanals B., Bonfils P., Dumas P., *Sources ouvertes numériques*: Usages éducatifs, *enjeux communicationnels,*

Questions de communication, 39, Editions universitaires de Lorraine

Stockless, A., 2019, «Le numérique en éducation : apprendre en ouvrant les murs de la classe», *Médiations et médiatisations*, 1(1)., [en ligne], https://revue-mediations.teluq.ca/index.php/Distances/article/download/63/31

Tchatouo N., Pascal L., Baque N., 2017, «Pédagogie de la classe inversée : place des outils et ressources numériques dans cette forme d'enseignement.», Adjectif. net Mis en ligne le mercredi 26 avril 2017 [En ligne] http://www.adjectif. net/spip/spip.php?article427

Thobois Jacob L., 2019, *Les classes inversées en premier cycle universitaire*: de la *motivation initiale à l'autorégulation de l'apprentissage*, Thèse en sciences de l'éducation, Université de Strasbourg.

Ziani G., 2020, «La place de la plateforme de cours en ligne dans un dispositif d'enseignement à distance à l'heure de Covid-19 : Quels changements dans les pratiques pédagogiques?», Colloque international sur le thème «*Numérique, dynamiques sociétales et résilience en contexte Covid-19*», Université Virtuelle de Côte d'Ivoire, 25-26 novembre 2020.

Pedagogical engineering in education at EPAU.
Introduction to peer tutoring in graduation projects

Razika BOUMANSOUR

Aicha BOUSSOUALIM

Polytechnic School of Architecture and Urban Planning
EPAU-Algiers-Algeria
Architecture and Environment Laboratory (LAE)

1. Context: the teaching of the architectural project

The teaching of architecture projects is complex. To bring as many students as possible towards success, a panoply of knowledge and actions are necessary to facilitate learning and producing all the work required (design, analysis, production of the graduation project report and others). Project workshops are central to the educational approach in architecture. More than half of the teaching activities in architecture take place in this context of practical case studies.

The teaching of architecture projects at the EPAU (The Polytechnic School of Architecture and Urbanism - Algiers) has always been done face-to-face. It is often done through cooperative and collaborative work between learners, teachers and learners and also between peers.

By definition, the final graduation project prepares students for individual and group work. Students are placed in learning situations of project construction, to acquire knowledge through innovative educational strategies, and where the constructivist approach1 is given preference. Discussions and communications with the students position them in real situations, through role-playing, they become actors in architecture and urban planning. Interaction between learners promotes learning by and with peers[1].

However, the year spent preparing the final graduation project is specific compared to other years of training. Final Graduation projects are prepared individually, most of the time, where the student chooses their site and the subject on which they want to work. Face-to-face workshops are carried out in the form of one-on-one consultation sessions with the students.

---

[1]   According to Bournot-Trites, M., Lee, E., & Séror, Peer tutoring in reading: "Parent-school collaboration in a French immersion setting", p. 197.

We have found that this tutoring formula, where the teacher is the only mentoring tutor, does not necessarily promote exchanges between the students. On the contrary, we found that it develops a spirit of competition between them and does not favour student autonomy. We have therefore tried to introduce peer tutoring as part of a Graduation Project Workshop in order to promote learning, but above all interaction[2] between students who will become future architects.

2.   THE STARTING POINT: AN ENVIRONMENTAL CONCERN

We have always taught the graduation project. Our project workshops have always been focused on the theme of sustainable architecture. Our major concern was the success of the students in their learning and also helping them acquire knowledge in this area. We always have hoped to make students aware of the current unsatisfactory situation of our cities through this teaching. We always wanted to participate actively in the training of architects who are concerned with the quality of the environment for the sustainable development of our Algerian cities.

And over the years our students have managed to design excellent projects. The specific skills targeted relating to knowledge around the notion of sustainability (ecological integrity, economic efficiency, equity and social diversity) were often achieved. However, the development of an eco-architect behaviour that would actively participate in the creation of the Algerian cities of tomorrow, of an architect who is responsible, who cares for others, who has a sense of sharing and collaborative work, is rarely achieved. We always regretted that our students (future Eco-Architects) were not all able to reflect upon their interaction with others and above all to show solidarity and mutual aid - the very essence of the environmental approach. This will encourage them to get involved and to act upon the environmental cause and sustainable architecture later in their professional lives.

Our experience therefore came, following the first lockdown (COVID-19). As in all Algerian universities, we switched to online education with our students. We were able to observe that this formula favoured more sharing, interactions and exchanges between the students, simply by seeing the work and corrections of their fellow student's work online. Working with students online has helped enormously in creating the right framework for learning,[3] whether:

— Cognitive: students present, argue, conceptualise, and explain their approaches, but above all, they become aware of their own productions.

— Procedural: materialised through the use of technological and digital tools.

---

[2]   According to Baud, A.: "Summary note", p. 145–146.
[3]   Tricot, A.: "The cognitive subject of learning", pp. 80–81.

— Affective: manifested through listening, voicing their opinions, collaboration, mutual aid, helping and agreeing to be helped, and above all marking their presence.

Teaching online during lockdown following COVID-19 was a very rewarding experience. The students acquired habits of sharing information and above all of helping each other. They showed an ability to collaborate and cooperate around the architectural project. An experience that inspired us and that we tried to capitalise on a year later by experimenting with peer tutoring face-to-face.

3. EXPERIMENTING WITH PEER TUTORING

Our experience is that of the "Integrating sustainable architectural projects in urban environments" workshop, where the students learn to design an architecture which integrates into its immediate environment and adapts to its natural and ecological environment, minimising harmful impact both on the environment and its occupants (in the proposed architectural space).

The exercise took place in two phases: the urban project phase which addresses the immediate environment of the project (team work) and the architectural phase of designing an eco-building (individual work). We chose six sites located in Algiers as support for these graduation project. We divided the students into groups of four. The sites were characterized by many disparate elements, both advantageous and conflicting; they present multiple difficulties.

As an educational team, we played several roles: didactic, educational, methodological, socio-affective, motivational, metacognitive, and group leader. The teacher is therefore a mentoring tutor.

In addition to this, we have introduced a type of "informal" tutoring: individualised support where the tutored student identifies with a tutor[4], which enticed bright and fast students to help out struggling students. Peer tutoring is "*a grouping of two students of different skill levels in the task. The most advanced student in the dyad plays the role of tutor explicitly assigned by the adult*"[5].

We opted for co-tutoring, which some authors call reciprocal help, where the tutor is at some point a mentor[6], and vice-versa.

We had a group of 24 students. Our activities consisted of:

---

[4]   According to Lepage and Romainville, taken up by Cathia Papi, in a reading note, Oget, D.: "Peer tutoring in higher education".

[5]   Lafont, L., & Ensergueix, P.: "The issue of training student tutors", p. 4.

[6]   According to Barnier, G.: "Tutoring in education and training", pp. 171–173.

— Dividing the group into six teams. Each team was made up of four students who worked on the same site, but who developed different themes in the same field.

— Encouraging each team to come up with a name and create a logo that represents it. A way to increase the sense of belonging to the team, as well as collaborative work.

— Making the students present their work as a team, even if the work was individual. This pushed them to help each other in terms of mastering drawing and graphic design tools.

— Sometimes one student's work had to be presented by the others. The students were therefore made to work in close collaboration. This pushed the members of the same team to help each other. They made corrections and discussed the work with each other before presenting it to the teachers.

— The project reports had to be prepared collectively. Team work and collaborative work was graded at the time of each presentation. If the work of one element of the group had gaps, or if one of the students returned their work late, the whole team was penalised.

— Interaction was promoted between teams on the days of work presentations. Students were called upon to highlight the best work, make comments, evaluate all the work, etc., either directly orally or on a piece of paper, or on Post-it notes which were displayed separately.

— The tools for dialogue between teachers and students and between students were multiplied. We formed a closed group on Facebook, where students were systematically called upon to post their work. The idea was to create exchange, encourage students to interact, to comment on each other's work, but above all to help each other and to exchange and share sources and data. We also opened a Google classroom and therefore a common Drive to share resources and documentation.

Images showing the students in a situation of interaction and exchange

This educational experience has strengthened us in our convictions, and has shown us that promoting peer support strengthens:

— Basic skills: by contributing to developing them in different ways (future professionals), particularly the use of ICT.

— Informative support: which manifests itself in the transmission of knowledge and know-how between students.

— Support for self-esteem: by reassuring students about their skills. This also helps to comfort the most anxious students.

— Emotional support which is expressed by friendly relations and bonding within the same team.

At the end of each activity and each phase, a set of questions was addressed to the students to evaluate the tutoring from a pedagogical, organisational and technical point of view. We discovered that:

— From a pedagogical point of view, most students declared that the objectives were clearly specified and that the training met their expectations. Tutor interventions were very satisfactory and peer interventions very effective; the students confirmed that the tutoring greatly helped them to master the notions of Sustainable Architecture.

— At the organisational level, the tutoring was done face-to-face but also online, both synchronously and asynchronously.

— On the technical side, students reported connection problems due to network congestion.

4. CONCLUSION

Tutoring in this educational experience was a lever for success. The students understood that success is THEIR success is the success of every one of them. Peer tutoring helped all students progress. It was also a lever to develop in the students a spirit of professionalisation. Architects are called upon to work in collaboration with several parties.

Peer tutoring provides students with cognitive, affective, motivational and metacognitive support for learning and above all to avoid dropping out. Peer tutoring also helped the students to develop a sense of belonging to a community and a spirit of solidarity and responsibility: two major principles of sustainable development. We thus had every chance of producing architects who have a sense of connectedness with their environments and a sense of responsibility towards architectural production in Algeria.

This experience has above all made for a singular and enriching educational relationship that was appreciated by the students.

5. REFERENCES

BÄCHTOLD, m. (2012). *Les fondements constructivistes de l'enseignement des sciences basé sur l'investigation*. Tréma, 38, 6-39. Https://doi.Org/10.4000/Trema.2817

BAUDRIT, A. (2000). *Note de synthèse. Revue française de pédagogie*, 132(1), 125153. Https://doi.Org/10.3406/Rfp.2000.1039

BOURNOT-TRITES, m., LEE, e., & SÉROR, j. (2003). *Tutorat par les pairs en lecture: une collaboration parents-école en milieu d'immersion française. Revue des sciences de l'éducation*, 29 (1), 195210. Https://doi.Org/10.7202/009498ar

LAFONT, l., & ENSERGUEIX, p. (2009). *La question de la formation d'élèves tuteurs: considérations générales, application au cas des habiletés motrices*. Carrefours de l'édu-

cation, 27(1), 37-52. Cairn.Info. Https://doi.Org/10.3917/Cdle.027.0037

OGET, D. (2014). *Le tutorat de pairs dans l'enseignement supérieur. Distances et médiations des savoirs. Distance and mediation of knowledge*, 2(6), article 6. Https://journals.Openedition.Org/dms/717

PELPEL, P. (2001). Barnier georges (2001). - *Le tutorat dans l'enseignement et la formation. Recherche & formation*, 38(1), 171-173. Www.Persee.Fr/doc/refor_0988-1824_2001_num_38_1_1735_t1_0171_0000_2

TRICOT, A. (2014). *Le sujet cognitif de l'apprentissage. Recherches en éducation*, 18, article 18. Https://doi.Org/10.4000/Ree.8519

Contributions of additive manufacturing to graduation projects

Merzak FERROUKHI

Instrumentation laboratory
Faculty of Electrical Engeenering USTHB
merzak.ferroukhi@usthb.edu.dz

Abdelkrim CHERIFI

Faculty of Mechanical Engineering and Process
Engineering USTHB
abdelkrim.cherifi@usthb.edu.dz

1. GENERAL INTRODUCTION

The technological explosion of the 21st century has accelerated the development and evolution of technologies in several fields. One example is Computer Aided Design and Manufacturing (CAD/CAM). Additive manufacturing is the tangible result of this technology. Popularised by the business press and technology news under the term "3D printing", additive manufacturing appeals to manufacturers in many sectors for prototyping or for use in the production stages. The approach and policy of synergy and synchronism with the socio-economic sector of Algerian universities, through the realisation of Masters in Science and Technology graduation projects (end-of-study projects), means that these must meet the needs and predicaments of Algerian companies in order to find solutions to each technical problem[1].

This is where additive manufacturing can be used for the smooth running of the various graduation projects by producing tailor-made prototypes. Our intervention in this didactic seminar consists in shedding light on "The Contributions of Additive Manufacturing to Graduation Projects". We will first address the technical aspect of additive manufacturing and will then continue with the enthusiasm shown by final year students for this new manufacturing technique. Indeed, for about five years we have observed an enthusiasm for the subjects of 3D printers with sometimes even quite edifying achievements. In this paper, we will therefore propose some solutions for benefiting from this situation in didactic and pedagogical respects and to master a technique that is already in vogue.

---

[1] techniques-ingenieurs.fr

2.   **ADDITIVE MANUFACTURING AND ITS IMPORTANCE TODAY**

Additive manufacturing (or 3D printing) is the opposite of manufacturing by removing material to achieve a desired shape. In additive manufacturing, parts are built by depositing successive layers of material that are digitally controlled. In its early days, 3D printing was mainly used for rapid prototyping, but manufacturers quickly discovered the potential offered by this new manufacturing process. Using additive manufacturing, especially in advanced applications such as the aerospace, automotive, medical, military, naval and many other fields, not only makes it possible to efficiently produce components, but also to create new ones, which is something that was not feasible before[2].

In terms of feasibility, the applications of additive manufacturing seem limitless. This technology offers a high level of design complexity. Other advantages include the consolidation of assembled designs and the integration of additional functions.

All the above provides evidence of the growing importance of additive manufacturing in industry, especially with the advent of AM based on metal alloys.

In summary, the process of going from the idea of a technical object to manufacturing its prototype is represented in the diagram below:
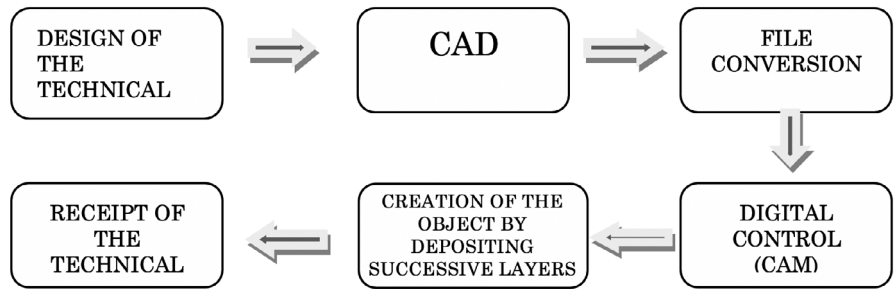
Additive manufacturing process

The growing interest in AM was felt during the COVID-19 pandemic. Indeed, teachers and students have used this technique to manufacture various objects for protection and and to fight against this pandemic. Visor masks, breathing valves, bib fasteners, door opening wristbands for the human arm, etc., were made using the AM technique driven by the will and commitment of some teachers and students, mostly members of science clubs within the University of Science and Technology Houari Boumediene (USTHB).

---

[2]   farinia.com

Diving mask transformed into a respirator (photo credits: Isinnova)
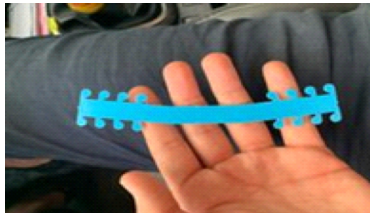
Bib attachment

Manufacturing prototype models is one of the very first applications of 3D printing. Most often intended for architectural or artistic projects, the *model* is a concrete and tactile miniature representation that allows visualising a project in three dimensions and thus evaluate and verify its feasibility. 3D printing has many advantages over traditional manufacturing techniques:

— Time saving: only a few hours with 3D printing versus often several days of production for foam or wooden models.

— Cheaper: 3D printing is much cheaper on small and medium series (up to 75%) than traditional moulding, machining or assembly techniques.

— Better precision: 3D printing is capable of transcribing a design down to the micron and allows much more complex shapes.

— Better resistance: whether it is ABS for the FDM process (fused deposition modelling) or polymers for laser sintering, printing materials offer better resistance than traditional materials, which are often more fragile.

3D printed model of the Sagrada Familia[3]

The manufacture of surgical models by 3D printing is one of the most popular uses in the medical community. This usually relates to the reproduction of an organ or a bone, most often to prepare for an intervention. This model, which is very faithful to the original, allows surgeons to better visualise the area they are going to operate on and to practise before the operation. It reduces the duration of interventions and therefore related risks and postoperative effects. These 3D models have already proven themselves several times, especially for complex operations requiring a very precise operating gesture.
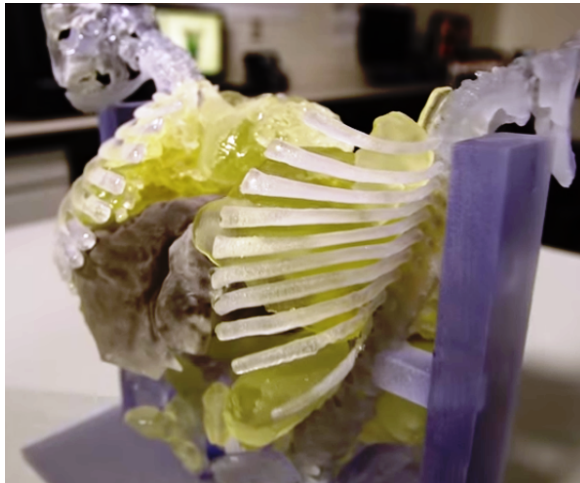
Surgical model of the thorax of Siamese twins[3]

---

[3]   br.pinterest.com

3. DIFFERENT TYPES OF 3D PRINTERS

— Personal 3D printers
— Professional 3D printers
— Production 3D printers

All 3D printers work additively by superimposing successive layers. However, they do not all use the same printing techniques. They can therefore be classified into three large groups[4]:

3.1. Material deposition

These are the most common type of 3D printers used by individuals. This technique consists in depositing, layer by layer, a filament of thermoplastic material that is molten at an average temperature of 200ºC. Thus, by superimposing layers which may have different contours and therefore by accumulation of material, one ends up obtaining the desired object. The print head moves along the three directions in space identified by the three coordinates X, Y and Z (length, width and height). These coordinates are transmitted from the computer by a 3D file which corresponds to the 3D model of the object to be printed. Initially, the materials used were limited to plastic materials such as ABS (Acrylonitrile Butadiene Styrene), polycarbonate and BPA (Bis Phenol A). However, 3D printing from new filaments made of metal (copper, bronze, etc.) and even wood is beginning to develop.
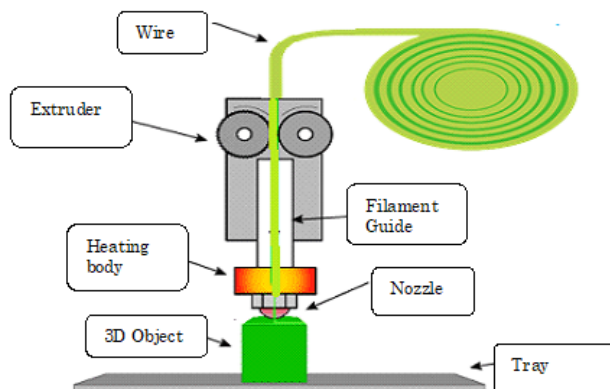
Principle of operation of a 3D printer[5]

---

[4] imprimantes3dmedecine.com
[5] primante3D.com

3.2.   Solidification by light

3.2.1.   *Stereolithography (or SLA)*

Stereolithography, also called SLA (StereoLithography Apparatus), etymologically means "writing in relief". This technique is the most used in professional environments and consists of solidifying photosensitive liquid resin using an ultraviolet laser beam. Printers that work with this technique usually consist of four parts:

— A tank, which can be filled with a photopolymer liquid
— A perforated platform, which descends into the tank
— Ultraviolet radiation, which will solidify the liquid
— A computer, which will control the platform and the laser

3.2.2.   *The Polyjet process*

This is a process created and patented by Objet Geometries Ltd. It also works based on the principle of photopolymerisation.

— The object is first created on 3D modelling software, then this file is sent to the printer.

— The print heads will then deposit photosensitive material drop by drop on a gel support, following the coordinates transmitted by the file.

— Once the material has been deposited, it will be exposed to ultraviolet radiation which will harden it almost instantly.

— This operation is repeated until the final object is obtained, and then cleaned.

3.2.3.   *Laser powder sintering (SLS)*

Laser sintering, also known as SLS (Selective Laser Sintering), is derived from photopolymerisation. In fact, it is a process that is also based on the use of an infra-red laser. However, in this technique the laser beam, following the instructions of the computer, will melt the powder according to the desired shape of the object, which will then solidify. Indeed, the powder, here spread on a plate, is heated to 180.º C. The laser then increases this temperature so that the powder reaches its melting point (see the example of nylon in the following paragraph). Thus, it will melt on the area swept by the laser beam and then it will solidify again (when the latter withdraws), while retaining the shape that was drawn. A new layer of powder is then superimposed, allowing the operation to be repeated. When the new layer solidifies, it sticks to the previous one. This process is repeated until the object is fully created.

3.3. Powder agglomeration by bonding

3DP (Three Dimensional Printing) forms the basis of Z Corporation's 3D printing process. The process is based on inkjet technology and consists of solidifying composite powder on a platform. The print head deposits, section by section, fine drops of coloured glue (cyan, magenta, yellow) on the powder present in the container. The printer also has white and black glue. Thus, the 3D printer has the same colours as a normal printer. In addition, the mixture of coloured glues allows the 3D printer to have a wide choice of colours (390,000 different colours).

The platform lowers after each completed layer, allowing the object to be created in successive layers. Once the object has been created, it is necessary to remove the excess powder, brush and/or sand the part, then heat it to finalise the solidification.

4. ADDITIVE MANUFACTURING AND ARTIFICIAL INTELLIGENCE

Today, 3D printing and artificial intelligence are the two most important topics in the field of new technologies and more particularly in the different industrial sectors. Whether we are talking about one technology or the other, we all agree that they are both constantly evolving and that technical improvements are constantly increasing to produce new incredible performance possibilities[6].

Linking additive manufacturing to artificial intelligence (AI)? AI can already improve the various 3D printing processes. To begin with, AI can analyse on its own and thus perform calculations in total autonomy to estimate whether or not the object can be printed.

AI can already improve the various 3D printing processes. To begin with, AI can analyse on its own and thus perform calculations in total autonomy to estimate whether or not the object can be printed. It can also attempt to predict the quality of the object and possible printing errors in order to save time before launching a 3D print. The combination of these two technologies could therefore once again revolutionise the world of industry. Although they are sometimes controversial, the advantages are still numerous.

To avoid repeatable errors, AI could be included in 3D modelling programs through CAD software. Combining AI and 3D printing to achieve this specific goal would allow the development of tools that will easily find defects and turn the unprintable model into a 3D model.

5. STUDENT ENTHUSIASM FOR AM

For a few years, we have observed an enthusiasm for the topic of 3D printers with sometimes even quite edifying achievements. Indeed, nearly 25% of students opt for the design of 3D printers, sometimes even producing the designed machine. We have even

---

[6] inneproduct.fr

seen students whose graduation project subject is "the design of a 3D printer" end up producing the latter. Two pairs resumed their graduation project and made it a reality in the form of a start-up and even became examples to follow for future promotions. Ultimately, start-ups have been created by freshly graduated USTHB students on the basis of their AM graduation project.
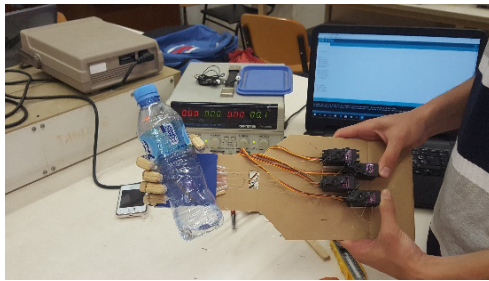
From design to completion

It seems that USTHB students are not on the sidelines of what is happening in the world. Statistics from 2018 confirm this trend[5]

6.   ANALYSIS OF THE PHENOMENON

The phenomenon that we want to analyse and whose origin we want to define here is this enthusiasm revealed by students for additive manufacturing technology and its equipment. It seems that new technologies inspire students (we are especially interested in those of the USTHB) and arouse their interest and curiosity. Feeling that their parents and grandparents have been overwhelmed by the old waves of technology, they feel a responsibility not to let the same thing happen to them. They therefore want to stay in tune with any technological novelty. They realise that they have the means and that they can do it, especially since some of their elders, graduates of the same university, have succeeded and have become references in the field. To name only a few: Belkacem Haba, Noureddine Melikechi, Kamel Youcef Toumi, Mohamed Banat, Zerhouni, Karim Zaghib, Bachir Halimi and many other scientific personalities.

7.   CONCLUSIONS AND PERSPECTIVES

After ascertaining the certain interest shown by our students of the USTHB technological faculties for AM technology and for its equipment, we issue the following proposals to allow the sustainability and growth of this interest.

Integrate AM modules and the structures of their equipment into the training frameworks of masters programmes. This will allow students to understand this discipline on the basis of proven theoretical knowledge and thus avoid a do-it-yourself approach. In

this way, they will be able to compare the different manufacturing techniques such as machining by material removal and others.

Set up practical work rooms with 3D printers of different designs completely dedicated to AM. This will allow students to master the process and familiarise themselves with 3D printing machines. These workshops will be part of the teaching curriculum and will be included continuous control assessments.

Proposing graduation project subjects related to these themes. Until now, we have dealt with graduation projects emanating from the proposals of the students themselves and on their initiatives. Such an approach (proposals of graduation project themes by the supervising teacher) will directly involve the supervising teacher in the heart of these subjects. Teachers will therefore participate in the development of their teaching in this area and this is to the advantage of the student and the discipline taught.

The idea of creating a competition for the best practical achievements using 3D printers will encourage students to compete in order to surpass themselves and present quality and successful work to the jury. Having prizes for the top three achievements with awards delivered by university officials will accelerate the development of the discipline.

In terms of prospects, we recommend the establishment of a multidisciplinary research laboratory linking AM, AI and Industry 4.0. It will be accessible to the technological specialities of the university. This laboratory will be in permanent contact with innovative companies, which will state their problems in these fields and will receive concrete answers. Students will be associated with this work through their presence in internships or graduation projects. This fruitful collaboration between universities (laboratories) and innovative companies will develop the R&D function which is sorely lacking in Algerian companies.

ICT and engineering education in Algeria: perspectives for training faculty on educational technology

Rɪʜᴀʙ BOUSHABA

University of Constantine 3 (Algeria)

Sᴀɪᴅ BERROUK

CERIST(Algeria)

"If we teach today's students as we taught yesterday's, we rob them of tomorrow"

John Dewey

1. Introduction

The technological advances of the 21st century have lead to change in all sectors and have created new needs for adequately qualified human resources. Skills in science, technology, engineering and mathematics (STEM) are easily transferable to multiple jobs of the future and are thus critical to the employability of young graduates and their professional development in this changing landscape. However, existing training courses face a double challenge: these disciplines are not attractive to young people and the skills acquired are inadequate for meeting the real needs of the labour market. Algeria is particularly affected by this problem, since the availability of scientists and engineers there is estimated at an index of 3.74, placing it within the bottom 40% of countries in the world (1).

The integration of ICT into STEM education is expected to improve the motivation and commitment of learners and bring these courses in line with the requirements of the 21st century. However, there can be no real use of ICT in higher education without pedagogical change, and this could not take place without teacher training. The transformation of existing pedagogical practices, which have proven ineffective for meeting the needs of new generations of learners, is undeniably a major challenge for the quality of higher education. The experiences of other countries show that practical sessions should be given priority when it comes to training teachers in the use of educational technology, allowing them to gain mastery of ICT tools via specific teaching situations that shed light on their pedagogical uses and didactics. In this article, we suggest that associating a research approach (well known and mastered by university faculty members) to faculty's teaching practice in class constitutes an educational and supportive framework that is more productive and likely to trigger the desired pedagogical transfer (2).

1.1. Relevance of ICT to STEM learning

ICTs offer several possibilities for improving the appeal of STEM disciplines and addressing recurring learning difficulties, so that learners can overcome epistemological obstacles linked to the complex nature of the knowledge to be communicated. For example, virtual laboratories, simulation software and serious games make it possible to approach complex notions in a dynamic and playful way, to appreciate the different magnitudes of scales, to experiment by varying parameters and by visualizing the consequences of these variations, etc. ICTs can also be conducive to teaching cross-disciplinary notions such as sustainable development (3). However, research carried out in this field shows that the effectiveness of these tools depends to a large extent on the quality of the support provided by the teacher and the degree to which the learners are involved in the process, in particular via metacognitive activities. This well-thought-out monitoring is essential to ensure that when learners are confronted with the array of digital tools at their disposal, they develop learning strategies adapted to their discipline (4). Therefore, the training of teachers and raising their awareness of these didactic issues takes on paramount importance.

1.2. Education in engineering: issues and gaps

Currently, the training of engineers in Algeria is delivered exclusively by university establishments, following the integration of technological institutes which were initially oriented towards the needs of the industrial sectors. This decision broke the link with industry and led to the transposition of a university education dominated by theoretical content, to the detriment of practical skills. This lack of adaptation to the socio-economic environment has greatly impoverished the training of engineers and reduced it to a generalist training that is not sufficiently oriented towards the specific needs of the sectors it is supposed to cater to (5). On an international scale, retooling the training of engineers to prepare them to meet the challenges of sustainable development and the knowledge economy is a global issue. All stakeholders agree that traditional training methods no longer meet the needs of future generations of engineers, particularly in the MENA region (6). Existing training is still based on a transmissive approach, and innovative, learner-centred pedagogies with recognised effectiveness such as learning by problem-solving and by project management facilitated by ICT are rarely implemented (7). On the didactic level, the recurring conceptual difficulties that students face in engineering courses are well documented and several diagnostic and remedial tools have been developed, in particular through research in science education (e.g. concept inventories) (8). Indeed, for about 40 years, bridges have been established between research in science and engineering education (*Discipline-based education research; DBER*) and the training of teachers in these disciplines. The goal of this movement, initiated in the USA by faculty members, was to promote the evolution of the practices of STEM teachers, many of whom actively participated in this work (9).

2. TRAINING FACULTY IN DIGITAL UNIVERSITY PEDAGOGY

In the context of higher education, "pedagogy" and "digital" are two notions that seem to emerge at the same time, since pedagogical issues have arisen in higher education mainly as a result of the growing importance of ICT in society. The notion of "university pedagogy" remains relatively foreign, however, given that in the university environment matters of pedagogy are generally left to individual initiatives and are only very rarely debated within the globality and coherence of a given academic discipline or a particular institutional or socio-economic context.

2.1. Background

The integration of ICT into higher education was initially discussed in terms of infrastructure and the pooling of resources to face the challenge of massification. This vision resulted in the launch in the early 2000s of several national digitisation projects (national distance learning program, SNDL, NREN, etc.). Paradoxically, experiences in the field indicate that pedagogical practices using ICT remain rare and marginal compared to conventionnal pedagogical practices. IIt was only in 2016 that the recognition of the need to train faculty in "university pedagogy" and the pedagogical use of ICT was concretised in the form of mandatory training for all newly recruited faculty (10).. However, existing training tends to adopt an adisciplinary techno-pedagogical logic and a prescriptive discourse aimed at replacing one practice for another. However, this posture obscures the fact that the practices observed derive from the professional identity of the teachers, with each discipline representing an epistemological, cognitive and intellectual "scaffolding" which gives rise to a culture of teaching and research specific to the discipline (11). If the ultimate goal of teacher training is to promote the lasting transformation of teaching practices, the issue of appropriation by teachers of the teaching innovations prescribed to them is of capital importance.

2.2. Case study: Representations of process engineering faculty

In order to contribute to the disciplinary contextualization of engineering faculty training programs, we have carried out an exploratory study which takes as input not the generic pedagogical prescriptions but the representations of "process engineering" faculty as an example of an engineering discipline (University Constantine 3). The objective was to define the expectations and apprehensions of faculty in relation to the use of ICT in the teaching of their discipline[1]. As a discipline, "Process engineering" is characterised by a growing

---

[1] The study was carried out during the academic year 2017–2018, the teaching staff included ~60 teachers, including 7 professors. The training was organised into Undergraduate (L1 total of 505 students) and 3 Master's specialities (total of ~300 M1 + M2 students).

number of students and high failure rates, especially before re-sits[2]. The results of the survey carried out among 27 faculty members indicate that 81% of them have already used ICT in their teaching (mainly videos found on the Internet in support of lessons and practical work). However, the attitude of faculty towards the use of ICT in teaching is mixed (67% having a positive attitude and 23% having a neutral to negative attitude). Our survey also identified several obstacles in the mindset of faculty in relation to the pedagogical integration of ICT, mainly the acceptance of this method of teaching by students, the lack of mastery of these tools by faculty and students, and the apprehension of seeing the teaching role of faculty devalued by the ill-considered use of these technologies. This paradox between the representations of teachers, which evolve, and their pedagogical practices, which remain unchanged, has been noted by other researchers (12). This inertia also has its origins in elements of context since the canonical form of lectures is more suited to the limited training times, the excessive number of students and their unequal involvement which characterise higher education contexts. . However, succeeding in the challenge of maintaining the quality of higher education depends on our willingness to give due importance to pedagogical and didactic reflection. This observation pleads in favour of a more contextualised training oriented towards a closer interaction between the practices and the representations of the teachers, given the complexity and the entanglement between these two components.

2.3. Objectives and general framework of the proposed training

The training of university teachers should be rethought in the context of the multiplicity of tasks assigned to faculty members (teaching, research, administration). Among all these tasks, the most valued and that which is the subject of long training is research. In contrast, the skills relating to the "teaching" task are built up with professional experience. However, the accumulation of experiences does not produce real professional development without a critical analysis of these experiences and the transfer of this knowledge to new experiences. This observation brings us back to the notion of "reflective practice", which aims to stimulate a process of reflection in connection with practice and experimentation in real situations (13). Thus, if the goal of teacher training is the transformation of pedagogical practices, it must help the teacher to become a "reflective practitioner", capable of pondering their own practices, of improving them in order to increase their effectiveness. In this regard, we consider the Research – Action – Training approach to be the most relevant, especially since it has shown its effectiveness in other countries. Research – Action is most often initiated by the teacher, recognised from the outset as the actor-author of their own training, encouraging them to take a critical look

---

[2]   For 2017–2018, the failure rates before resitting were 58% on average for L1, L2 and L3 and 49% for M1 and M2 for all specialities combined.

at their class practices with the aim of designing corrective strategies (14). This training can take the form of continuous support from newly created structures dedicated to this purpose, such as the educational support centres which were set up in several countries, or collaborations between engineering faculty and researchers in the field of education. Whatever form is adopted, the support services on offer should go beyond the simple provision of technical support.

2.4. Expected results

Research – Action is by nature a collaborative and multidisciplinary enterprise. Moreover, thanks to the personal reflection that it arouses, it is likely to bring teaching practices out of their static state, which consists of reiterating the same strategy without improving learning. The implementation of research–action systems will therefore make it possible to promote the emergence of mixed research teams involving engineering faculty, researchers in the field of education and techno-pedagogical engineers (15). In the Algerian context, collaborations between universities, teacher training colleges and research centres in the social and human sciences would be particularly rewarding. The sharing of experiences from the various research–action projects and their publication would provide continuity to these efforts and lead to a collective knowledge developed according to the usual mechanisms of scientific research. This would serve a dual purpose: (i) to guide the transformation of practices towards the emergence of a system where teaching and learning are closely intertwined and (ii) to produce useful knowledge on the issues particular to local university education. The questions raised and the answers provided via these action–research projects will eventually be able to feed into new, more targeted training plans that address the needs in the field as expressed by faculty from different academic disciplines (16).

3. CONCLUSION

The massification of higher education together with the growing importance of student employability has shifted the focus of the concerns of the university community to pedagogical and didactic issues. In particular, the teaching of STEM, job-creating sectors, continues to juxtapose lectures, tutorials and workshops that do not present to students the real scientific problems that they would have to identify and solve in the real world. This configuration is not conducive to the acquisition of key skills such as critical thinking, autonomy and the recognition of the dynamic nature of science and knowledge. ICT tools offer a number of advantages for learning STEM subjects because their use makes it possible to build bridges between theory and the real world. However, learning depends on the need to rely on a solid epistemological and didactic analysis (4). Nevertheless, the application of pedagogical and didactic research approaches represents a challenge and a training issue for university faculty members, who are accustomed to pushing the task

of teaching to the back seat in relation to their research task. Research-action training would provide a framework that is conducive to initiating a participatory and innovative process which could lead to the much-desired transformation of pedagogical practices. As it combines teaching and research in contextualised educational situations, research-action is also a source of enrichment and professional development for the teachers who engage in it. It helps to pose and above all to collectively solve complex educational problems and ensures a better dissemination of research results in the teaching practices of teachers.

4.   REFERENCES

Schwab K, Sala-i-Martín X. The Global Competitiveness Report 2017–2018 [Internet]. Geneva: World Economic Forum; 2017 p. 393. Available from: http://reports.weforum.org/global-competitiveness-index-2017-2018/countryeconomy-profiles/#economy=DZA

Gueudet G, Lameul G, Trouche L. Questions relatives à la «pédagogie universitaire numérique», regard et rôle de la recherche. Rev Int Technol En Pédagogie Univ. 2011;8(1):7–10.

Paas L. How Information and Communications Technologies Can Support Education for Sustainable Development: Current uses and trends [Internet]. International Institute for Sustainable Development (IISD). Manitoba, Canada; 2008 [cited 2018 Aug 30]. Available from: https://www.iisd.org/pdf/2008/ict_education_sd_trends.pdf

Couture C, Dionne L, Savoie-Zajc L, Aurousseau E. Développer des pratiques d'enseignement des sciences et des technologies: selon quels critères et dans quelle perspective ? RDST Rech En Didact Sci Technol. 2015 Sep 8;(11):109–32.

Touati O. La formation des ingénieurs: transformations et conséquences sur l'entreprise. Insaniyat إنسانيات Rev Algér

Anthropol Sci Soc. 2013 Sep 30;(60–61):251–64.

Abdulwahed M, Hasna MO, Froyd JE. Advances in Engineering Education in the Middle East and North Africa: Current Status, and Future Insights. 1st ed. Switzerland: Springer International Publishing; 2016. 454 p.

Cha J, Koo B. ICTs for new engineering education [Internet]. UNESCO Institute for Information Technologies in Education; 2011 [cited 2018 Jul 27]. Available from: http://unesdoc.unesco.org/images/0019/001936/193683e.pdf

Ngothai Y, Davis MC. Implementation and analysis of a Chemical Engineering Fundamentals Concept Inventory (CEFCI). Educ Chem Eng. 2012 Jan 1;7(1):e32–40.

National Research Council. Discipline-Based Education Research: Understanding and Improving Learning in Undergraduate Science and Engineering [Internet]. Singer SR, Nielsen NR, Schweingruber HA, editors. Washington, DC: The National Academies Press; 2012 [cited 2021 Dec 14]. 282 p. Available from: https://www.nap.edu/catalog/13362/discipline-based-education-research-understanding-and-improving-learning-in-undergraduate

JORADP. Arrêté n.º 932 du 28 juillet 2016, fixant les modalités d'accompagnement pédagogique au profit de l'enseignant-chercheur nouvellement recruté. 2016.

Hosson C de, Décamp N, Morand É, Robert A. Approcher l'identité professionnelle d'enseignants universitaires de physique: un levier pour initier des changements de pratiques pédagogiques. RDST Rech En Didact Sci Technol. 2015 Sep 8;(11):161–96.

Schneeberger P, Triquet E. Didactique et formation des enseignants: Des recherches en didactique des sciences à la formation des enseignants: quels liens, quelles interactions ? Aster - Rech En Didact Sci Expérimentales. 2001;32:3–13.

Kolb DA. Experiential Learning - Experience as the source of learning and development. 2nd edition. Pearson Education; 2015. 377 p.

Catroux M. Introduction à la recherche-action: modalités d'une démarche théorique centrée sur la pratique. Cah L'APLIUT. 2002;21(3):8–20.

Bécu-Robinault K, Couture C. Dialogue entre recherche en didactique des sciences et pratiques d'enseignement en contexte de formation. RDST Rech En Didact Sci Technol. 2018 Jun 30;(17):10–20.

MESRS. Accompagnement et formation des enseignants du supérieur aux usages pédagogiques du numérique: Livre blanc. France: MESRS; 2012 Oct p. 100.

Towards the development of a hybrid pedagogy of translation: a solution in the making?

Adila BENAOUDA

University of Algiers 2 (Algeria)

1. INTRODUCTION

To avoid the spread of the Covid-19 virus and respect the distancing recommended in such cases, university institutions have resorted to new teaching methods to better adapt to change and be able to ensure educational continuity and above all to avoid losing teaching semesters or more given the health uncertainty that reigned since 2020.

The so-called hybrid mode of teaching (face-to-face and distance learning) was introduced widely in our universities on an exceptional basis at the start of the 2020-2021 school year under Order 55 of January 21, 2021, setting the exceptional provisions authorized in terms of organization and educational management, assessment and progress of students during the Covid-19 period for the 2020/2021 academic year, and maintained for the further years.

Indeed, article 02 of decree 633 of August 26, 2020, for the 2019/2020 academic year, concretizes the transition to distance education by defining it. Thus, according to this article, distance and/or online education is a recognized form of pedagogical learning entering into the higher education courses of students.

A few months later, hybrid education is approved for the following academic year under article 02 paragraph 2 of said decree 55. The Ministry of Higher Education and Scientific Research has announced that this mode of teaching could very well be adopted permanently in the national education system.

Thus, material and technical means have been brought together to carry out the hybrid teaching operation, including the increase in internet speed in homes and at the university after the Algerian president instructed an improvement in the quality of Internet services since the latter was in the midst of the Covid-19 crisis, the main source for maintaining a certain form of life for any sector whatsoever.

A distance learning platform "Moodle" has been adopted. Working with the "Progres" system has been accentuated. The two combined have significantly limited commuting to universities.

Indeed, the "Progres" platform, for example, has made it possible, in addition to student registrations, to digitize and remote the deliberations and assessment of exams and continuous work. In this register, we propose to explain how the so-called "hybrid" teaching takes place at the Institute of Translation of the University of Algiers2, especially for the modules of *translation* and *translation studies*, which require a great interaction as well as tutorials. But before going Deep, it would be appropriate to explain the hybrid mode of teaching and what does it entail?

2.   The hybrid learning mode

The hybrid mode of teaching is increasingly present in higher education establishments. When reading the many definitions of the term hybrid, words such as composite - heterogeneous - mixed crossing come up every time, so hybrid teaching refers to a clever mix between face-to-face and distance learning.

This new form of education, little known especially in Algerian universities, is the subject of much debate but has become increasingly popular, so we speak of hybrid or mixed education and it is designated by different names, we then say blended-learning derived from the English word "blend" and so many terms appear such as synchronous or asynchronous mode. Blended learning is therefore a relatively new mixed learning device, combining different learning methods to offer the student the most complete means of training.

Endrizzi speaks of a good balance between human interactions and technological interactions (Endrizzi, 2012). Above all of, it is a combination of synchronous periods in which the exchange with the students takes place in real-time, via chat or a virtual class, and asynchronous periods where the exchange takes place via means of communication that do not require a simultaneous connection, for example through certain discussion forums. Synchronous training, therefore, makes it possible to interact on the media that the teacher provides to his students at the very moment when the teacher gives them their hands on the shared document, while asynchronous training can be done later.

3.   Advantages of hybrid pedagogy

Flexibility is one of the main characteristics of hybrid education and this on several levels, it allows greater accessibility to train with fewer space-time constraints, Bower even speaks of better study-work management -personal life" (Bower M., Dalgarno B., Kennedy G., LeeM., Kenney J., 2014) and depicts a real advantage for the teacher and the student as well.

It should be noted that simply putting some course activities online does not correspond to hybrid teaching. When designing a blended course, you have to rethink your teaching practices, ask yourself the right questions about the teaching strategies to adapt to take better advantage of them.

In this process, several elements must be taken into account, but the most important element is undoubtedly the student. Putting the student at the heart of teaching is essential in what it brings as advantages and to derive the best benefits from his learning, in particular by promoting feedback, exchange, sharing, and by creating links. Learning must therefore be collaborative between teacher and students because as teaching is centered on the student, the latter is offered pedagogical methods and activities to highlight the production, exchanges, and transmission of knowledge.

This hybrid teaching device (face-to-face and remote) makes it possible to organize a remote environment that adapts to the pace and learning style of students. Then we would know the way of taking advantage of blended learning and alternating between distance and face-to-face learning. This is what Stein and Graham advocate for widely (2014, p.9):

> Blended courses provide the opportunity for teachers to mix the best of onsite and online to create a new learning environment for their students. Research suggests that blended courses can have a positive impact on efficiency, convenience, and learning outcomes. By moving more of the learning to online environments, blended courses add flexibility to participants' schedules, provide learning benefits through automated and asynchronous online tools, and can tap into the modern, social Web to help learners venture beyond the traditional confines of the classroom

4.   HYBRID PEDAGOGY IN ALGIERS2 UNIVERSITY

The Algerian university, of which Algiers2, offered teachers the opportunity to participate in a training session on the Moodle platform to learn how to better handle it and be able to take advantage of the many advantages it offers and therefore provides teachers with the means to make better use of it.

In line with other universities, introductory courses in distance education were set up as soon as the emergency began due to the health crisis, so that they are in adequacy with the number of class hours, the forms of publication of the lectures and tutorials.

The training of students using the Moodle, Google Classroom, and Zoom platforms was also initiated. Once this training was finalized, the teachers came together to share their specific professional experiences with the students and as a team during the start of the pandemic during sessions on Zoom. These sessions were devoted to exchanges of practices between peers and trainers with the recommendation to renew the experience with the students, that is to say, to mobilize all the parties likely to capitalize on these experiences, which are new for most of them.

It emerged from these pedagogical exchange sessions between peers, the emphasis to be placed on the implementation of learning situations from pedagogical scenarios allowing to put oneself in a situation and thus succeed in anticipating possible problems or difficulties in the development of this method, one can cite for example the mental overload of the students which it is recommended to avoid at all costs.

The Ministry of Higher Education and Scientific Research in its first protocol published in the stream of the emergency, recommended the use of the remote assessment mode, in particular by MCQ to allow diagnostic, formative, or summative evaluations to be carried out. There are many tools to create MCQs, Moodle and Google Classroom are among them.

At the Translation Institute, even the assessment of tutorials via MCQs has been encouraged. In September 2020, the Institute recommended that teachers test the digital assessment tools during the face-to-face period with students so that they can use them remotely without apprehension, given that some students and teachers were still unable to adapt to this new digital world. Beyond, we needed to come up with how to alternate periods of face-to-face and distance learning during translation and translation studies courses and know which tools should be in line with

5. EXAMPLE OF A HYBRID SEQUENCE FOR TRANSLATION

5.1. Hybrid sequence for translation studies course

This new way of teaching in Algeria would require that we take into account the experiences of other countries which have adapted it for a few years now. In many other universities such as the University of Ottawa which advocates building what are called *sequences* using a pragmatic pedagogical scenario, taking into account the fundamental principles of distance and hybrid education namely:

— cooperation between the parties involved.
— teacher-student interaction.

Further, the dimension of the translation courses is largely based on the exchange and the search for the right word because all the practical work for translation is precisely to consult each other, to put the words on the scales of the translator and so choose the one that fits best.

It was therefore recommended for the very first session to be face-to-face to agree on the approach to follow and thus be able to better adapt to this new working method. It was also necessary to be able to set objectives and know how to assess each person's skills and pass on or explain the instructions. The teacher can then prepare his lessons or the documents necessary for the development of his course and move towards putting these instructions into practice.

The course in translation studies, which is part of the fundamental unit, provided by Louli Boukhalfa, a lecturer at the Translation Institute of Algiers2 University, was designed with this approach. Indeed, she has drawn up specific objectives for her course with activities and assessments.

Louli Boukhalfa has adopted an online learning scenario that represents, according to Lando (2003), the progress of a learning activity, the definition of objectives, the planning

of tasks, the description of student tasks, and assessment methods. For her, therefore, it was a question of describing the structure of the course with its various elements, in particular the teaching team, the target audience, the prerequisites, the objectives, the teaching method, the tools and resources, the learning activities, and the assessment methods. To do this, she made available to the Institute a portfolio of her course bearing a detailed plan of the course in which she describes how she planned her course in detail.

It was important from a pedagogical point of view to resort to the use of the MCQ which allows the student to be offered very similar answers but which, after reflection, turn out to be different as shown in example 2 below. The student will demonstrate his ability to master the different nuances of the different concepts. (Louli Boukhalfa, 2021, p.8-9).

On the other hand, the use of the UCQ makes it possible to examine whether the student has paid sufficient attention to the course in translation and translation studies, ", particularly in terms of memorizing the characteristics of the two disciplines and what differentiates them" (Louli Boukhalfa, 2021, p.8-9).

She explains that the use of writing exercises makes it possible to verify the student's ability to explain and argue clearly and carefully. Certain achievements can only be verified by monitoring the student's reasoning by reducing the risky choices for which he could opt-in a UCQ or a MCQ. This is all the more true if the student must demonstrate the importance of the theoretical bases in translation through the establishment of the truth in an obvious and rigorous way (Ibid, p.8- 9). To verify the student's awareness of the decisions he makes during the translation process and to explain his translation choices, the use of writing exercises can prove to be decisive.

5.2.   Hybrid sequence for translation course

The specialized translation module (from language A to language B or vice versa) provided by our teachers and which is part of the modules of the fundamental unit, has been designed in such a way as to allow the student to benefit from reflection. It was provided for most teachers in asynchronous mode. During these sessions, the teacher can use what is called reverse pedagogy as well as the activation of tutorials.

It is important to specify that the course must be concise and well structured, and communicated in advance to students on Moodle/ Google Classroom. A few sessions in synchronous mode followed to allow simultaneous interaction between the teacher and his students.

Other sessions were then provided face-to-face to correct the tutorials, then comes the distance learning session which serves as a synthesis of everything that has been done beforehand. The sessions had to alternate phases of individual and group work, pooling, and time for correction and questioning.

5.2.1. *Translation Test*

Below, correct answers have been highlighted in gray.

a. *Answer with true or false:*

— Specialized translation is defined as opposed to written translation/ F

— The translator who works on fiction projects is a legal translator/ F

— The commercial translator sometimes translates documents relating to commercial affairs introduced before court/ F

— The commercial translator translates invoices and tenders/ T

— The legal translator essentially translates documents relating to law and legal science/ T

— Professional internships are an opportunity to gain further knowledge for student/ T

b. *Choose the right translation:*

Products diverted from official rationing channels are sold illegally at higher prices.

تباع المنتجات المحولة من مسالك التوزيع الرسمية بطريقة غير قانونية بأسعار أعلى.

تباع المنتجات المحولة من دوائر التوزيع الرسمية بشكل غير قانوني وبأعلى الأسعار.

The black market essentially includes trade-in arms, drugs, counterfeit products, as well as human trafficking, human organs, contract killings, terrorism…

وتشمل السوق السوداء أساسا التجارة في الأسلحة والمخدرات والسلع المقلدة وكذلك الاتجار بالبشر والأعضاء البشرية وعمليات القتل المأجور والإرهاب.

وتشمل السوق السوداء أساسا التجارة في عناصر مثل الأسلحة والمخدرات والعملات والسلع المقلدة، وكذلك الاتجار بالبشر والأعضاء البشرية وعمليات القتل المأجورة. والإرهاب.

The World Trade Organization serves as a framework for the negotiation of trade agreements. It resolves trade disputes between its Members and responds to the needs of developing countries.

تشرف منظمة التجارة العالمية على المفاوضات حول الاتفاقيات التجارية وتنظر في النزاعات التجارية بين أعضائها كما تلبي احتياجات الدول النامية.

منظمة التجارة العالمية هي إطار للتفاوضات حول الاتفاقيات التجارية وحل المنازعات التجارية بين أعضاءها كما تلبي احتياجات الدول النامية.

6. Discussion

Alternating face-to-face and distance learning in this way was more than necessary because not everything could be done remotely. We need to see each other sometimes to sort things out. Similarly, the teacher is to be attentive to all the students, check that they were following and be able to pace the day well, and vary the teaching methods to avoid boring the student. Thus the duration of a virtual class/test must be quite short (40 to 50 minutes maximum).

The importance of rhythm in maintaining students' attention and motivation is key to achieving this kind of learning success. The objective is above all to create a certain link with the students, to be able to accompany them to understand what is good or not in this method, to understand what is wrong to change it.

To do this, the teacher tries constantly with his sequences to distinguish between students who did not catch on at first and who later get in tune with those who drop out over the long term to be able to maintain a certain rhythm of teaching.

It has been strongly recommended that students use digital tools to communicate remotely with their class that they already know face-to-face. In addition, it was necessary to limit the number of tools to avoid confusing the student. Thus, the current semesters were completed thanks to this mode of teaching.

We were not able to give the details of all results of this new way of teaching but lately, 80% of teachers belonging to the Institute of Translation at Algiers2 University have adhered somehow to this new mode. Courses have been more intensified in distance than face-to-face, while feedbacks of students and teachers are more or less satisfactory regarding the overall education situation in Algeria.

It's easy to believe that effective online discussion cannot be efficiently included in a remote learning session. It is possible to employ talks in the classroom if defined rules, procedures, supportive apps, and technology resources are in place.

7. CONCLUSION

Hybrid teaching, which is a mixture of face-to-face and distance learning, meets modern learning needs and creates a teacher-student relationship based on exchange and communication. This new way of working must be centered on the student and the teacher is therefore forced to review or even rethink his teaching strategy. Although even if this method requires time for teachers and students to adapt, it should be noted that they will gain time and experience in the long term.

In optimal working conditions, translation teachers recommended planning remote assessments (diagnostic, formative, summative, etc.), reducing the size of the groups (10 to 15 students) to promote exchanges and interactivity and the quality of the connection to avoid interruptions, providing individual follow-up as much as possible, presenting the objective and the skills to be achieved for each sequence and ensuring the appropriation of content via distance formative evaluation.

The Algerian university has shown a measured reactivity in this sense, which shows us that changes are possible, so that the solution which yesterday were still considered difficult or even impossible to implement, were quickly adopted and applied on a large scale. With this mode of courses, translation learners can apply what they have learned in a virtual environment without having to leave the confines of their home as the practical yet fresh choice for those seeking learning.

8.   BIBLIOGRAPHY

BOWER, M., DALGARNO, B., KENNEDY, G., Lee, M., KENNEY, J.: «Blended Synchronous Learning: A handbook for Educators», *Office for Learning and Teaching,* Australia, 2014.

DOCQ, F., LEBRUN M., SMIDTS, D. : «Analyse des effets de l'enseignement hybride à l'université : détermination de critères et d'indicateurs de valeurs ajoutées». *Revue internationale des technologies en pédagogie universitaire/International Journal of Technologies* in Higher Education, Volume 7, n.º 3, 2010, p. 48–59.

ENDRIZZI, L. : «Les technologies numériques dans l'enseignement supérieur, entre défis et opportunités», Dossier d'actualité veille et analyses, n.º 78, Octobre 2012.

GRELLET, F. : «Apprendre à traduire, Typologie d'exercice de traduction», *Presses Universitaire de Nancy*, 1991.

LOULI BOUKHALFA, N., «Traductologie», Institut de Traduction Université Alger2, 2021.

STEIN J., GRAHAM C.: Essentials for Blended Learning. A standards-based Guide. Routledge, New York, and London, 2014

VIDAL, M.: «L'enseignement à distance, trait d'union en temps de pandémie», *Distances et médiations des savoirs*, posted on December 10, 2020, consulted on September 30, 2021. (http://journals.openedition.org)

E-learning in medical training during the Covid-19 pandemic. State of affairs in algerian medical faculties

Hachelafi HAMID

University of Oran 1. Algeria.
Faculty of Medicine

1. INTRODUCTION

During the global health crisis caused by the Covid-19 pandemic, all sectors of activity implemented methods to control it that were essentially preventive, with health protocols that were imposed on the population and institutions to curb the effects of serious and fatal infections. The higher education sector was not exempt from these preventive measures, as the updates for strict and literal compliance with the rules for prevention attest to in the field.

Thus, hybrid teaching was applied to face-to-face or distance learning methods according to the observed developmental curve of the pandemic. However, because of their inherent specificities, the staff of the faculties of medicine wear the double hat of hospital and university teachers. This double professional assignment refers explicitly to the exercise of their daily hospital activities. However, the pandemic has led to an additional administrative requisition of most hospital-university teachers (all specialities and grades) to meet the urgent need for medical care in units dedicated to the care of Covid-19 patients.

The second problem induced by the pandemic in the faculties of medicine concerns students, for whom learning at the bedside of the patient is vital to better forge their clinical skills. However, this was postponed temporarily and intermittently to prevent the spread of infection (prohibition of hospital internships, delay in the integration of interns, delay in residency exams, postponed or cancelled hospital evaluations, etc.).

Thus, there are common unanswered questions in the minds of medical science training institutions:

— Is hybrid university training the best pillar on which to consolidate the training of future doctors?

— What are the shortcomings of hybrid education observed in Algerian medical faculties?

— What are the reflexive and procedural possibilities to improve hybrid teaching systems in medical training?

— Should we consider hybrid teaching as a comforting pillar of medical pedagogy and redirect the educational process even beyond the current health crisis?

We carried out a study on e-learning in all the faculties of medicine in Algeria to better understand the efforts they made from the first acute phases of the pandemic and the establishment of containment procedures.

The study concerned the identification of the content of the site reserved for the departments of medicine and which are lodged mainly in their universities or sometimes in the faculties of medicine.

2. OBJECTIVES

The objectives assigned to our research:

— To study the nature of the alternative educational programs set up on the sites of the Algerian medical faculties during the Covid-19 health crisis.

— To analyse the e-learning content of the training curriculum at the Faculty of Medicine of Oran, in Algeria.

— To propose adequate solutions to improve medical teaching according to the socio-cultural reality and while consolidating the essence of the medical profession with its qualities of altruism and assistance to others.

3. STUDY METHODOLOGY

The survey is based on the study of the e-learning content of the medicine department sites. The study focuses on the parameter of the sites' forms (visibility, nature of the access to educational documents, etc.) and contents (hosting site, quantitative indicators of courses for the preclinical and clinical cycles, distribution of courses by module and speciality, type of educational documents).

A univariate statistical analysis was performed to evaluate the percentage of variables, after coding the variables and entering the data in SPSS software.

The study was performed over 3 months in the year 2021.

4. RESULTS

1. General description: The study was performed on all medical faculties in Algeria (n=15). However, the study of university e-learning contents relates to only seven faculties of medicine (n=7) because of restricted access, either because the university site required individual registration, or because the teaching spaces required the individual registration of students involved in the distance learning sessions.

The sample of the study consists of the e-learning sites of seven faculties of medicine located in the cities of: Oran, Ouargla, Bejaïa, Laghouat, Constantine, Sétif and Annaba.

The documents posted online were essentially handouts produced in various formats (PDF, Word, Power Point with or without audio options). Documents in video format were very limited (n=26, P=1.49%).

The general description of the online pedagogical training made it possible to inventory the number of courses for the entire medical training curriculum (Table 1).

The top three faculties in the country that are statistically dominant in terms of the number of educational documents posted online by their teachers are respectively: (Oran, n= 476; Sétif, n=365; Constantine, n=361).

2. *Study of e-learning in the Faculty of Medicine of Oran:* Accessibility to the site of the Faculty of Medicine of Oran is achieved through the e-learning portal hosted at the University Oran1 and is granted by an official registration (the researcher is a member of the faculty).

The study of the corpus of documents posted online by the teachers of the Faculty of Medicine of Oran according to the training cycle and according to the nature of the module indicates:

— For the preclinical cycle (Table 2), the academic disciplines were essentially: anatomy (n = 58), physiology (n = 36), biochemistry (n = 32), semiology (n = 30), pathophysiology (n = 29), and biostatistics (n = 24).

— For the clinical cycle (Table 3), the academic disciplines are essentially: gynaecology-obstetrics (n = 48), social medicine (n = 37) and infectiology (n = 29).

Video materials are very limited in number (n = 9) and their duration is variable (between 19 and 100 minutes). These are only readings by the teacher of slide contents.

5. DISCUSSION

1. *Study context:* the Covid-19 pandemic has significantly devastated the various sectors of daily life, and in particular the health sector which includes medical education. As such, the first Chinese studies revealed in a sample of 7,143 students in the preclinical cycle in medicine, that "24.9% of the students were afflicted with anxiety due to the Covid-19 epidemic. Of these students, 0.9% experienced severe anxiety and 21.3% experienced mild anxiety. Student anxiety about Covid-19 may have been linked to the effect the virus might have on their studies and future employment"[1].

Thus, the health protocols during lockdown and the requisition of hospital services transformed into care units for Covid-19 patients, in particular during periods of high

---

[1]   Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, Zheng J. The psychological impact of the covid-19 epidemic on college students in China. Psychiatry Res. 2020 May ; 287 :112934.

peak incidence of the pandemic, clearly disrupted the mental programming of medical students, who were impatiently awaiting the transition phase from the preclinical to the clinical cycle. In fact, the medical student misses "a stimulating phase of education and learning because of the changes in direction and responsibilities"[2]. It is therefore an unexpected environment that increases student stress with significant consequences on their vulnerable mental health (anxiety, sleep disorders, etc.).

2.   The ranking of the faculties providing online educational documents indicates their historical seniority and the considerable number of their teaching staff (Table 1). In addition, the low incidence of Covid-19 in some interior cities, such as the city of Laghouat, may indicate that face-to-face teaching was continued.

3.   The nature of the courses posted on the "e-learning" platform shows that fundamental sciences take precedence in the preclinical cycle. This enthusiasm for medical education can be explained by the lack of direct involvement of the teaching staff of these specialities in the direct care of patients in hospital departments (with the exception of occasional requisitions for medical duty and at a low rotation frequency, fortnightly, reserved for the levels of assistant professor or lecturer). In addition, the inclusion in the preclinical cycle of non-medical contractual faculty (chemistry, computer science, etc.).

The conventional teaching of fundamental sciences is also carried out in university and non-hospital premises. For example, anatomy taught by classic teaching aids on boards or with models/mannequins in medical simulation centres. Local teaching of anatomy teaching does not rely on traditional dissection of cadavers and lacked virtual and interactive teaching during the Covid-19 period. Therefore, "mixed methods for teaching and learning anatomy are clearly needed in the current crisis. Adding instructional dissection videos to the platform, where students can essentially watch a pre-recorded dissection in progress, is part of the path to normalcy,"[3]. Similarly, the compilation of an educational package bundling videos, digital photographs, and a discussion forum could also be an element of interactive guidance and support for learners.

Technological innovation has entered the space of medical education through the field of virtual reality (Google cardboard, etc.) which allows 3D visualisation of the human body, and understanding the physiological interactions or clinical authorisations for surgical specialities in post-graduate education.

[2]   Fahad A, Kamran S, Tauseef A, Ashfaq A, Syed Irfan K, Abdulrahman Mohammed.Prevalence of insomnia and related psychological factors with coping strategies among medical students in clinical years during the covid-19 pandemic. Saudi Journal of Biological Sciences ; 2021 ; 28 (10).

[3]   Boussoffara I, Ouanes H, Ben Sik A, Bouchareb N, Keskes B, Touil I, *et al.* Apport de l'apprentissage par la simulation dans l'enseignement de la pneumologie. Revue des Maladies Respiratoires ; 2020 ; 37(2) :105-110.

4.   On the other hand, in the clinical cycle of the medical curriculum, documentary resources on the e-learning sites of the faculties of medicine remain poor. The continued mobilisation of teaching staff in hospital departments affected by the pandemic (pneumology, intensive care, etc.), some of whom have been affected by the death of their colleagues, has clearly impacted their complementary teaching tasks and the posting of their courses online. This is shown in the study of a population of 209 anaesthesiologists during the Covid-19 health crisis, where "67% reported low levels of professional fulfilment and 36% expressed burnout"[4].

5.   It should be noted that certain specialities have occupied the niche of clinical medical education during the pandemic. Once such speciality is gynaecology. Although the speciality remained distant from Covid-19 units and its practitioners were only solicited for advice during their medical rotations in maternity wards, the personal motivation of building a professional career, coinciding with the dates of the competitive exams for progression in the ranks of hospital-university teachers denote the circumstantial enthusiasm for improving professional curricula.

6.   Practitioners of social medicine experienced a reduced hospital workload, and they had more time than their colleagues from other specialities who were called upon for vital prognoses of their patients.

7.   The universality of the pandemic throughout the world, with its repercussions on teaching activities and hospital internships, calls for reinvigoration of educational innovations to avoid chaos or interruptions in medical training. Thus, telemedicine is proposed as a substitute tool, including in cutting-edge medical specialities, such as "virtual microscopy which serves as a useful educational support through online platforms (…) or through mobile and computer applications (Clearpath, myDermPath, Derm-in-Review, etc.)"[5]. The constraints of clinical medicine at the bedside of the patient are certainly dissipated by physical nature of the contact which eradicates semiology in all its learning states, since palpation of the patient or clinical observation cannot be acquired without the direct contact between the doctor and the patient.

However, half of the Algerian faculties of medicine have medical simulation centres, but platforms for distance medical education are almost absent. In fact, the use of medical simulation is codified as a strategic method with the aim of improving clinical skills in the various medical specialities, since "high-fidelity simulations are based on the active

---

[4]   O'Brien J.M., Goncin U, Ngo R. *et al.* Professional fulfillment, burnout, and wellness of anesthesiologists during the covid-19 pandemic. Journal canadien d'anesthésie; 2021; 68: 734-736.

[5]   Jones VA, Clark KA, Puyana C, Tsoukas MM. Rescuing medical education in times of covid-. Clinics in Dermatology ; 2021 ; 39 (1) ; 33-40.

participation of the student which helps to energize teaching and learning. It promotes the process of acquiring declarative, procedural and conditional knowledge"[6].

Other innovative experiments in the field of learning and the development of skills in medical education are the setting up of specialised platforms for studying anonymous cases. These are methods that describe "case-based learning as the best way to prepare for clinical problem-solving and as an effective course format, to improve declarative and procedural knowledge by encouraging understanding of (patho-)physiological concepts"[7].

In addition, technical resources exist at the university level (computer specialists, language centres, etc.) for a multidisciplinary contribution to the design of educational videos for medical education. This mode of teaching and learning with patient video cases "can add authenticity, improve diagnostic accuracy, and improve the chances of early diagnosis"[8].

Thus, it remains logical to include hybrid and intermediate teaching devices during the gradual return to the benches of university amphitheatres and to the bedsides of patients in the health crisis, but they also call for a mobilisation towards technological creativity, "pedagogical engineering", and to make the most of existing university resources "national academic networking".

In fact, while prioritising hybrid education in this time of health crisis, since "the transition from the workplace or medical school to home leads to isolation, increased use of email, and difficulty establishing boundaries between work and home, which could affect faculty, students and support staff"[9].

6. CONCLUSION

In times of crisis, humans constantly learn from their life experiences. Thus, the health crisis has revealed shortcomings in the field of medical pedagogy and the glaring gap in integrating technology into the learning and improvement of clinical skills of medical students.

However, it is essential to make the most of the resources available (medical simulation centres, computers and digital technology, etc.) to design courses with technological

[6]   Boussoffara I, Ouanes H, Ben Sik A, Bouchareb N, Keskes B, Touil I, *et al.* Apport de l'apprentissage par la simulation dans l'enseignement de la pneumologie. Revue des Maladies Respiratoires ; 2020 ; 37(2) :105-110.

[7]   Wadowski PP, Litschauer B, Seitz T, Ertl S, Löffler-Stastka H. Case-based blended eLearning scenarios-adequate for competence development or more? Neuropsychiatr. 2019 Dec;33(4):207-211.

[8]   Balslev T, Muijtjens AMM, Maarbjerg SF, de Grave W. Selection and ranking of patient video cases in paediatric neurology in relation to learner levels. Eur J Paediatr Neurol. 2018 May;22(3):498-506.

[9]   Suzane Rose MD. Medical Student Education in the Time of covid-19. JAMA ; 2020 ; 323(21) :2131-2132.

support in case studies and develop scenarios adapted to the socio-cultural context of the country.

Certainly, the study of the contents of the e-learning sites of Algerian faculties of medicine has made it possible to diagnose their shortcomings: lack of coordination between the person in charge of the site and the teachers in the organisation of the courses/modules, the lack of professionalism allocated in the design of educational videos, etc.

Consequently, e-learning training workshops and consistency in course design standardise medical education and therefore contribute to the development of the services of future doctors.

Good pedagogy is the key to success for future graduates.

7. REFERENCES

Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, Zheng J. The psychological impact of the covid-19 epidemic on college students in China. Psychiatry Res. 2020 May ; 287 :112934.

Fahad A, Kamran S, Tauseef A, Ashfaq A, Syed Irfan K, Abdulrahman Mohammed.Prevalence of insomnia and related psychological factors with coping strategies among medical students in clinical years during the covid-19 pandemic. Saudi Journal of Biological Sciences; 2021; 28 (10).

Boussoffara I, Ouanes H, Ben Sik A, Bouchareb N, Keskes B, Touil I, et al. Apport de l'apprentissage par la simulation dans l'enseignement de la pneumologie. Revue des Maladies Respiratoires; 2020; 37(2) :105-110.

O'Brien J.M., Goncin U, Ngo R. et al. Professional fulfillment, burnout, and wellness of anesthesiologists during the covid-19 pandemic. Journal canadien d'anesthésie; 2021 ; 68 :734-736.

Jones VA, Clark KA, Puyana C, Tsoukas MM. Rescuing medical education in times of covid-. Clinics in Dermatology; 2021; 39 (1); 33-40.

Wadowski PP, Litschauer B, Seitz T, Ertl S, Löffler-Stastka H. Case-based blended eLearning scenarios-adequate for competence development or more? Neuropsychiatr. 2019 Dec;33(4):207-211.

Balslev T, Muijtjens AMM, Maarbjerg SF, de Grave W. Selection and ranking of patient video cases in paediatric neurology in relation to learner levels. Eur J Paediatr Neurol. 2018 May;22(3):498-506.

Suzane Rose MD. Medical Student Education in the Time of covid-19. JAMA; 202; 323(21): 2131-2132.

ANNEXES

Year Faculty	1st year	2nd year	3rd year	4th year	5th year	6th year	Total
Oran	N=184 P=36.6%	N=59 P=12.3%	N=68 P=14.2%	N=41 P=8.61%	N=59 P=12.3%	N=65 P=13.6%	**N=476**
Ouargla	N=31 P=28.1%	N=0 P=0%	N=22 P=20%	N=39 P=35.4%	N=12 P=10.9%	N=6 P=5.4%	N=110
Bejaia	N=7 P=38.8%	N=1 P=**5.5%**	N=0 P=0%	N=2 P=11.1%	N=3 P=**16.6%**	N=5 P=27.7%	N=18
Laghouat	N=24 P=12.1%	N=7 P=3.5%	N=60 P=30.4%	N=60 P=30.4%	N=36 P=18.2%	N=10 P=5%	N=197
Constantine	N=120 P=33.2%	N=56 P=15.5%	N=129 P=35.7%	N=8 P=2.2%	N=36 P=9.9%	N=12 P=3.3%	**N=361**
Setif	N=0 P=0%	N=25 P=6.8%	N=0 P=0%	N=123 P=33.6%	N=184 P=50.4%	N=33 P=9%	**N=365**
Annaba	N=198 P=95%	N=0 P=0%	N=1 P=0.48%	N=0 P=0%	N=0 P=0%	N=9 P=4.3%	N=208

Table 1. Breakdown of the number of conferences during the medical course in 7 Algerian faculties

1st year											
Module	Anat.	Bio-chem.	Chem.	Cytol.	Law	Embry.	Gen.	Hist.	In.	Psych.	Phys.	Stat
Number of courses	**N=39**	**N=32**	N=19	N=17	N=10	N=10	N=5	N=18	/	N=10	/	**N=24**

2nd year					
Modules	Anatomy	Biochemistry	Biophysics	History	Physio
Number of courses	**N=19**	/	N=1	N=13	**N=26**

3rd year							
Modules	Anapa	Immu	Bact	Parasit	Pharmaco	Pathophys	Radio	Semio
Number of courses	N=6	/	/	/	N=3	**N=29**	/	**N=30**

Table 2: Number of courses according to the modules of the preclinical cycle – Faculty of Medicine of Oran.

4th year						
Module	Cardio	Gastro	Haematology	Infectio	Neuro	Pneumo
Number of courses	N=2	/	/	**N=29**	N=2	N=8

5th year						
Modules	Endrino	Gynaeco	Ortho-paedics	Paediatrics	Psychiat	Rheumato	Urolo
Number of courses	N=4	**N=48**	N=1	N=6	/	/	N=1

6th year									
Modules	Dermato	Health economics	Epidemio	Legal med	Work medicine	Psycho	Ophthalm	Orl	Trt	Emergency
Number of courses	/	N=8	N=3	**N=15**	N=11	/	/	**N=19**	N=9	/

Table 3: Number of courses according to the modules of the clinical cycle – Faculty of Medicine of Oran.

UNIVERSITY TEACHING STAFF TRAINING PLAN

Alfredo Corell-Almuzara & Fatma Fatiha Ferhani

(eds.)

PAPERS, A PROJECT FOR THE FUTURE. EXPERIENCES AND SHARING

VOL. 3

University Teaching Staff Training Plan

Granada, 2022

Summary

General training plan

Mercedes LÓPEZ AGUADO
University of León (Spain)

Raquel CASADO
University of Burgos (Spain)

Alfredo Corell
University of Valladolid (Spain)

1. INTRODUCTION

General objective of the twinning project:

This twinning project is part of the extension of the reforms and approaches regarding the dominant teaching practices in Algerian universities according to the diagnosis established by the educational agents responsible for the fields, branches and specialities of the three-tier degree system.

Specific objectives of component 2:

— Train teacher-researchers in the new skills of the curricula.
— Train the heads of the teaching support units for the skills of new teachers.
— Show the possibilities of online training.

Component 2 indicators:

— Teachers use teaching methods adapted to the curricular plan within two years.
— Student success rate in offerings using these approaches.

Summary of the mission report:

During the implementation of the mission, the following aspects were verified and/or the following actions taken:

— More knowledge was gained about the structure of Algerian universities. Their diversity and heterogeneity, and their similarities with and differences from the Spanish university model.
— The starting point of teachers from the three university sectors was established, in terms of their willingness to undertake teacher training and pursue innovation in teaching.

— The experts from three universities in Castilla y León shared with the audience their organisational models and activities, in everything related to University Teacher Training and innovation in teaching.

— Through specific talks, significant aspects of the management of training processes, the development of a general training plan for teachers and the necessary skills in university teachers were addressed.

— Finally, three training workshops were carried out for the participants to get to work and lay the foundations of a future general training plan that each of them had to implement in their workplace in the following four months (until the middle of February 2020)

2. OBJECTIVES OF THE MISSION

— Train teacher-researchers in the new skills of the curricula.
— Train the heads of the teachin support units for new teachers.
— Demonstrate the potential of online training.

3. TRAINING FRAMEWORK AND CHARACTERISTICS

3.1. Methodology used

To achieve the aforementioned objectives, a work methodology was designed to ensure that the learning process carried out during the process allowed the recipients of the training to become trainers of trainers. For this reason, we tried to involve the participants in the two types of actions that are listed below and will be described in greater depth in the next section of this chapter.

A. *Participative presentations in which different aspects related to the Training Units of Spanish universities were worked on. Specifically, the following contents were worked on with this methodology:*

— The training models of Salamanca, León, Burgos and Valladolid
— The advantages of inter-university coordination
— The skills of new teachers
— Management tools
— Regulation of the Training units
— The connection between training and innovation in teaching
— Innovation in teaching conferences and projects
— Logistics of the training process
— Construction of a general training plan and a course programme

B. *Collaborative workshops to reflect on and further the aspects addressed in the mission. These workshops, along with the objectives achieved, are described in Table 1*

Workshop	Objectives achieved
Workshop 0: Attitudes towards the training process and change in teaching skills	— Reflect on the need and difficulties of methodological change
Workshop 1: The pedagogical innovation of university teaching staff	— Clarify the initial and permanent teacher training processes of the Algerian system. — Find out about some of the innovation processes that the participants are carrying out
Workshop 2: Detection of the training needs of university teachers.	— Reflect on the training needs in each of the strategic lines — Make an initial basic proposal for a training activity
Workshop 3: Organisation of a training plan for university teachers-inter-university work groups.	— Generate the embryo of a training unit and a training plan in each of the universities involved.

Table 1. Workshops held and objectives achieved

4. GOOD PRACTICES

4.1. The paradigm shift

The paradigm shift in teaching as the driving force behind the change in teaching strategy: the Immunomedia case.

Alfredo Corell made a presentation of his own experience in innovation in teaching with a project that he has coordinated over the last 12 years. The project is called Immunomedia, and is fundamentally devoted to teaching, dissemination and effective learning of Immunology. It describes the journey from when it began with the first innovative actions to the project it is currently carrying out. The project, over the years, has structured itself around strategic axes whose challenges needed to be met. This project, which originated in the Immunology area of the University of Valladolid, has gradually incorporated experts in different subjects and from different academic institutions over the years. Currently participating in the project are researchers in immunology, telecommunications engineering, translation, computing, teaching, technicians in audiovisual media, and also medical and nursing students wishing to collaborate with the teaching staff and service personnel each academic year.

The ingredients for an effective process of innovation in teaching were presented:

Reflesiones en torno a los ingredientes	Reflections on ingredients
Para una Innovación docente eficaz	For effective innovation in teaching
1. Deseo del profesor… por empatizar con la audiencia – (formación)	1. Teacher's desire… empathy with the audience - (training)
2. Formato de aprendizaje: el video es el rey	2. Learning format: video is king
3. Involucrar al alumno en su aprendizaje	3. Involve students in their learning
4. Apoyo de la institución	4. Support of the institution
5. Aprovechar la tecnología y tendencias: RRSS o Gamificación	5. Take advantage of technology and trends: Social media or gamification

Presentation of various strategies, techniques and tools currently used. Always from the perspective of the paradigm shift… from teaching to learning, focusing on the protagonist of the process: the student.

Aprendizaje centrado en el alumno	Student-Centred Learning
El proyecto Inmunomedia responde a necesidades y carencias en la docencia y la divulgación de la Inmunología en el contexto de las ciencias Biomédicas del siglo XXI:	The Immunomedia project meets needs and gaps in the teaching and dissemination of Immunology in the context of the Biomedical sciences of the 21st century:
Desarrollar y difundir Objetos de aprendizaje multimedia en Inmunología de calidad	Develop and disseminate multimedia learning objects in quality Immunology
Filtrar la gran cantidad de información alojada en la web	Filter the large amount of information hosted on the web
Desarrollar herramientas de aprendizaje colaborativo mediante el uso de redes sociales.	Develop collaborative learning tools through the use of social networks.
Promocionar activamente la salud y acercar la inmunología a la ciudadanía	Actively promote health and bring immunology closer to the general public

Throughout these 15 years, a multitude of collaborative activities have been carried out in the classroom and outside of it. It is not possible to do all of them every academic year. Each teacher, in his or her subject, must seek his/her own path of innovation, must weigh up what type of activities best suits the training objectives of the subject, and the character of the class group. Just as an example, the different activities and resources used in the Immunomedia project include the following:

Aprendizaje centrado en el alumno	Student-Centred Learning
Metodologías empleadas	Methodologies used
El estudiante se sitúa en el centro del proceso de aprendizaje:	The student is at the centre of the learning process:
Trabajo en equipo y exposición en formato de congreso científico (oral o póster)	Teamwork and presentation in scientific conference format (oral or poster)
Clases inversas en temas seleccionados, con metodología "just in time teaching"	Flipped classes in selected topics, with a "just in time" teaching methodology
Curación de contenidos	Content curation
Debate en redes sociales y foros	Discussion on social networks and forums
Elaboración de objetos de aprendizaje (apuntes, seminarios, píldoras de conocimiento, wikis)	Preparation of learning objects (notes, seminars, knowledge pills, wikis)
Cine fórum "En el filo de la duda" (And the band playe don)	Cinema forum "And the Band Played On"

Aprendizaje centrado en el alumno	Student-Centred Learning
Sacando las defensas a la calle (divulgación de calidad)	Taking our defences outside (quality dissemination)
Gamificación: desafíos, kahoot, socrative	Gamification: challenges, kahoot, socrative
Píldoras docentes y/o divulgativas como parte del TFG	Educational and/or informative pills as part of end-of-course work
Evaluación continua voluntaria	Voluntary continuous evaluation

After the presentation of the various lines of action (Development of learning objects, content filtering, use of social networks in teaching, and public dissemination), the participants raised various questions, among which their uncertainty regarding the possibility of applying the different methodological and technological techniques to the various areas of knowledge. It was clear that all approaches were applicable but that each particular area might feel more comfortable with one specific type of method. Each teacher must look for the most appropriate flow, to feel comfortable and not stop moving forward.

Objectives achieved
1. Present a quality innovative activity, as the end point of a process of change in the teaching paradigm   2. Motivate trainers of trainers   3. Present a wide range of techniques, strategies and tools that can be used in the classroom   4. Clarify the possibility of applying the paradigm shift to any area of knowledge.

4.2. The training model of the University of Burgos

Training model in Castilla y León 1: Burgos: emphasis on training standards.

We presented the model of permanent training of the teaching staff of the University of Burgos (UBU), describing the structure of the Institute of Training and Educational Innovation (IFIE) and the various programmes forming the Training Plan of the university, with special emphasis on the regulations.

Having a teacher training centre is a fundamental element for the professional development of teachers, as it serves:

— as a reference and driver of permanent training and innovation;

— to manage all technical work (analysis of training needs, design and development of plans, training actions, etc.);

— to communicate training possibilities inside and outside the University.

The current reality of the University of Burgos IFIE is the consolidation of a proposal started more than 20 years ago, much of the development of which is reflected in the works of Delgado Benito and Casado-Muñoz (2014) and Delgado Benito, Casado-Muñoz and Lezcano Barbero (2016).

In this trajectory, greater involvement of the teaching staff has been achieved, together with the participation of various structures of the University (Support Unit for Students with Disabilities, Quality Unit, Research Results and Knowledge Transfer Office, Equal Opportunities Unit, Scientific Culture Unit and UBU centres and departments. Figure X). Likewise, collaboration with institutions outside the University (social and educational institutions, universities, etc.) has increased. Particularly noteworthy is the collaboration in training and innovation in teaching of the four Public Universities of Castilla y León[1].

Universidad de Burgos	University of Burgos
Instituto de Formación e innovación Educativa	Institute of Educational Training and Innovation
Servicios que participan en la organización de la formación	Services involved in the organisation of training
Unidad de Apoyo a estudiantes con Discapacidad	Support Unit for Students with Disabilities
Escuela de Doctorado	Doctoral school
OTRS-OTC	Research Results and Knowledge Transfer Office
Centros y Departamentos	Centres and Departments
Unidad de Calidad	Quality Unit

[1]   UNIVERSITY OF BURGOS. Institute for Training and Educational Innovation (IFIE)
UNIVERSITY OF LEON. Training school
UNIVERSITY OF SALAMANCA.University Institute of Education Sciences (IUCE)
UNIVERSITY OF VALLADOLID. Buendía centre

Universidad de Burgos	University of Burgos
Biblioteca	Library
Unidad de Igualdad de Oportunidades	Equal Opportunities Unit
Unidad de Prevención de riesgos Laborales	Occupational Risk Prevention Unit
Servicio de informática	IT service
Unidad de Cultura Científica	Scientific Culture Unit
Centro de Lenguas Modernas	Modern Languages Centre

Its structure includes a Director, a member of the Administration and Services Staff of the UBU, a scholarship holder and the Advisory Council made up of members of the various faculties of the University.

Both internal and external training are linked and recognised in the teacher evaluation programme within the Docentia framework, approved on 26 June 2012 by the University Governing Council. The ultimate goal of the evaluation of teaching activity is the improvement of teaching and student learning.

There is also a Training Committee[2], which is in charge of studying training needs; reporting on, proposing and approving the PDI (teaching and research staff) Training Plans; studying, proposing and setting criteria to adjust supply to demand; evaluation and review of the annual Training Plan; attending to and resolving any complaints and claims arising in the development of the Training Plans; and incorporating improvements in the operation of the Training Plan. Under the chairship of the head of the Vice-Rector's Office responsible for training, the Committee is made up of different groups of teachers and union representatives, as well as a person from Administration and Services responsible for managing training matters.

In the design of training actions, the contributions and proposals of different focus groups are gathered and taken into account: Groups on innovation in teaching, Research Groups, Centres and Departments, and the resources available at the UBU are studied.

The University has several training plans: the Training Plan for Teaching and Research Staff, the New Teacher Training Plan and the Training Plan for Virtual Teaching.

Future lines of action are oriented towards on-demand training; the development of digital teaching competence; promoting the mobility of teachers to international centres and creating networks for the exchange of experiences and dissemination of training and innovation initiatives.

---

[2]   https://www.ubu.es/sites/default/files/portal_page/files/reglamento_de_funcionamiento_interno_de_la_comisionde_formacion.pdf

Objectives achieved
1. To describe the needs for material infrastructure and human resources for the start-up of a training unit 2. To describe the need to develop university regulations that support teacher training and innovation processes

4.3. The relationship between training and innovation at the University of León

The connection established between training, innovation and evaluation of teaching activity in the framework of professional teacher development and its importance to achieve the strategic goals outlined in the institutional policy on teaching staff was presented. The search for teaching quality must be in line with the institution's objectives and with the increase in the quality of the degrees it offers. It is aimed at the continuous improvement of teaching, based on a professional development framework, seeking to increase the quality of teaching in line with the specific needs of each University.

In the context of this professional development framework, the actions developed by teachers with the aim of achieving *continuous improvement of teaching* were analysed. The involvement of teachers is necessary both in training and innovation actions and in evaluation processes, which will allow them to measure themselves in a comparative environment, receive proposals to improve their professional skills and identify and propose actions to overcome the limitations detected.

Figure 1. The relationship between training, innovation and evaluation of teaching activity in the context of Institutional Policy and the framework of professional development. Own work.

Política institucional	Institutional policy
Marco de desarrollo profesional	Professional development framework
FORMACIÓN	TRAINING
INNOVACIÓN	INNOVATION
EVALUACIÓN	EVALUATION
RECONOCIMIENTO	RECOGNITION
Mentoring	Mentoring
SoLT	SoTL (Scholarship of Teaching & Learning)
Grupos de docentes	Teacher groups
Reflexión en la práctica	Reflection on practice

Each of these basic pillars that support this model of teaching quality must be nurtured by continuous learning, not only from the experience derived from teaching practice, but also from training activities and innovation in teaching in which teachers participate and that lead to the development of teaching competences and the improvement of professional performance. Thus, the results of the evaluation will be linked to the various training and innovation processes and the generation of groups of teachers with the objective of increasing the quality of their teaching through the implementation of improvement actions. This global consideration of the processes involved will also allow the establishment of mechanisms for mentoring, coaching, SoTL, joint reflection on practical exercises and the like, allowing new teachers to be guided and quality to be improved for aspects of teaching that the evaluation process determines as improvable.

Therefore, a firm commitment by the institution, through its teaching staff policy, to strongly support training systems and innovation processes, preferably in a collegiate manner, is essential.

One tool that can be useful in this regard is the creation of inter-university working groups, such as those formed by the four public universities of Castilla y León on training and innovation. These associations make it possible to generate synergies, share experiences, establish common plans and in some instances to reduce costs.

In relation to training, it is essential to have well-structured and organised training plans, such as those presented by the universities of Castilla y León, but it is also necessary to establish mechanisms that support the related management and administrative processes.

In relation to innovation in teaching, various institutional actions can be taken. At the University of León, support for innovation is channelled through four major strategies (Figure 2)

The processes of support for innovation in teaching are also described (innovation in teaching groups, calls for support for innovation in teaching, innovation days).

Figure 2. Support strategies for innovation at the University of León. Own work.

Apoyo a la innovación	Innovation support
1. Grupos de Innovación Docente (GID)	1. Innovation in teaching, Groups
2. PAID. Plan de Apoyo a la Innovación Docente	2. PAID. Support Plan for Innovation in Teaching
3. PAGID. Plan de Apoyo a los Grupos de Innovación Docente	3. PAGID. Support Plan for Groups on Innovation in Teaching
4. Jornadas de Innovación	4. Innovation Days

1.   Creation and evaluation of Groups on Innovation in Teaching. Groups of teachers who jointly produce information in the classroom. They must evidence their activity by presenting the products produced.

2.   Plan to support innovation in teaching (PAID) call for aid for innovation. The call for proposals is usually made annually. Teachers interested must present a project, which is evaluated to decide whether or not to grant financial aid.

3.   Support plan for Groups on Innovation in Teaching (PAGID). Groups can apply for financial aid to carry out their activity by presenting a project for evaluation. The call is also usually annual.

4.   Innovation days. All the projects carried out annually are presented in the "Innovation Days", which become a space for sharing, exchanging successful innovative strategies and discussing university teaching.

Objectives achieved
1. Raise awareness about the need to work in a coordinated way in the different universities 2. Specify the relationships established between training and innovation (and teacher evaluation) and the need for coherent and consistent support for both processes

4.4. The relationship between training and innovation at the University of Valladolid (Alfredo)

Training model in Castilla y León 2: Valladolid: emphasis on training and innovation.

Alfredo Corell described the training and innovation model of the University of Valladolid, placing special emphasis on the detailed description of the general training plan and its relationship with the processes of innovation in teaching.

At this time the Teacher Training and Innovation area of the University of Valladolid performs support services for:

— University teacher training
— Innovation in teaching at the University of Valladolid
— Online teaching of official university degree courses.

From the Training and Innovation area, a new Transversal Centre model has evolved to support all these actions. It has been given the name "VirtUVa" (centre for online teaching, teacher training and innovation in teaching). The structure of this new University centre, which is currently taking shape, was also presented.

Área de Formación Permanente e Innovación Docente	Permanent Training and Innovation in Teaching Area
Universidad de Valladolid	University of Valladolid
Dirección	Management
Vicerrectorado de Ordenación Académica	Vice-Rector's Office for Academic Planning
Dirección del Centro	Management of the Centre
Comisión VirtUVa	VirtUVa Committee
Gestión	Administration
Secretaría del centro	Centre Secretariat
Técnico Formación e I.D.	Training and R&D Technician
Técnico de TIC y Docencia Online	ICT & Online Teaching Technician
Técnico de TIC y Docencia Online	ICT & Online Teaching Technician
Certificados PID y Cursos de Formación	Teaching & research certs. & Training Courses
TFG	End-of-course work
CyL	CyL
JORNADAS LD.	LD (Learning Design) DAYS
PROYECTOS LD.	LD PROJECTS
MEMORIAS ANUALES	ANNUAL REPORTS
Docencia Online	Online teaching
Formación Profesorado	Teacher Training
Innovación Docente	Innovation in teaching
Gestión Económica	Economic management
Valladolid, septiembre 2017	Valladolid, September 2017
1.ºT	1st
2.ºT	2nd
3.ºT	3rd
PG	PG
PN	PN
PoL	PoL
PRL	PRL

Área de Formación Permanente e Innovación Docente	Permanent Training and Innovation in Teaching Area
Bib	Bib
Phd	Phd
PAS	Admin & Support Staff
CURSOS VirtUVa	VirtUVa COURSES
Cursos PID	Teaching & research staff courses
Cursos A DEMANDA	Courses ON DEMAND

The mission of this centre in its three lines of action, and the results obtained in recent years was then detailed: in terms of innovation in teaching, the number of innovation projects implemented at the university has stabilised at around 150, involving an average of 1,100 teachers.
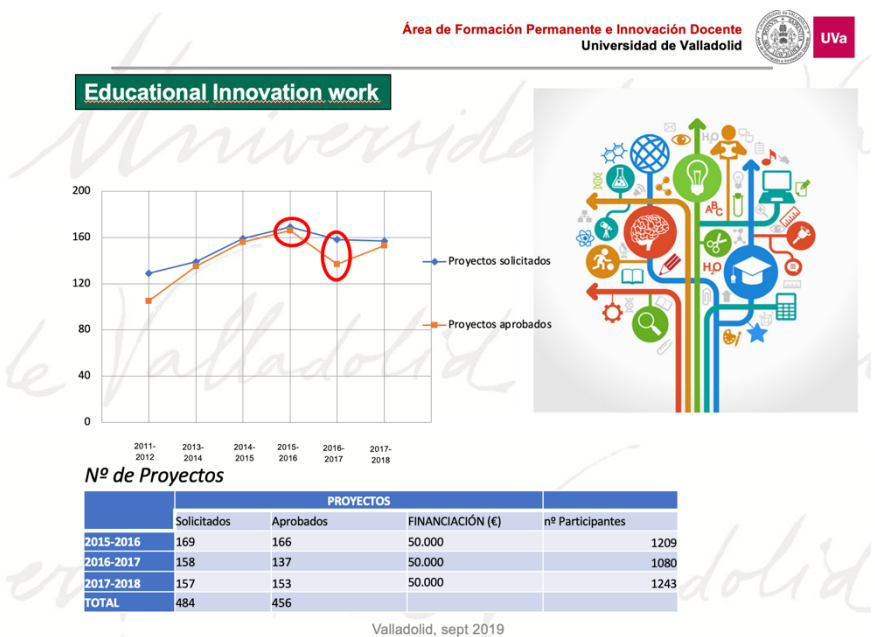
Área de Formación Permanente e Innovación Docente
Universidad de Valladolid

Educational Innovation work

Nº de Proyectos

	PROYECTOS			
	Solicitados	Aprobados	FINANCIACIÓN (€)	nº Participantes
2015-2016	169	166	50.000	1209
2016-2017	158	137	50.000	1080
2017-2018	157	153	50.000	1243
TOTAL	484	456		

Valladolid, sept 2019

Área de Formación Permanente e Innovación Docente	Permanent Training and Innovation in Teaching Area
Universidad de Valladolid	University of Valladolid
Educational Innovation work	Educational Innovation work
Proyectos solicitados	Requested projects
Proyectos aprobados	Projects approved
N.º de Proyectos	No. of Projects
PROYECTOS	PROJECTS:
Solicitados	Requested
Aprobados	Approved
FINANCIACIÓN (€)	FINANCING (€)
n.º Participantes	No. of Participants
TOTAL	TOTAL
Valladolid, sept 2019	Valladolid, September 2019

The general plan for teacher training at the University of Valladolid was then presented, organised around eight strategic axes. The main training sections and courses taught are summarised in the following images:

Nouvelles Technologies de l'information et de la communication	New Information and Communication Technologies
A. Formation à l'utilisation du campus virtuel à différents niveaux:	A. Training in the use of the virtual campus at different levels:
Outils de base Outils avancés Outils d'évaluation	Basic tools Advanced tools Evaluation tools
B. Conception d'objets d'apprentissage multi-média	B. Design of multimedia learning objects
Infographie Screencasting Prezi Power Point Genially Powtoon Mini-vidéos (documentaires d'apprentissage)	Computer graphics Screencasting Prezi Power Point Genially Powtoon Mini-videos (learning documentaries)
C. Utilisation des réseaux sociaux dans l'enseignement (marque personnelle de l'enseignant):	C. Use of social networks in teaching (teacher's personal brand):
Ds blogs Microblogging Facebook, Twitter, Linkedin, Pinterest, etc.	Ds blogs Microblogging Facebook, Twitter, Linkedin, Pinterest, etc.
D. Nouvelles tendances dans l'enseignement:	D. New trends in education:
Teacher Training work	Teacher Training work
TEACHER TRAINING COURSES	TEACHER TRAINING COURSES
Strategic axes of action:	Strategic axes of action:
Microblogging	Microblogging
BYOD (Bring Your Own Device)	BYOD (Bring Your Own Device)
Flipped classroom	Flipped classroom

Área de Formación Permanente e Innovación Docente
Universidad de Valladolid

UVa

Teacher Training work

2 **TEACHER TRAINING COURSES**

Strategic axes of action: Personal and social development

A. **Compétences de l'enseignant:**
   i. Compétences pédagogiques: parler en public
   ii. Tutorat des échanges internationaux d'étudiants

B. **Soins aux enseignants:**
   i. Faire face au stress de l'enseignement
   ii. Techniques de pleine conscience
   iii. Pathologie de la voix et prévention

DPS

Valladolid, sept 2019

16

A. Compétences de l'enseignant:	A. Teacher competences:
i. Compétences pédagogiques : parler en public ii. Tutorat des échanges internationaux d'edutiants	i. Pedagogical skills: public speaking ii. Tutoring of international student exchanges
B. Soins aux enseignants:	B. Care for teachers:
i. Faire face au stress de l'enseignement ii. Techniques de pleine conscience iii. Pathologie de la voix et prévention	i. Coping with the stress of teaching ii. Mindfulness techniques iii. Voice pathology and prevention
DPS	DPS
Teacher Training work	Teacher Training work
TEACHER TRAINING COURSES	TEACHER TRAINING COURSES
Strategic axes of action: Personal and social development	Strategic axes of action: Personal and social development

Área de Formación Permanente e Innovación Docente
Universidad de Valladolid

Teacher Training work

TEACHER TRAINING COURSES

3

Strategic axes of action: Personal and **social** development

DPS

A. Compétences sociales en classe:
  i.   Le profil psychosocial des étudiants universitaires
  ii. Connaître le comportement dans les premiers secours et les urgences
  iii. Attention à l'égalité
  iv. Coopération pour le développement
  v.   La médiation des conflits
B. Promouvoir l'employabilité et l'entrepreneuriat des étudiants
  i.   Techniques de coaching

Valladolid, sept 2019

A. Compétences sociales en classe:	A. Social skills in the classroom:
i. Le profil psychosocial des étudiants universitaires ii. Connaître le comportement dans les premiers secours et les urgences iii. Attention à l'égalité iv. Coopération pour le développement v. La médiation des conflits	i. The psychosocial profile of university students ii. Knowing how to behave in first aid and emergencies iii. Attention to equality iv. Cooperation for development v. Conflict mediation
B. Promouvoir l'employabilité et l'entrepreneuriat des étudiants	B. Promoting student employability and entrepreneurship
i. Techniques de coaching	i. Coaching techniques

Área de Formación Permanente e Innovación Docente
Universidad de Valladolid
UVa

Teacher Training work

TEACHER TRAINING COURSES

4

Strategic axes of action: Planification et gestion de l'enseignement

PLAN

A. Méthodologie et conception de l'enseignement
  i.   Conception instrumentale de cours en ligne
  ii. Conception de guides pédagogiques
  iii. Conception de matériel didactique: Power Point, Prezi, infographie, vidéos, etc.
  iv. Propriété intellectuelle, plagiat et droit d'auteur
B. Tendances d'aujourd'hui et de demain:
  i.   Apprentissage collaboratif
  ii. Apprentissage par projet / problèmes
  iii. Flipped Classroom
  iv. B-learning et enseignement Apps
  v.   enseignement basé sur le jeu, salles d'évasion

Valladolid, sept 2019

Planification et gestion de d'enseignement	Planning and management of teaching
A. Méthodologie et conception de l'enseignement	A. Teaching methodology and design
i. Conception instrumentale de cours en ligne ii. Conception de guides pédagogiques iii. Conception de matériel didactique: Power Point, Prezi, infographie, vidéos, etc. iv. Propriété intellectuelle, plagiat et droit d'auteur	i. Instrumental design of online courses ii. Design of teaching guides iii. Design of teaching materials: Power Point, Prezi, infographics, videos, etc. iv. Intellectual property, plagiarism and copyright
B. Tendances d'aujourd'hui et de demain:	B. Current and future trends:
i. Apprentissage collaboratif ii. Apprentissage par projet / problèmes iii. Flipped Classroom iv. B-learning et enseignement Apps v. enseignement basé sur le jeu, salles d'évasion	i. Collaborative learning ii. Project/problem-based learning iii. Flipped Classroom iv. B-learning and teaching Apps v. game-based teaching, escape rooms

Planification et gestion de l'enseignement	Planning and management of teaching
A. Tutorat et évaluation de l'enseignement (évaluation par compétences=):	A. Tutoring and assessment of teaching (competency-based assessment=):
i. Tutorat et action de mentorat ii. Évaluation des compétences iii. Rubriques iv. Tutorat des Travaux de fin d'études (Bachelor et Master) v. Propriété intellectuelle et droit d'auteur vi. Plagiat et propriété intellectuelle	i. Tutoring and mentoring action ii. Assessment of competencies iii. Headings iv. Tutoring of final year projects (Bachelor and Master) v. Intellectual property and copyright vi. Plagiarism and intellectual property

Recherche	Research
A. Utilisation de logiciels statistiques en recherche	A. Use of statistical software in research
B. Utilisation d'outils de recherche bibliographique dans différentes branches de la connaissance (avec le service bibliothèque)	B. Use of bibliographic research tools in different branches of knowledge (with the library service)
C. Utilisation d'outils de gestion de données de base: Excel	C. Use of basic data management tools: Excel
D. Publications d'articles scientifiques dans des revues internationales	D. Publication of scientific articles in international journals
E. Accréditations et concours oppositions du personnel enseignat	E. Accreditations and competitions for teaching staff

Enseignement en ligne	Online teaching
Identité numérique Technologie en ligne Conception de cours en ligne: Conception pédagogique	Digital identity Online technology Online course design: Instructional design
Génération de matériel pour l'enseignement en ligne	Generation of materials for online teaching
Action pédagogique et tutoriel en ligne	Educational action and online tutorial
Evaluation de la formation en ligne	Evaluation of e-learning

Internationalisation	Internationalisation
Cours d'anglais pour professeurs:	English courses for teachers:
anglais instrumental prononciation de la langue anglaise Sujets bilingues	instrumental English pronunciation of the English language Bilingual subjects

In addition to these eight strategic axes, training courses are also held "on demand" when they are of particular interest for a specific academic degree, or at the request of a teaching centre.

The last part of the presentation showed the path followed both in the official online courses (mainly of the master's type) and what is being done from the University to promote the Large-Scale Open Online Courses (MOOC), which were launched very recently within the MiriadaX platform.

Objectives achieved
1. Description of the needs for material infrastructure and human resources for the start-up of a training unit.
2. Description of the need to start from the training needs to determine the content of the training plans
3. Description of the processes carried out by a training unit and a computer tool specifically developed for the management of all processes
4. Knowledge of tools for gamification or collection of data and some of their possible applications.

4.5.   The university teacher of the 21st century

We carried out a conceptualisation of the competency model of the current university teaching staff. Likewise, we studied the document "Proposal of a competency reference framework for university teaching staff and adaptation of training plans based on teaching competencies", issued by the Spanish Network of University Teaching (REDU, 2014). This proposal structures the following competencies of university teaching staff.

1.   Teaching planning and management competency (CPGD)
2.   Communicative competency (CC)
3.   Interpersonal competency (IC)
4.   Methodological competency (CM)
5.   Innovation competency (CDI)
6.   Teamwork competency (CT)

The detailed analysis of the indicators of these competencies and their contrast with the model proposed by the Algerian ministry in *Arreté nº 932 du 28 juillet 2008* (Figure 3), provided us with a first approach for reflection, points of agreement and divergence (generally derived from differences in the concept of competency used), but we consider that a more in-depth study should be carried out.

Análisis de competencias.

REDU	Indicadores	Arreté nº 932
La competencia de planificación y gestión de la docencia (CPGD)	6	C11
La competencia comunicativa (CC)	9	C3; C8
La competencia interpersonal (CI)	9	C2; C7
La competencia metodológica (CM)	7	C1; C4
La competencia de innovación (CDI)	7	C9
La competencia de trabajo en equipo (CT)	7	C5; C6
Sin relación		C10; C12
Total	45	12

El mundo está cambiando
Competencias docentes
Modelo de profesor
Competencias profesor no universitario
Competencias profesor universitario
Formación del profesor universitario

Análisis de competencias	Competency analysis
El mundo está cambiando	The world is changing
Competencias docentes	Teaching competencies
Modelo del profesor	Teacher model
Competencias profesor no universitario	Non-university teacher competencies
Formación del profesor universitario	University teacher training
REDU	REDU
Indicadores	Indicators
Arreté n.º 932	Order no. 932
La competencia de planificación y gestión de la docencia (CPGD)	Teaching planning and management competency (CPGD)
La competencia comunicativa (CC)	Communicative competency (CC)
La competencia interpersonal (CI)	Interpersonal competency (IC)
La competencia metodologíca (CM)	Methodological competency (CM)
La competencia de innovación (CDI)	Innovation competency (CDI)
La competencia de trabajo en equipo (CT)	Teamwork competency (CT)
Sin relación	No relationship
Total	Total

Figure 3. *Contrast of competencies between the REDU model (2014) and the Algerian Arreté nº 932 du 28 juillet 2008.* Source: Own work.

The work of Javier Paricio (2018), allowed us to analyse a competency framework based on four levels of increasing professional quality:

1. LEVEL 1. *Minimum threshold. Teaching quality that must be guaranteed in any situation:* Sufficient disciplinary knowledge; clear and adequate objectives; consistent, transparent and fair evaluation systems; training activities well aligned with objectives and evaluation.

2. LEVEL 2. *"Good" teaching quality. Level that can be generalised as an institutional objective:* Good disciplinary knowledge and adequate educational training; active and collaborative learning methodologies; student motivation; good support and orientation; diverse, valid and reliable evaluation; good coordination with the rest of the teaching team.

3. LEVEL 3. *Excellence. Teaching as a professional priority / Achievement of high value learning experiences:* In-depth knowledge of the discipline and the factors that enhance

learning; approaches and activities with high levels of student involvement; enhances deep learning, autonomy and meta-cognition; student participation is an axis of their teaching; high intensity and quality evaluation of the training; regular participation in educational innovation processes and forums.

4.   LEVEL 4. *Exceptional leadership and recognition.* Teaching as research/significant contribution to the improvement of university teaching and higher education: leadership position, inside and outside the institution; participation in research projects and promotion of initiatives and forums; their educational experiences, publications and initiatives constitute a recognised reference; conceives his/her teaching as a space for research.

> The debate on good teaching in higher education continues with the reference to the "Marco de Desarrollo Académico Docente (MDAD)" (Framework for the Academic Development of Teaching) by Paricio, Fernández and Fernández (2019).

> From everything we studied, we conclude that designing university teacher training is a complex process that requires: having as a reference the competencies and sub-competencies; defining and developing a training needs analysis process and prioritising needs.

Objectives achieved
1. Clarification of concepts related to the term competency and competency models. 2. Contrasting of the Spanish and Algerian models

> Finally, and after the presentation of the different universities of Castilla y León, both in the design of their training plans: lines of action, design of training courses and logistics management of the process (training units).

Alfredo Corell presented a summary of the way in which the three Spanish universities, represented by experts, organise and manage their training and innovation plans, the processes they carry out, the structure of the units, structure of the plans, aids to innovation, etc. The elements that must be included in a training proposal and documents used by Spanish universities to specify them were also presented.

Objectives achieved
1. Presentation of a global and joint overview of the permanent training and innovation systems of the Castilla-León universities 2. Awareness of the need to establish stable units for the analysis of requirements, preparation of training and innovation plans and management of the processes involved

4.6. Evaluation

The last objective of this mission was the development of an instrument to evaluate how far participants were satisfied with its use both in this mission and in future ones. The complete instrument can be consulted in Annex I.

The instrument was structured in several blocks:

1. General aspects (organisation, facilities and resources).
2. Assessment of the work sessions (quality of the presentations, materials and content, availability of experts and usefulness of the training).
3. Overall individual assessment of each of the participating experts.
4. Possibility of transferring the knowledge achieved to their jobs.
5. Most positive aspects and aspects for improvement.

The assessment of the attendees was very positive, both in the quantitative questions and in the qualitative assessment, the only aspect that did not achieve a good score being the facilities and resources of the workspaces.
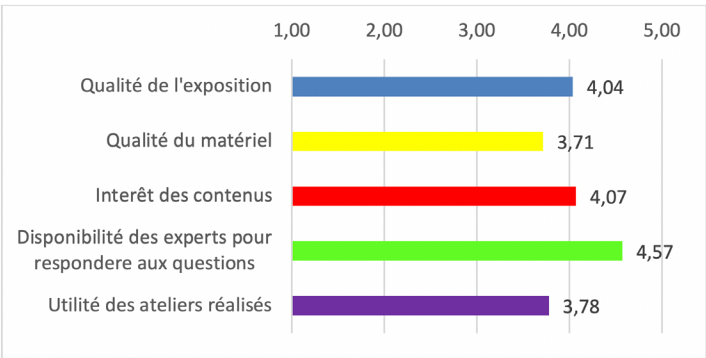
Graph 1. Average scores on *Satisfaction with work sessions*

Qualité de l'exposition	Quality of the presentation
Qualité du matériel	Quality of the material
Interêt des contenus	Usefulness of the content
Disponibilité des experts pour respondere aux questions	Availability of experts to answer questions
Utilité des ateliers réalisés	Usefulness of the workshops carried out

As can be seen in Figure 1, regarding the implementation of the work sessions, the scores obtained for "availability of experts", "contents" and "quality of presentation" stand out, with values above 4 being obtained in all cases. "Quality of material" and "usefulness of activities" obtained lower scores, but still high.

3.   CONCLUSIONS

The objective of this mission was to support Algerian universities and, specifically, their training units in establishing strategic lines for the training of their teaching staff, as well as in designing plans that respond to these strategies.

Therefore, an important aspect is the products, or learning outcomes, that were produced during the mission and which are described below.

Products/learning outcomes
1. Analysis of the training/innovation context in the three Algerian university districts.
2. Personal video on the aspects that most concern and enthuse Algerian professionals about the change in the educational model.
3. Group training course presentation videos: Eight working groups made promotional videos of a hypothetical training course. There was a presentation of the videos and a vote for the best one.
4. Fact sheet of a teacher training course, for the General Training Plan. Starting from the course selected for the previous activity, the teams developed the model fact sheet for this course.
5. First approach to a general teacher training plan in each work centre of the participants

In this mission, the first in this line, the meetings held with the Algerian leaders, especially Benbernou Amina, were also of special importance, allowing them to learn about the "train the trainers" system currently being developed in Algeria; contextualise the intervention through the description of the general characteristics of the Algerian university system as well as the type and characteristics of the people who would participate in the different work sessions; and establish the bases of collaboration and the general lines of the different actions to be developed.

However, during the implementation of the mission there were also some problems, mainly the following:

— Translation of expert documents: since the project did not have an interpreter/translator prior to this mission, prior translation of the documentation was absolutely impossible. Furthermore, with a single interpreter and given the frequency of missions, it will be difficult to get the documents in advance.

— There was no virtual platform available to share documentation with attendees until halfway through the mission. Then some parameters had to be readjusted to get better performance.

— The facilities in which the meetings were held were not the most appropriate: there were temperature problems (the air conditioning was not enough to counteract the heat at times); the room was not the most suitable for group work either.

— Finally, it would were a great help to have an internet connection (Wi-Fi) for the experts and those attending the sessions. This would have helped to collect information and tasks in a more agile and secure way.

In the final meetings held between the visiting experts and the Algerian officials, different solutions to the problems detected were proposed. Some of the specific issues were also addressed to facilitate the implementation of the next mission.

— In subsequent missions, other facilities outside the Ministry will be used, with better working conditions, air conditioning and internet connection.

— A new virtual campus will be launched with a more current and stable version of Moodle.

— Possible solutions to the issue of translations of previous documents are debated: FIIAPP contracts a translation services company, or alternatively reaches agreements with universities so that French translation students can do these tasks as part of their internships.

— In mission 2.2 from 2 to 7 November, a technology centre in Algiers will be visited to see the Moodle server facilities and video recording sets. Likewise, the group attending that week will be experts in computing, telecommunications and audiovisuals from the three university sectors.

4.   Bibliographical references

Delgado Benito, V. and Casado-Muñoz, R. (2014). Radiografía de la formación del profesorado en la Universidad de Burgos: evolución y análisis de planes y estrategias formativas. *Bordón. Revista de pedagogía*, 66 (2), 43-60.

Delgado Benito, V., Casado-Muñoz, R., and Lezcano Barbero, F. (2016). La formación permanente del profesorado universitario en el EEES: Un estudio en la Universidad de Burgos. *@tic. revista d'innovació educativa*, 17, 30-40.

Paricio, J., Fernández, A., & Fernández, I. (2019). *Cartografía de la buena docencia universitaria: Un marco para el desarrollo del profesorado basado en la investigación* (Vol. 52). Narcea Ediciones.

ANNEX I. SATISFACTION SURVEY

Twinning project

"Support to the Ministry of Higher Education and Scientific Research for the reinforcement of the pedagogical skills of the teachers-researchers and the governance capacities of the managers"

Component: _____ activity:_____ date of the mission:_____

In relation to the activities that have been carried out in the framework of this mission, please evaluate the following aspects. Please rate from 1 to 5, taking into account that 1 is the lowest score and 5 the highest.

General aspects	1	2	3	4	5
Organisation (timetable, calendar, communication, etc.)					
Facilities and resources					

Work sessions	1	2	3	4	5
Quality of the exhibition					
Quality of the material					
Usefulness of the content					
Availability of experts to answer questions					
Usefulness of the workshops carried out					

	Name of the expert	1	2	3	4	5
General assessment of expert 1:						
General assessment of expert 2:						
General assessment of expert 3:						
General assessment of expert 4:						
Possibility of transfer		1	2	3	4	5
Assess your ability to deliver this content in your environment						
Briefly explain why:						

Most notable aspect of the assignment (maximum 3):

—

—

—

Suggestions for improvement (maximum 3):

—

—

—

ANNEX 2. SEMI-ANNUAL WORK FOR ATTENDEES

The experts have committed to:

— open a forum to answer questions from the participants
— make a video conference in the next two months to clarify doubts live
— review their proposals and endorse them from the Castilla y León teacher training team

The ministry has committed:

— To acknowledge (certify) participation in the training units that are set up in each centre (beyond the person in charge who is certified for participation in the mission)
— Certify the trainers of the training courses that are taught at least in this pilot test

Summary of the task for the semester:

Conception de cours de formation	Design of training courses
Travail de semestre	Term paper
En vuestro centro de trabajo organizar un equipo que proponga un plan de formación general (4-5 personas):	In your workplace, organise a team that proposes a general training plan (4-5 people):
Detectar las Necesidades Definir los ejes (al menos 4) Pensad un curso en cada eje Buscad formador y generar la propuesta de curso (con los elementos mínimos) Colgadlo en una web de la institución	Detect Needs Define the axes (at least 4) Think of a course on each axis Seek a trainer and generate the course proposal (with the minimum elements) Post it on a website of the institution

Las propuestas serán analizadas por el quipo de formación de Castilla y León y "visarán".	The proposals will be analysed by the Castilla y León training team and will be "approved".
Todos los participantes en la organización de cada centro obtendrán un certificado	All participants in the organisation of each centre will obtain a certificate
En el segundo semestre del proyecto, se realizarán los cursos ofertados en cada centro	In the second semester of the project, the courses offered in each centre will be held

Logistique du processus	Process logistics
Detectar necesidades de formación	Detect training needs
Diseñar el plan general: Ejes de actuación Cursos	Design the general plan: Lines of action Courses
Diseñar cursos: Ficha de curso	Design courses: Course sheet
Publicación de la convocatoria y programas de los cursos	Publication of the call and course programmes
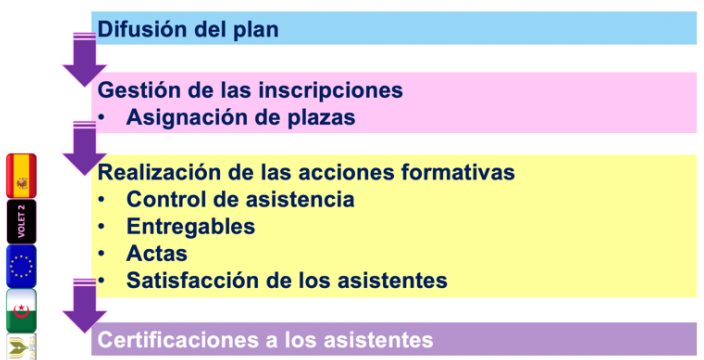
Difusión del plan	Dissemination of the plan
Gestión de las inscripciones: Asignación de plazas	Registration management: Assignment of places
Realización de las acciones formativas: Control de asistencia Entregables Actas Satisfacción de los asistentes	Carrying out of training actions: Checking of attendance Deliverables Documents Participant satisfaction
Certificaciones a los asistentes	Certifications to participants

Conception de cours de formation	Design of training courses
Éléments minimaux de la proposition	Minimum elements of the proposal
Intitulé du cours	Title of the course
Nom et coordonnées du formateur	Name and contact details of trainer
Données organisationnelles de la formation:	Organisational data of the course:
Durée (heures) Dates Scalle de classe Modalité: en ligne, presencial Lieux offerts et public	Duration (hours) Dates Classroom Modality: online, in-person Places offered and audience
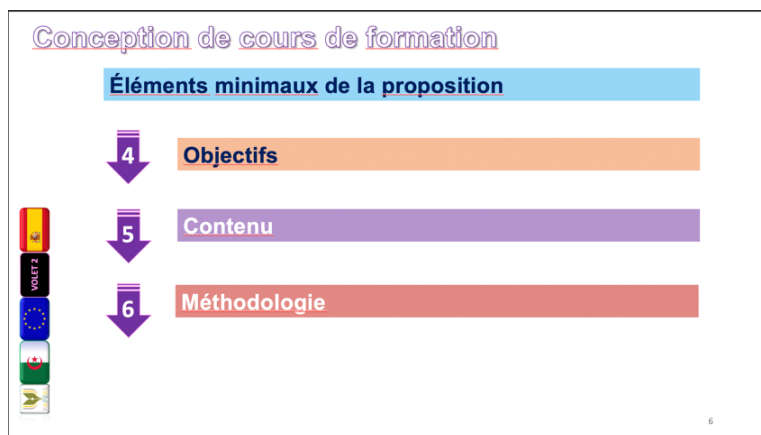
Conception de cours de formation	Design of training courses
Éléments minimaux de la proposition	Minimum elements of the proposal
Objectifs	Objectives
Contenu	Content
Méthodologie	Methodology

Support for specific training plans in the algerian university system: new teachers and online teaching

Mercedes López-Aguado

University of León (Spain)

mmlopa@unileon.es

Francisco Javier Hoyuelos Álvaro

University of Burgos (Spain)

fjha@ubu.es

Francisco José García-Peñalvo

University of Salamanca (Spain)

fgarcia@usal.es

1. Introduction

The execution of the Twinning Proposal between the Regional Ministry of Education of Castilla y León (Spain) and the Ministry of Higher Education and Scientific Research (MESRS) of the People's Democratic Republic of Algeria, has as its main objectives to support the Algerian Ministry in the development of three major components or lines of work.

In the first place, in the design of the methodology for the creation of new training offers, for Bachelor's and Master's degrees and PhDs, based on the methodology for the development of the training offer adopted within the framework of the "PAPS-ESRS" (Support Programme for the Sector Policy for Higher Education and Scientific Research).

Secondly, in the development of the necessary methodology to accompany the implementation of these teachings through the promotion and development of new pedagogical practices and a conception of the change through the training of teachers and the promotion of innovation in teaching.

And, thirdly, support for pedagogical governance and didactic management aimed at school managers, administrators, training teams and heads of Pedagogical Committees of Algerian Universities.

This document describes one of the actions carried out within the second line, which is called *méthode d'ingénierie pédagogique renforcée par l'accompagnement des enseignants dans le développement de leur pratique pédagogique et la conception du changement* (A pedagogical engineering method reinforced by support for teachers in the development

of their pedagogical practice and the design of change), the main objective of which is to support the process of designing actions aimed at the professional development of Algerian teachers/researchers.

This line is developed around eight activities that cover all facets of both the organisation and design of training plans and the specific training actions necessary for the comprehensive professional development of Algerian teachers.

Structure of a training unit and design of teacher training plans.

Implementation of hubs for online teaching in Algeria (at least three hubs) -infrastructure for online teaching and training programmes for teachers.

— Teacher training in teaching methodologies.
— Teacher training in teaching technologies.
— Teacher training in personal and social development.
— Teacher training in research skills.
— Teacher training in internationalisation.
— Courses on demand for university centres.

This chapter describes one of the actions framed in supporting the development of training units for teacher professional development. It involves the continuity of work for the design of general training plans, establishing the bases for the design of two **specific** training plans: the training plan for online teaching and the training plan for new teachers.

The expected products of this action are:

— Establishment of inter-university coordination systems through the creation of inter-university groups that promote collaborative work and the optimisation of time and resources.
— Progress made in the design of general teacher training plans.
— Initial design of specific training plans: new teachers and online teaching.
— Training of trainers for:
    ⋆ New teacher training.
    ⋆ Teacher training for online teaching.

The rest of the chapter is organised as follows: Section 2 explains the work methodology; Section 3 presents four good practices related to the training of new teachers, the strategic vision of online teaching and the training of teachers to face the challenge of changing or adapting their teaching paradigm to the virtual context.

2. METHODOLOGY

The work methodology used was based on the following elements:

1. Ensuring that the learning process enabled the training recipients to become trainers of trainers.

2. Experts Dr Mercedes López Aguado, Dr Francisco Javier Hoyuelos Álvaro and Dr Francisco José García-Peñalvo made presentations related to the models and specific training plans for new teachers and for online teaching in Castilla-León universities:

— Online training models.

— The training plans for newly hired teachers at the universities of Burgos and Salamanca.

— The model of common referents for Castilla y León of non-face-to-face official degrees.

— Examples of online teaching in undergraduate degrees at the University of Burgos.

— Examples of online teaching in Master's degrees at the University of Salamanca.

— The skills that teachers of online subjects must have.

— The skills that new teachers must have.

— A model for teacher training plans for online teaching.

— The advantages of inter-university coordination.

3. Collaborative workshops were also held to reflect on and further explore the following aspects:

— Promotion of the construction of the general training plan and the specific one for online teaching.

— Possibilities for inter-university collaboration and the generation of stable work groups for cooperation and exchange of resources.

— Analysis of the necessary skills of teachers who will teach online.

— Proposal of training axes for online teaching.

— Instructional design of an online meta subject.

— A model for the New Teacher Training Plan. The training competencies of Order No. 932 of 28 July 2016 of the People's Democratic Republic of Algeria "Establishing the pedagogical support conditions for newly hired teacher-researchers" (with those proposed by the state university teaching network RED-U). The training plan for new teachers at the universities of Burgos and Salamanca was presented.

The methodologies used were the following:

— Master presentations: Through specific talks, the most significant aspects of the models for online teaching were addressed, as well as the changes of skills that they entail for the teaching staff and therefore the need to include specific training for online teaching in the general permanent training plans.

— Workshops: Various training workshops were held to put into practice some of the aspects discussed and to make progress in the development of the general training plan which each of them has to develop in their workplace in the coming months.

The keynote presentations made it possible to share with attendees the organisational models of the universities of Castilla y Léon and activities relating to the training of new teachers and training for online teaching.

Another action carried out was to promote the creation of inter-university work groups oriented towards collaborative work and the optimisation of time and resources.

The workshops held and the objectives achieved are listed in chronological order in Table 1.

Workshop	Objectives achieved
Workshop 0: Summary of assigned task, development of a training plan	— Determine the degree of progress of the proposals
Workshop 0-1: Analysis of the possibility of inter-university collaboration	— Determine the Permanent Training Plans that the participants are designing and their level of development — Establish groups to develop inter-university collaboration procedures — Determine the resources that each University is developing in order to establish channels of collaboration and re-use of resources and materials
Workshop 1: Inter-university cooperation on teacher training	— Raise awareness about the need for the various universities to work in a coordinated way — Specify the possibilities for collaboration and the resources that are already available in the various Universities
Workshop 1-1: Analysis of the skills of the online teacher by reference to Order 932	— Describe the skill profile of the online trainer — Establish the axes along which the specific training plans should be developed
Workshop 2: Instructional design of an online meta-course	
Workshop 2-1: Presentation of the instructional designs carried out	— Establish the structure of an online course — Relate and describe the basic elements for an online course
Workshop 3: Viewing of the videos produced	— Strengthen the motivation for the establishment of stable Algerian inter-university cooperation groups — Present the work carried out by the various Algerian universities — Increase inter-university transfer and collaboration — Generate embryonic inter-university training units
Workshop 4-1: Two activities were proposed with the help of QR codes to answer a series of questions. After answering them they were shown how the answers are stored in Excel documents, which avoids having to transcribe the answers. These activities were carried out using the Windows Forms application	

Table 1. List of Workshops and objectives achieved.

3. GOOD PRACTICES

3.1. Training model for new teachers at the University of Burgos (UBU)

Teresa Pagès (2014) coordinated a study in which 15 Spanish universities participated, for the State Network of University Teaching (RED-U), concluding that universities should ensure that teachers, especially new ones, have training that focuses on the teaching model of their university.

Casado and Delgado (2011) point out that a large proportion of new teachers do not have sufficient didactic training to teach their subjects, which generates feelings of insecurity, although they are highly motivated in their teaching careers.

The University of Burgos has been developing the Specific Training Programme for New Teachers (PFPN) since 2009, aimed at teachers hired in the last five years and scholarship holders with assigned teaching support tasks (Universidad de Burgos, 2015a).

Each new teacher chooses a mentor to monitor his or her progress. In the work carried out by Saz Roy *et al.* (2016) most new teachers see the mentor as a point of support and guide.

The requirements for being a mentor at UBU are:

— to be a full-time teacher;
— to belong to a innovation in teaching Group;
— to have obtained an "outstanding" or "very outstanding" grade under Docentia.

The Mentor is given recognition in the evaluation of his or her teaching within the Docentia Programme, and for each year of participation also has a reduction of 0.5 ECTS credits.

The contents of the New Teacher Training Plan (PFPN) are divided into the following blocks:

1. Being a teacher at the University of Burgos.
2. Teaching in the current university context.
3. Information and communication technologies.
4. Research.
5. Promotion of teachers' health.

With several thematic units in each of them.

To obtain the Initial Training Certificate in University Teaching, new teachers need to complete a total of 75 hours of training and present an innovation in teaching project with the work developed as a final report, which is evaluated by his/her mentor and two members of the Teacher Training Committee, applying the practical guide prepared for this (Sáiz *et al.*, 2015). Hoyuelos, Cámara and Sáiz (2017) point out that since the introduction of the practical guide to evaluating the report presented by new teachers, the grades obtained by the reports have been homogenised and do not depend on the evaluator.

A total of 130 applications have been received, with 56 of the applicants being given PFPN certification, as shown in Table 2.

In the other universities of Castilla y León, a training programme is also being developed for new teachers, sharing the spirit and main lines of design of that presented by the University of Burgos.

Order No. 932 of 28 July 28 2016 of the (Ministère de l'enseignement supérieur et de la recherche scientifique d'Algérie, 2016), established the conditions of pedagogical support for newly hired teacher-researchers in Algerian Universities. In which a framework of skills is proposed for university teaching staff and an adaptation of the training plans according to the twelve teaching skills established. Many of these skills are proposed in Spain by the State Network of University Teaching (RED-U) (Pagès, 2014).

Academic year	Applications admitted	Certificates issued
2009/10[1]	47	27[1]
2010/11[1]	4	
2011/12[1]	20	
2013/14[2]	8	4
2014/15[2]	8	7
2015/16[2]	6	6
2016/17[2]	9	4
2017/18[2]	4	1
2018/19[2]	10	7
2019/20[2]	6	They will be evaluated in the 2021/22 academic year
2020/21[2]	8	They will be evaluated in the 2022/23 academic year

[1] Initial training programme for new teachers-March 2009.
[2] New teacher training plan (PFPN) - December 2012.
[3] Two of them come from the previous plan.

Table 2. List of applications admitted by academic year and PFPN certificates issued.

3.2.   Online learning model of the University of Salamanca

In the context of the PAPERS twinning project, a presentation was made of the University of Salamanca's online learning model, which is based on the eLearning reference model in face-to-face universities (García-Peñalvo, 2020, 2021a) and takes as its

starting point the unstoppable digital transformation of higher education institutions (Cabero-Almenara & Llorente-Cejudo, 2020; García-Peñalvo, 2021b) which if anything has been further intensified and accelerated by the COVID-19 pandemic (García-Peñalvo & Corell, 2020).

The digital transformation implies a series of profound and coordinated changes in culture, staff and technology that allow new educational and operational models in order to transform the operations, strategic directions and the value proposition of an institution (Grajek & Reinitz, 2019).

A model for non-face-to-face or online (including blended) teaching, will make sense only if it is based on the strategic perspective of the educational institution and is congruent with its mission and vision.

From this starting point the next step will be to install the necessary ethical and service pillars and those of the technological infrastructure and the pedagogical model (see Figure 1).
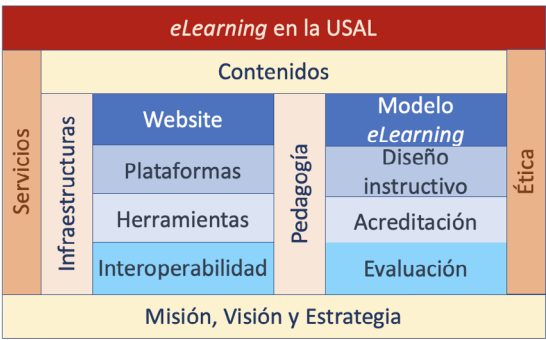
Figure 1. Pillars of the remote training model of the University of Salamanca (USAL).

eLearning en la USAL	eLearning at USAL
Contenidos	Contents
Servicios	Services
Infraestructuras	Infrastructure
Website	Website
Plataformas	Platforms
Herramientas	Tools
Interoperabilidad	Inter-operability
Pedagogía	Pedagogy
Modalidad eLearning	ELearning mode

eLearning en la USAL	eLearning at USAL
Diseño instructivo	Instructional Design
Acreditación	Accreditation
Evaluación	Evaluation
Ética	Ethics
Misión, Visión y Estrategia	Mission, Vision and Strategy

On this basis, a layered model is proposed (Buschmann *et al.*, 1996) which is represented in Figure 2.

Figure 2. Structure of the reference model for online education. Source: (García-Peñalvo, 2021a).

Política y estrategia	Policy and strategy
Identidad y comunicación	Identity and communication
Ética, privacidad y seguridad	Ethics, privacy and security
Adaptación de los servicios académicos	Adaptation of academic services
Modelo educativo	Educational model
Contenidos	Contents
Infraestructura	Infrastructure

To apply an online education strategy, it is necessary to have a technological infrastructure wit three dimensions: management and governance, physical infrastructure and logical infrastructure (Piattini Velthuis & Mengual Pavón, 2008).

The physical infrastructure to support online teaching must cover the various needs of connectivity, servers, storage space, audiovisual content production, etc.

The logical infrastructure must be directed to defining the university ecosystem (García-Peñalvo, 2018) so as to maximise inter-operability, evolution of the ecosystem software components and the user experience of the people who are also part of this ecosystem (García-Holgado & García-Peñalvo, 2018).

Contents must be given special consideration since, together with the pedagogical guidelines, they will be the key to the development of the instruction. In an online education programme, contents by themselves do not guarantee the quality of the training process, but they are nonetheless very important. Ensuring institutional contents that have a periodic update programme is one of the key points for universities, as well as being a risk factor due to the obsolescence of content due to poor management of the creation and update flow.

The layer dedicated to the educational model is where the delivery of the training actions is designed. Together with the contents, services and technology, it is the key element for sustaining the quality of an online offer. There must be a close connection with the institutional strategy on online education, to mark the degrees of freedom that teachers will have and the configuration of student groups, which will be directly related to the number of teachers necessary to preserve the quality of teaching, based on ensuring interaction among participants, in the face of the effect of massification, which, on the other hand, may be desirable in other online course formats, such as MOOCs (*Large-Scale Open Online Courses*) (García Aretio, 2017).

The academic services of the universities must adapt to the reality of the non-face-to-face academic offer because the services cannot be duplicated so as to attend to both face-to-face and non-face-to-face courses in a differentiated way. Thus, among others, regulations and workflows must be modified for the verification of degrees, enrolment, quality evaluation, online classroom reservation, online practices, examination regulations, regulations for the defence of end-of-course projects or theses, information to students, privacy regulations, etc.

The layer of ethical aspects and the guarantee of privacy and security is the institution'sguarantee against abusive practices and lack of transparency in the management of personal data of all those involved in the teaching/learning process.

Confidentiality and respect for the privacy of individuals must prevail over any other criteria in non-face-to-face education. In this area, institutional regulation must be based on the existing legal framework, such as the General Data Protection Regulation (GDPR) (European Parliament & Council of the European Union, 2016).

The purpose of the identity and communication layer is to define a brand that identifies this training offer within a more powerful brand which is the name of the physical university. It is a matter of making best use of the competitive advantage of having a physical university whose name will already be positioned in the higher education sector, but which must be given specific weight in the online education sector.

Finally, the adoption of an online education model requires a commitment from the University as a whole, starting with its governance team. Therefore, the definition of a strategy on non-face-to-face education (both online and blended) in a public university must be an institutional project, not an isolated or personal project, and must be reflected explicitly, not merely in passing, in the institutional strategic plan. This strategy must be aligned with the global policy on the digital transformation of the institution, because several administrative procedures will be affected by the launch of online degrees. Accordingly, the institutional strategy must be aligned with any other existing strategy in this field in the Administration with powers in Education and with the existing higher order regulations.

From an internal perspective, the strategy to be defined with respect to online education must be of the "win-win" type, in which all the actors involved (teachers, students and service personnel) win and the university wins. In this regard, recognition of online teaching work must be fully covered and encouraged if the initial resistance to the acceptance of a new paradigm for a significant part of the teaching staff is to be overcome.

This strategy must be based on a set of technological incentives and facilitators (technological ecosystem designed to maximise the user experience, useful and easily accessible tools and services for all participants, etc.), methodological (promotion of mass courses, use of the flipped classroom, etc.) and university policy (recognition in the template model, staff reinforcement, both for professors and technicians, indirect incentives in the form of internationalisation, innovation projects, teaching publications, etc.).

As a final recommendation, the university's governing council has the responsibility of making sure this strategy reaches all members of the university community, permeating and involving all the vice-chancellors and affected services in defining an ecosystem of university services for online education.

3.3.   Online learning model of the University of Burgos

A strategic line of the University of Burgos is the delivery of official Bachelor's degrees in online mode. To begin teaching, in September 2014, the first four online degree courses programmed by the University of Burgos, a training plan in eLearning methodology, was designed and implemented, entitled "Teaching in the 21st century: Strategies for online teaching", composed of three modules: the first one Methodological, with three training courses and taught by professors of the Open University of Catalonia (UOC), the second Technological, with 11 courses, and thirdly a Training Day on Intellectual property.

The Virtual Teaching Training Plan (PFEV) (Universidad de Burgos, 2015b) was approved by the Governing Council of the University of Burgos on 20 February 2015. The PFEV offers Teaching and Research Staff a general qualification in online training, in all aspects ranging from the use of technology itself, through training planning, teaching action, content creation and evaluation. In addition, this plan must also serve to meet the specific needs of teachers, which differ according to their level of initial qualification in the subject, the area of knowledge, the different didactic methodologies applicable in their corresponding subjects, etc.

The general objective is to provide comprehensive training in the professional field of eLearning, so that teachers and researchers are in a position to efficiently undertake the process of "virtualising" their subjects.

The specific objectives are:

— Train in the use of the main technological tools and solutions, both present in the virtual campus and outside of it, so that teachers can shape their own technological environment for their training actions.

— Provide specific and practical training on the different aspects involved in teaching or tutoring in virtual environments.

— Stimulate the creation of quality digital content for educational use by learning different tools and technological solutions, as well as strategies for the correct development of said content.

— Stimulate the ability to search for quality digital content already prepared for educational use.

— Provide indications and strategies for a correct design of training actions, as well as their evaluation.

The PFEV is structured in five modules, as can be seen in Table 3:

— Module 0. Transition to online teaching.
— Module 1. Technology.
— Module 2. Content creation.
— Module 3. Teaching action.
— Module 4. Training design and evaluation.
— Module 5: Digital identity and intellectual property.

The complete PFEV programme consists of 310 hours of training and is grouped into a set of training actions of different types, such as:

Short face-to-face courses for each degree lasting 2 hours, with additional autonomous work of about 20 hours.

Face-to-face training actions on UBUVirtual (*Moodle* platform), taught by UBU trainers.

Online training actions, through the use of the virtual space of the UBU, with a duration of two weeks each, 30 hours of work estimated online.

Teachers can take the courses in any order they wish, except in some cases where it is essential to have taken "UBUVirtual: Tools A" before UBUVirtual: Tools B" and in others where it is advisable to take a certain course before any other of those belonging to that module.

Table 4 shows the number of training actions carried out by the PFEV and the total number of training hours throughout the different academic courses of the plan.

Despite the stable and permanent nature of the PFEV, due to the exceptional situation caused by the COVID-19 pandemic, the Institute for Training and Educational Innovation (IFIE) of the UBU organised several courses and digital seminars so that teachers could adapt their face-to-face courses to an emergency online format, these courses being integrated into the PFEV. Specifically, five digital seminars were established, with 21 webinars in total, the objective of which was to help teachers in the management of essential tools for this teaching model. Some of the webinars were very well received and were the PFEV actions most in demand in the 2019-2020 academic year.

	Module 0	Module 1	Module 2	Module 3	Module 4
A	M0. Five Short Face-to-Face Courses	M1A UBUVirtual: Tools A	M2A Creation of educational digital content	M3A Concept of eLearning and introduction to the work of the virtual teacher	M4A Design and management of training actions
B		M1B UBUVirtual: Tools B	Basic skills to create didactic still and moving image documents in online teaching	M3B Efficient use of the tools available to the virtual teacher	M4B eActivities for skills development
C		M1C Google Tools in educational contexts		M3C Strategies and dynamics of communication and interaction in virtual contexts	M4C Evaluation and quality management in eLearning
D		M1D Social media and education			M4D Qualifications at UBUVirtual
E		M1E Blogging and educational microblogging			

Module 0	Module 1	Module 2	Module 3	Module 4
Module 5: Intellectual Property at the University The university professor of the 21st century: Teaching Identity in Teaching				
Training Day on Online Teaching based on experience in official UBU degrees				

Table 3. Structure of the Training Plan for Virtual Teaching. In columns, the modules that make up the plan are shown, labelled as M0, M1, M2, M3, M4 and M5. In rows, the training actions of each module, labelled with the letters A, B, C, D, E.

Academic year	No. of training actions	Total hours offered
2014-2015	9	168
2015-2016	10	136.5
2016-2017	14	190
2017-2018	18	173
2018-2019	7	95
2019-2020	39	143.5
2020-2021	12	79

Table 4. Evolution of the number of training actions offered within the PFEV per academic year.

The data for the 2020-2021 academic year were extracted on 4 June 2021.

In conclusion, 86% of the UBU teaching and research staff have carried out at least one PFEV activity.

3.4.   Recommendations for the design of online teaching

The public universities of Castilla y León collaborate on Training and Innovation through the Work Group for Teacher Training and Innovation in Teaching (FIUniCyL). There are many aspects that have been worked on during the more than 10 years of life of this group, such as the exchange in the field of University teacher training, or in different aspects related to innovation in teaching.

During the years 2018 and 2019, this group made a special effort to coordinate online teaching, which has crystallised in the preparation of different documents. Among them, a guide to basic concepts for non-face-to-face (blended or online) teaching, defined by a flexible interaction between teachers and students (FIUniCyL, 2019). Some of the most salient elements of this document are described below:

University teaching can take place in three different modes (Ministerio de Universidades, 2021):

1. Face-to-face teaching: the interaction between the teacher and the student requires the physical presence of both in a certain place and at the same time.

2. Blended teaching: combines face-to-face and online methodologies, the latter assuming between 40% and 60% of the total credit load of the degree.

3. Virtual teaching: the virtual teaching methodology applied to the curriculum of an official Bachelor's or Master's degree consists of the articulation of the teaching activity through academic interaction between the teaching staff and the student body without requiring their physical presence. This mode of university education is characterised fundamentally by being based on the intensive use of digital information and communication technologies. In terms of credit load, a Bachelor's or Master's degree may be defined as taught in virtual mode when at least 80% of the academic credits (ECTS) of which it is composed are taught in virtual mode.

The basic elements that must be designed to define suitable virtual environments are described in Figure 3.

Figure 3. Essential elements for the definition of virtual learning environments.

Elementos para definir entornos virtuales adecuados	Elements to define suitable virtual environments
Guía docente de la asignatura	Teaching guide of the subject/course
Estructura y Cronograma de trabajo	Structure and work schedule
Materiales de estudio/aprendizaje	Study/learning materials
Mecanismos para la realización de tutorías	Mechanisms for conducting tutorials
Actividades de adquisición de competencias	Skills acquisition activities
Criterios de evaluación de actividades	Activity evaluation criteria and, where
y, en su caso, pruebas de evaluación	appropriate, evaluation tests

The basic element for the design and organisation of any subject is, as in the case of face-to-face teaching, the Teaching Guide. In this organisational resource the objectives, the skills, the contents, the schedule of learning activities (tasks), the tutoring tools and

the procedures, criteria and standards for evaluating the skills, as well as the documentary sources, are set out. It is highly recommended to accompany this guide with a Student Manual, which will develop or expand it.

In the case of non-face-to-face teaching, it is also especially important that the work structure, as well as the schedule for carrying out the different learning tasks, readings, viewing of videos, deliverables, tests, etc., be clearly defined and identified with precision from the start.

One of the essential aspects of non-face-to-face teaching is the creation of appropriate learning content. The most recommended are, for example, Knowledge Pills (educational material in video format preferably of short duration), external resources (hyperlinks), learning and/or evaluation activities with deliverable products, self-assessment activities, and textual content materials (hypermedia and with extension links), which may include —where appropriate— the script of the knowledge pills. The compilation of all the textual content materials of a certain subject, with the addition of an index and a cover, constitute the so-called Student Manual.

The mechanisms for conducting tutorials must also be clearly defined. In these learning ecosystems it is essential to have one or more forums in which students can raise questions about the subject and of course they can make inquiries through private messaging.

Recommendations regarding the design of learning activities for non-face-to-face teaching are described in Figure 4.
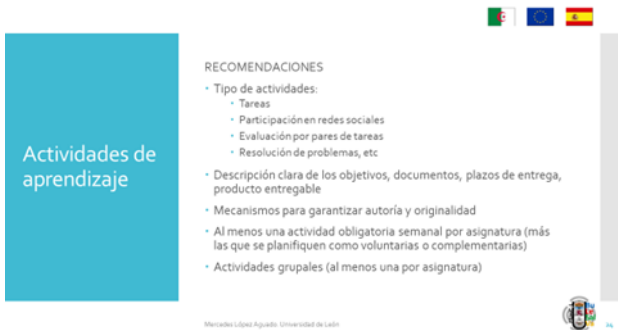
Actividades de aprendizaje	Learning activities
RECOMENDACIONES	RECOMMENDATIONS
Tipo de actividades:	Type of activity:
Tareas Participación por pares de tareas Resolución de problemas, etc	Tasks Participation by pairs of tasks Troubleshooting, etc.

Actividades de aprendizaje	Learning activities
Descripción clara de los objetivos, documentos, plazos de entrega, producto entregable	Clear description of objectives, documents, deadlines, deliverable product
Mecanismos para garantizar autoría y originalidad	Mechanisms to ensure authorship and originality
Al menos una actividad obligatoria semanal por asignatura (más las que se planifiquen como voluntarias o complementarias)	At least one compulsory weekly activity per subject (plus those planned as voluntary or complementary)
Actividades grupales (al menos una por asignatura)	Group activities (at least one per subject)

Figure 4. Recommendations for the design of learning activities.

Finally, it is essential to clearly establish all aspects related to the evaluation (Abella García *et al.*, 2020; García-Peñalvo *et al.*, 2020):

— Mode (continuous/final, self-evaluation/peer evaluation/hetero-evaluation, etc.).
— Products to be evaluated (written tests, essays, projects, exercises, problems, etc.).
— Evaluation criteria and standards.
— Assessment instruments to be used (check lists, guides, scales, practical guides, etc.)
— Qualification system, weight of each element in the final qualification.
— Tools to be used to detect plagiarism and its consequences.

4. Conclusions

Activity 2.1 "Structure of a training unit and design of training plans for teachers" falls within Phase 2 "Adoption of a pedagogical engineering method reinforced by the accompaniment of teachers in their pedagogical practice and their conception of the change" of the twinning project "Support for the Ministry of Higher Education and Scientific Research in strengthening the pedagogical skills of teachers-researchers and governance capacities of administrators (PAPERS)" between the Ministry of Higher Education and Scientific Research of Algeria and the Ministry of Education of the Regional Government of Castilla y León, Spain; activity that was carried out by experts Dr. Mercedes López Aguado, Dr Francisco Javier Hoyuelos Álvaro and Dr Francisco José García-Peñalvo.

In this mission, it was sought to share good practices in the training of university teachers, with a special emphasis on the remote mode, which were developed in the Public Universities of the Autonomous Region of Castilla y León in Spain, as well as to carry out a set of practical workshops with Algerian university teachers to facilitate the adoption and transformation of the practices presented to the situation in Algeria.

Specifically, in the good practices section the following were shared:

— Analysis of the online teaching model in Castilla y León.

— Analysis of the specific training plans in Castilla y León with respect to newly hired teachers and for online teaching.

— Comparison of the training plans for new Algerian and Spanish teachers.

— Analysis of teaching skills related to online training.

— Of the workshops developed with Algerian university professors, we wish to highlight:

— Creation of a group video on the possibilities of inter-university collaboration in training matters.

— Creation of a group video about the materials and resources that have already been prepared by the various universities and that could be shared.

— Determination of the axes to be developed by training for online teaching.

— Realisation of an instructional design of an online meta subject.

To close this activity, analysis and prospective meetings were held in the Ministry of Higher Education and Scientific Research, most notably with the participation of the Director General of International Cooperation of the Ministry, Mr Arezki Saidani.

From the conversations held, the strategic objective of the Ministry of transforming Algerian universities with the 2030 horizon stands out. This has to be based on a profound digital transformation (García-Peñalvo, 2021c), with a perfectly defined roadmap (García-Peñalvo, 2021c), especially at the teaching level to incorporate distance education (Crisol-Moya *et al.*, 2020) and thus be able to face an expected increase in university students, which would exceed three million by that date.

The Ministry perceives the need to make progress in substantially improving technological infrastructures and, above all, those related to network communications. A second aspect to take into account is the development of digital educational content to cover the offer of online degrees. The third axis is made up of the human resources necessary to handle this training offer. Primarily, a transversal legal framework is required that grants the same validity to face-to-face degrees and to online degrees. Secondly, continuous training plans for teachers to be able to meet the specific requirements of online teaching, which are complementary to those demanded by face-to-face teaching and which must take into account the reference documents of the Ministry based on the skills that every teacher must develop.

From the perspective of the experts, the need to define said strategy and the roadmap on a quality assurance system for the qualifications, both in person and online, was emphasised in order to further the equivalent consideration of both. In addition, the importance of the human factor was highlighted, that is, the teaching staff, who must have their commitment to this teaching methodology recognised and have at their disposal both the best possible technical support and training plans that are adapted to

the evolution of learning technologies. Technology and the professional development of teachers are two aspects that must be developed in parallel, because technology without people is useless and people without the appropriate technological means will not be able to develop any established online education strategy.

Regarding the human factor, much emphasis was placed on the need for innovation groups to be formed within universities, and also inter-university, to lead this transformation. These groups must lead Algerian university teachers to empower online education in the country. These groups may be accompanied by international experts, the twinning project and other universities, to jointly advance in achieving the objectives set in the ministerial strategy for online education.

The entire quality assurance process must be consistent with international guidelines that support open knowledge in content development and respect for an ethical framework that includes all actors in the process.

With the perspective of the passage of time and when contemplating the work carried out and the results obtained, the team of experts considers that the objectives initially set were achieved, with special emphasis on having promoted inter-university cooperative work and involving the political and decision-making level. of decisions in order to optimise time and resources. In addition, steps were taken to advance in the definition of teacher training plans for Algerian universities, with specificities for the particular cases of new teachers and digital skills to tackle online teaching, focusing on the need for "train the trainers" programmes.

5. REFERENCES

ABELLA GARCÍA, V., GRANDE DE PRADO, M., GARCÍA-PEÑALVO, F. J., & CORELL, A. (2020). *Guía de recomendaciones para la evaluación online en las Universidades Públicas de Castilla y León. Versión 1.1*. Universidad de Burgos, Universidad de León, Universidad de Salamanca y Universidad de Valladolid. https://bit.ly/2SqTtR2

BUSCHMANN, F., MEUNIER, R., ROHNERT, H., SOMMERLAD, P., & STAL, M. (1996). *Pattern-oriented software architecture. A system of patterns. Volume 1*. John Wiley & Sons.

CABERO-ALMENARA, J., & LLORENTE-CEJUDO, C. (2020). Covid-19: radical transformation of digitization in university institutions. *Campus Virtuales*, 9(2), 25-34.

CASADO, R., & DELGADO, V. (2011). Los primeros pasos en la docencia universitaria. Formación inicial del profesorado novel en la Universidad de Burgos. In P. Membiela Iglesias, N. Casado, & M. I. Cebreiros (Eds.), *La formación y las nuevas tecnologías en la docencia universitaria* (pp. 427–431). Educación Editora.

CRISOL-MOYA, E., HERRERA-NIEVES, L., & MONTES-SOLDADO, R. (2020). Educación virtual para todos: una revisión sistemática. *Education in the Knowledge Society, 21*, Article 15. https://doi.org/10.14201/eks.20327

EUROPEAN PARLIAMENT, & COUNCIL OF THE EUROPEAN UNION. (2016). *Regulation*

(EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (Text with EEA relevance). https://bit.ly/2O2juE9

FIUniCyL. (2019). *Mini-Guía de conceptos básicos para el diseño de Titulaciones Oficiales no Presenciales de las Universidades Públicas de Castilla y León*. Grupo de trabajo de Formación del Profesorado e Innovación Docente de las Universidades Públicas de Castilla y León.

García Aretio, L. (2017). Los MOOC están muy vivos. Respuestas a algunas preguntas. *RIED. Revista Iberoamericana de Educación a Distancia, 20*(1), 9-27. https://doi.org/10.5944/ried.20.1.17488

García-Holgado, A., & García-Peñalvo, F. J. (2018). Human interaction in learning ecosystems based on open source solutions. In P. Zaphiris & A. Ioannou (Eds.), *Learning and Collaboration Technologies. Design, Development and Technological Innovation. 5th International Conference, LCT 2018, Held as Part of HCI International 2018, Las Vegas, NV, USA, July 15-20, 2018, Proceedings, Part I* (pp. 218-232). Springer. https://doi.org/10.1007/978-3-319-91743-6_17

García-Peñalvo, F. J. (2018). Ecosistemas tecnológicos universitarios. In J. Gómez (Ed.), *UNIVERSITIC 2017. Análisis de las TIC en las Universidades Españolas* (pp. 164-170). Crue Universidades Españolas.

— (2020). Modelo de referencia para la enseñanza no presencial en universidades presenciales. *Campus Virtuales, 9*(1), 41-56.

— (2021a). Avoiding the Dark Side of Digital Transformation in Teaching. An Institutional Reference Framework for eLearning in Higher Education. *Sustainability, 13*(4), Article 2023. https://doi.org/10.3390/su13042023

— (2021b). Digital Transformation in the Universities: Implications of the COVID-19 Pandemic. *Education in the Knowledge Society, 22*, Article e25465. https://doi.org/10.14201/eks.25465

— (2021c). *La transformación digital de las universidades. Hoja de ruta* Seminario La Administración Electrónica en la Universidad Pública, Salamanca, España. https://bit.ly/3fFlbUX

García-Peñalvo, F. J., & Corell, A. (2020). La COVID-19: ¿enzima de la transformación digital de la docencia o reflejo de una crisis metodológica y competencial en la educación superior? *Campus Virtuales, 9*(2), 83-98.

García-Peñalvo, F. J., Corell, A., Abella-García, V., & Grande-de-Prado, M. (2020). Online Assessment in Higher Education in the Time of COVID-19. *Education in the Knowledge Society, 21*, Article 12. https://doi.org/10.14201/eks.23013

Grajek, S., & Reinitz, B. (2019, July 8). Getting Ready for Digital Transformation: Change Your Culture, Workforce, and Technology. *Educase Review*. https://bit.ly/2TrIurJ

Hoyuelos, F. J., Cámara, J. M., & Sáiz, M. C. (2017). Proceso de Formación del Profesorado Novel. In T. Ramiro-Sánchez, M. T. Ramiro-Sánchez, & M. P. Bermúdez (Eds.), *FECIES 2017. XIV Foro Internacional sobre la Evaluación de la Calidad de la Investigación y de la Educación Superior* (pp. 227-234).

Ministère de l'enseignement supérieur et de la recherche scientifique d'Algérie. (2016). *Arrêté n.º 932 du Fixant les modalités d'accompagnement pédagogique au profit de l'enseignant chercheur nouvellement recruté.*

Ministerio de Universidades. (2021). *Resolución de 6 de abril de 2021, de la Secretaría General de Universidades, por la que se aprueban recomendaciones en relación con los criterios y estándares de evaluación para la verificación, modificación, seguimiento y renovación de la acreditación de títulos universitarios oficiales de Grado y de Máster ofertados en modalidades de enseñanzas virtuales e híbridas* [Boletín Oficial del Estado, Núm. 90, de jueves 15 de abril de 2021](BOE-A-2021-6039). Gobierno de España. https://bit.ly/3cf0Zsg

Pagès, T. (2014). *Propuesta de un marco de referencia competencial del profesorado universitario y adecuación de los planes de formación basados en competencias docentes* [Memoria Final]. Red Estatal de Docencia Universitaria (RED-U). https://bit.ly/3z2piDl

Piattini Velthuis, M., & Mengual Pavón, L. (2008). Universidad Digital 2010. In J. Laviña Orueta & L. Mengual Pavón (Eds.), *Libro Blanco de la Universidad Digital 2010* (pp. 5-27). Ariel. http://www.universidaddigital2010.es

Sáiz, M. C., Bol, A., & Hoyuelos, F. J. (2015). *Rúbrica para evaluar los Proyectos de Innovación Docente en Profesores Noveles.* Universidad de Burgos. https://bit.ly/3pj5ZRT

Saz Roy, M. A., Maestre González, E., Romero García, M., Basco Prado, L., Piñar Rodríguez, S., & Miguel García, C. (2016). Visión del profesorado novel sobre el proceso de mentoría. *Revista CIDUI*(3). https://bit.ly/3wWQnpL

Universidad de Burgos. (2015a). *Plan de Formación del Profesorado Novel (PFPN).* Universidad de Burgos. https://bit.ly/2SVpHaj

Universidad de Burgos. (2015b). *Plan de Formación para la Enseñanza Virtual (PFEV).* Universidad de Burgos. https://bit.ly/3uKU2FC

Creation of hubs for online teaching

Pablo Fuentes de Anda
University of Valladolid (Spain)

1. Introduction

In activity 2.2, which took place between 3 and 7 November 2019, our objective was to lay the foundations for the creation of three multimedia hubs for online teaching. Specifically, my objective was focused on the audiovisual field, from technical requirements to how to develop audiovisual products. The starting point is the work of the Audiovisual Department of the University of Valladolid: structure, tasks, team, needs, etc. Starting from this, as a reference of how online teaching works in our institution, and specifically my role as a technician in it, I structured the topics to be discussed.

2. Framework of the training and its characteristics

2.1. Background

We started from the basis of transmitting the experiences of the University of Valladolid and the Ministry of Education of Castilla y León with tele-training platforms, video-conference systems, video streaming and organisational and management methods. On this particular mission there were six of us - three experts from the University of Valladolid, two technicians and a teacher.

Regarding my area, I sought to present the basic concepts for the effective creation of audiovisual content for e-learning through audiovisual workshops and interactive presentations. Among the subjects to be dealt with were streaming tools for use in online teaching and video-conferences.

2.2. Objectives

The objectives of the mission were to create three reference centres or hubs for online teaching and three audiovisual centres to generate teaching material for MOOCs and other online courses, the first of which would be established in the central

university region and the other two in the east and west. With this starting point we arrived in Algiers without knowing what technical and human resources they actually had. As far as audiovisual resources are concerned, the studio resources turned out to be substantial, albeit perhaps geared more to television production than to on-line teaching. The real limitations were at the level of the Moodle structure and above all the implementation and acceptance of this new way of teaching by the teachers. Therefore, it was necessary to create human teams capable of defining and executing online remote teaching plans.

2.3. Methodology

The presentations I made were based on a small PowerPoint presentation for visual support, but above all on real examples: live use of software, camera management, lighting installation, etc., encouraging debate and questions from the audience at all times.

The presentations thus had a theoretical component, but the approach was above all practical, by way of workshops for implementing audiovisual techniques (chroma key compositing, podcasting, video recording, audio recording and montage).

3. GOOD PRACTICES

During this week I presented my experience with the creation of MOOCs and Innovative Teaching projects (such as Knowledge Pills). From a technical point of view, one of the key elements in my work is "chroma keying" as the main technique used to create videos for MOOC programmes. We also looked at different ways of filming other than chroma and did a basic practical low-lighting exercise using LED lamps. The objective was to reflect on the importance of using appropriate techniques to achieve the required quality regardless of the resources available.

During the second day, we were able to visit the facilities of the Distance Learning University of Algiers, where the centralised facilities of the Audiovisual Department and the Computer Centre are located. During the visit we were able to exchange points of view and ways of working in the Algerian and Castilla y León centres.

These facilities were used not only by the University, but also by TV and radio, and could not therefore be used 100% for on-line teaching. The facilities were of high quality, but their use at that time was far below what was desired, although the commitment to use them for educational purposes was being considered.

So there is a possibility of using facilities with high-quality physical equipment to create audiovisual material, but it is not exclusively devoted to the University, being used also by public TV and radio broadcasting organisations. As a result of the visit, those responsible for implementing online teaching programmes have been made aware of the high-quality resources available for use in this region - high-end professional equipment with the necessary facilities for quality audiovisual production.

Over the next few days we made a number of recordings with those present, both recordings with a green chroma key background in a simulated studio under constant ambient conditions, and outdoor recordings with variable ambient conditions and the attendant technical difficulties, to illustrate the differences of each situation. These practical exercises helped to illustrate the techniques, to establish theoretical and practical concepts, and also to gain confidence in filming. Concepts discussed included framing, focus, sound levels, the importance of the quality of the available equipment, etc.

With all this recorded material, a short edit was made to illustrate how to compose a sequence of subjects, how to edit the chroma key background, how to apply filters, how to export and so on. For this we used various free programs including HitFilm Express and DaVinci (we showed only an example-of-use video, as the machine did not have enough power). The objective achieved was to understand and learn the complexity of the video capture process, to learn in a basic way the theory of the treatment of ambient light and sound when capturing video, and to edit content with non-linear editing software.

Once video had been addressed as a possible tool for online teaching, it was the turn of audio, and specifically the podcast, as an educational format. I offered the basic guidelines to follow when adding sound with an analogue mixing console (controls, order, connections etc.) and a dynamic microphone to make a podcast. The software used was Audacity, a free and intuitive tool for easy use in editing and capturing audio with the sound system. The objective achieved was to provide teachers with a teaching tool that was both easier to use and more affordable and to enable them to choose from among a wide range of audiovisual formats that which best suits their needs.

4. CONCLUSIONS

According to the surveys of the participants in the sessions, the assessment of Mission 2.2 was very positive. Our impression after the week is that considerable progress was made in terms of motivation and in defining the Ministry's objectives, which we believe is very positive. Personally, I am very grateful for the welcome and participation, as well as the dedication of Rafik Benzine and Antonio Bueno.

5. BIBLIOGRAPHY

MORALES, F. (2013). Audiovisual montage. Theory, technique and control methods, Editorial UOC.

VARIOUS AUTHORS (2012). Digital Video, Tikal ediciones.

Teacher training in teaching methodologies

Susana ÁLVAREZ ÁLVAREZ

University of Valladolid (Spain)

Department of Spanish Language

José M. MARBÁN

University of Valladolid (Spain)

Department of Didactics of Experimental, Social and Mathematical Sciences

Raúl MARTÍN HERRANZ

University of Valladolid (Spain)

Department of Theoretical, Atomic and Optical Physics

Félix DE PAZ FERNÁNDEZ

University of Valladolid (Spain)

Department of Human Anatomy and Embryology

1. INTRODUCTION

The teaching profession is a fine one, to be sure, but it is also enormously complex. The teacher is of course one of the core components on which the functioning of an educational system in any form or at any level depends, and at the same time the teacher is the human element promoting, facilitating and stimulating the relationship between students and knowledge. For this reason, the subject of teaching excellence has been addressed in many treatises, essays and research papers (e.g. Bain, 2007), basically asking what distinguishes an excellent teacher from a mediocre one, and this in turn has led to the emergence of various models of teacher training or professional development. While these proposals are different in many respects, it is not difficult to find considerable similarities among all of them, most notably the importance that they attach, in their search for teaching excellence, to the planning of teaching and to relations with students.

In this sense, one of the tools that help to establish the bases of good answers to both questions is the teaching guide, a document that serves, in turn, as prima facie evidence of the attitude of the teacher signing it to both issues, and of his or her mastery of these issues - evidence that must then be compared or complemented with other sources of information, such as systematic classroom observation, student surveys, etc.

Thus, the teaching guide is, on the one hand, an action plan resulting from experience and deep reflection on it, a plan aimed above all at academic success, which cannot be understood in any other way than in terms of real, meaningful learning and satisfaction of all participants. And on the other hand, it is a commitment between teacher and students, a kind of learning contract, not in the pedagogical sense of the term, but as regards the mutual acceptance of a shared work proposal which, in any case, must be flexible enough to adapt to classroom dynamics and learning needs as they evolve. It is not, therefore, a merely administrative document, nor should it be an empty document, full of good words and intentions, but without minimum guarantees of viability in its execution.

When preparing a teaching guide there are several aspects that must be taken into account in relation to the challenges and trends of higher education in the twenty-first century. In particular, the European Higher Education Area (EHEA), the framework of reference for university education in Spain, defends a training model focused on the learning of academic and professional skills by students, in such a way that all curricular and organisational aspects have to be defined based on the skills that students have to develop (Biggs, 2004; García and Morillas, 2011). This new skills-based approach aims to overcome traditional teaching models based on the transmission of knowledge by the teacher and places the student at the centre of the training action.

In carrying out this purpose, evaluation processes, understood as forming part of both the various teaching-learning activities and of those associated with accreditation or assessment of teacher and student quality, become very important. In fact, evaluation is undoubtedly one of the most important components of the pedagogical project, not only because of its educational nature, but also because it is the element of the curriculum design that has the strongest impact on the academic progression of students; so much so that some authors affirm that "the curricular structure pivots on the axis of evaluation" (Zabalza and Zabalza, 2010, p. 197). It is not surprising, therefore, that many researchers today defend the use of evaluation by skills models in university teaching (Álvarez, 2008; Blanco Fernández, 2009; Cano, 2008).

Another key element in relation to the new student-centred competency approaches concerns pastoral care. Students entering university enter a complex institution where not only their ability to acquire knowledge will be put to the test, but also their ability to integrate into a new world plagued with many difficulties, proof of this being the course completion rates, which in many cases are less than 50%. Tutoring and mentoring appear as very interesting resources to guide and help students, especially in the first years, but also when they are finishing their studies, in this case more oriented towards labour insertion. The educational model promoted by the European Higher Education Area requires well-trained, effective and student-oriented teachers who, ultimately, ensure a high quality standard for university education.

Linking in a very singular way the three previous questions we find the particular case of the subject called, in the framework of Spanish Bachelor's degrees, "Final Degree Projects" (TFG). This subject, as has been said, represents a unique case (Fernández *et al.*, 2015; Vera and Briones, 2014) that is developed in all areas of knowledge and that in Spanish university regulations is mandatory in all degrees and is carried out in the final phase of the curriculum, being oriented to the evaluation of all the skills associated with the degree, with the implications it has, therefore, in terms of planning, evaluation and tutelage.

In this way, this chapter, entitled *Formation des enseignants aux méthodologies d'enseignement*, and framed within the project entitled *Proposition de jumelage entre Le Royaume d'Espagne Conseil de l'Éducation de Castille et Léon et La République Algérienne Démocratique et Populaire Ministère de l'Enseignement Supérieur et de la Recherche Scientifique (MESRS)*, is structured by presenting, first, the training objectives and the methodological principles of the training action, then setting theoretical frameworks and good practices in relation to the four topics addressed: the design of teaching guides, the use of evaluation by skills, tutoring and mentoring in higher education and the supervision of end-of-course projects. Finally, both the main contributions of the participants and the results of the mission are collected in the form of conclusions, together with basic references consulted or those for recommended reading.

2. OBJECTIVES OF THE MISSION

A general objective and a series of specific objectives associated with each of the four major themes addressed in the chapter are established.

2.1. Overall aim

Accompanying teachers in the development of their pedagogical practice and the design of change is adopted.

2.2. Specific objective of the component

— In relation to the design and development of teaching guides, the following specific objectives are established:

— Identify the different dimensions associated with the design of a teaching guide along with their limitations and concessions.

— Interpret the teaching implications of each of the elements that define the structure and content of a teaching guide.

— Recognise the value of the teaching guide as an instrument to support the improvement of teaching quality.

— In the case of competency assessment, two new specific objectives are set:

— Identify the particularities of the competency assessment model and its application to university training models.

— Review some appropriate assessment instruments for the evaluation by skills.

— Regarding tutoring and mentoring, there are also several specific objectives:

— Identify the benefits of the pastoral function, how it can help us in our daily teaching practice and how peer mentoring can help the global integration of new students in the university, facilitating their academic and social integration in the institution and contributing to the success of their studies, giving them the necessary guidance and advice.

— Identify the needs of beginner teachers, reflecting on their requirements and the best way to compensate for their shortcomings.

— And, finally, regarding the Final Degree Project (TFG), there are four specific objectives:

— Identify the particular characteristics of the TFG subject (compared to a traditional subject) and reflect on the competencies that have to be developed in it.

— Describe the different modalities of TFG applicable to the different areas of knowledge or disciplines.

— Differentiate the functions and responsibilities of the tutor/supervisor and the student in the process of carrying out a TFG.

— Identify the main tools to direct a TFG, from a traditional approach to the use of computer tools.

3. METHODOLOGICAL PRINCIPLES

The methodological approach used in the sessions focused on the combined use of the expository technique for the presentation of concepts and theoretical frameworks, of the 'learning contract' method for the follow-up and individualised support to each participant, in cases where it was required, and cooperative learning techniques in the Moodle environment, all under a 'workshop' approach, that is, one in which the contents are built, to a large extent, based on the needs and actions of the participants themselves. The success owed much to the structuring of the sessions, starting with the presentation of the theoretical foundations, in a format open to discussion and debate, encouraging the active participation of the attendees by allowing time for questions and answers at the end of each presentation, a format that was of enormous practical applicability.

After the work of a more theoretical nature, both individual and group activities were then proposed, providing time to the participants for reflection and work and facilitating timely feedback on each of the activities, always from a training point of view and focused on the consolidation of learning.

The first session presented the contents that would serve as the basis for the following sessions, their details, the content of the mission, the calendar, the experts who were going to participate, etc. In a second block, the particularities of the end-of-studies projects were

analysed, paying special attention to their classification and type according to the branch of knowledge. The contents included in this session were completed by those addressed in the third session, which aimed to identify some tools for the supervision of end-of-course projects, as well as to review the role of the tutor/supervisor in the development of this type of work. Finally, some examples of good practices were presented in the framework of the supervision of end-of-studies projects at the University of Valladolid (UVa).

The second session focused on the evaluation by skills model, first from a theoretical perspective and then from a more practical point of view. Participants were able to design a proposal of activities and evaluation instruments for the development of general and specific skills, proposals that were shared and reviewed at the end of the session. In addition, examples of activity design and different evaluation instruments (specifically, rating scales and 'rubrics' (evaluation grids)) for different types of activities were shown, materials that were made available to participants on the project platform.

The third session was organised into four interrelated parts: the first one began by dealing with the subject of tutoring in higher education, with its characteristics and peculiarities, and peer mentoring as a good answer for new students to combat their insecurities and adaptation problems. The characteristics of good mentors, their functions, the benefits they obtain, their commitments and also how to evaluate their activity were discussed. The role of the tutor teachers, the objectives to be achieved, as well as the particularities of the programme and the planning of the mentoring were also explained. It ended with the evaluation and the determination of the assignments. In the second part, the problem of the training of beginner teachers and their adaptation to the department and the university was addressed. The conceptual differences between coach or trainer and mentor were analysed and the functions, both technical and psycho-social, that the university faculty must address were analysed. Subsequently, after establishing the objectives sought, a proposal was made for the training of mentors, giving practical guidelines on how to carry it out and planning it on a timeline. The third part consisted of a reflection on the tutorial action of the university teaching function, alternatives to it and the analysis of the different kinds of tutorial behaviour that we can find: bureaucratic-civil servant, academic, teaching (either in class in a small group or tutoring peers) and personal counselling (either informative-professional or intimate-personal), ending with some comments on future prospects for mentoring. Finally, in the fourth and last part, other mentoring possibilities were addressed, less frequent than the previous ones, but which could be of great use: senior mentoring, research mentoring, mentoring international students (analysing the Mentor programme of the UVa) and the mentoring of students with special needs, analysing the characteristics of a good mentoring relationship and the indicators that show us poor performance.

The fourth and last session was again structured in four parts. In the first, focus was put on the conceptualisation of the teaching guide, putting special emphasis on the

elements that should be part of a comprehensive definition of what such a document shouls be understoos as, identifying how it should be framed on four complementary levels, namely: prescriptive, purposeful, contextual and evaluative. Then, within this first part, the structure of a good teaching guide was discussed, describing each of its elements together with its relevance based on the structure model used at UVa, establishing at the same time the difference between the teaching project and the Teaching guide. In the second part, the approach was much more practical and focused on identifying the necessary ingredients for the development of a good teaching guide, with examples of good practices and a final set of recommendations to achieve the established objective. The third part, of an entirely practical nature, proposed the performance of individual tasks relating to the drawing up of objectives and learning outcomes, as well as the internal coherence of some of the fundamental axes of the teaching guide. Finally, the fourth session made it possible to clarify some significant aspects of the topics discussed from the answers obtained in the individual activities, and to carry out a group activity on the adaptation of teaching methods to organisational modalities. This part ended with a summary of everything that had been worked on, in the form of a story aimed at bringing the session to a conclusion and which acted as a springboard for the unhurried, careful, detailed and well thought-out drafting of teaching guides.

4.   SPECIFIC THEMES AND GOOD PRACTICES

4.1.   Teaching guides: ingredients for a good design

The preparation of teaching guides is usually a process considered and regulated in the academic regulations of the universities. In particular, in the case of the UVa, its Regulations for Academic Organisation establish, in Article 21.4, that the teaching projects prepared and published by the Departments will be developed by the teaching staff responsible for the subjects through teaching guides. This type of provision, of a normative or prescriptive nature, and its materialisation course by course through the corresponding guidelines established by the governing or management bodies with competencies in the matter, reflects only one of the many dimensions that define and guide the preparation of teaching guides. Thus, this process should not be understood only in a rigid, static sense oriented solely to the periodic fulfilment of a mere administrative procedure, the teaching guides, but on the contrary as consisting of elements that cover aspects ranging from the purely normative to the personal, including curricular issues, the analysis of their pedagogical implications, why they are considered useful for teacher reflection and student orientation and the assumption of their responsibilities, both social and ethical. Indeed, a teaching guide must consider four dimensions:

— *Prescriptive:* it must respect the regulations and guidelines that are established as provisions common to all subjects and study plans by those responsible for academic management. These provisions can range from internal criteria of a single department

to decrees or laws at the state level, although generally speaking the greater the scope of application or action of the person or body enacting them, the less specific they tend to be.

— *Purposeful:* beyond what the rules dictate, it is common to find documents, studies, compendia of good practices, etc. which, usually based on evidence, establish recommendations for the preparation of teaching guides, some with a transversal or generic nature and many others focused on very specific contexts or areas.

— *Contextual:* a teaching guide is a work plan that has to be developed under very specific conditions and coordinates, so it has to be designed taking all of them into account. Thus, the resources available, the profile of the students, the profile of the degree, the course and level (degree or master) in which the subject is framed must be taken into account, as well as the experience in the development of teaching guides in similar situations or contexts.

— *Evaluative:* a teaching guide, insofar as it is a work plan that can undergo modifications and adaptations aimed at achieving its ultimate objectives, allows evaluation not only of the teaching planning capacity, but also of the usefulness of the document for students themselves, as well as of the consistency of the proposed plan with the rest of the training process composed of all the subjects of the corresponding curriculum. In this way, the teaching guide is a useful document both to help in the meta-evaluation of the teaching-learning process and for the external evaluation by those responsible for the quality of degrees, coordinators, regional or state evaluation agencies, etc.

Beyond the multi-dimensional character mentioned above, a teaching guide finds its true *raison d'être* in the framework of curricular development and, more specifically, in the field of teaching planning, understood as:

> *Planning teaching means taking into consideration the legal determinations (descriptors), the basic contents of our discipline (commonplaces, usually included in all the textbooks of the discipline), the educational framework in which the discipline is located (in which curriculum, in relation to what professional profile, in what course, during what period), taking into account our own vision of the discipline and its didactics (our teaching experience and our personal style), the characteristics of our students (their number, their prior education, their possible interests) and the available resources (Zabalza, 2003, p. 73)*

In this sense, a teaching guide requires a number of basic ingredients to achieve its purpose:

— *Collectivity:* a teaching guide is a shared work plan, a proposal for a path towards learning and the development of skills that must be travelled together with the students.

— *Coordination:* each teaching guide is one piece of a puzzle in which all the pieces must fit together to achieve the educational purposes pursued by the degree based on the graduate profile towards which it is oriented. In particular, there are skills that must be developed through different subjects, learning outcomes of one subject that are essential to address new challenges in another subject, complex real problems that require the combined use of knowledge associated with different subjects, etc. This level of coordination

also affects the student, in a very significant way, in the distribution of the workload that must be addressed and on the other hand would also allow shared multi-disciplinary projects to be proposed, which would optimise both resources and learning.

— *Student orientation:* the guide is a document whose main purpose is, as its name indicates, to guide, and in this sense, it must be especially useful to those to whom it is directed, that is, to students. Both in its wording and in its content, it must help students to understand what is expected of them and how they can achieve it. It must include motivational elements and it must establish an appropriate workload.

— *Criteria and principles:* the proposal must be consistent with the characteristics of the curriculum to which it relates, it must be internally consistent, proposing, in particular, methodological and evaluation principles that really serve a training model focused on skills and must, finally, be based on the principles of education of the twenty-first century and its challenges.

— *Transparency and comparability:* the contents of the teaching guide must be traceable and thus comprehensible as regards what it implies for other teachers, for students and for external evaluation agents, especially in order to facilitate recognition and the transfer of credits in mobility programmes, as well as the recognition of acquired training by employers, for example.

— *Dynamics:* since a teaching guide is a learning contract in the sense expressed previously in this document, it must be capable of being modified and adapted by agreement between the parties whenever it moves away from the initial purposes or more efficient alternative ways of achieving them are found. At the same time, it is advisable to include easily applicable contingency plans, which may appear as addenda to the main document.

To close this section, it is appropriate to establish, as a recommendation, a possible teaching guide structure, for which we will base ourselves on that currently used at UVa:
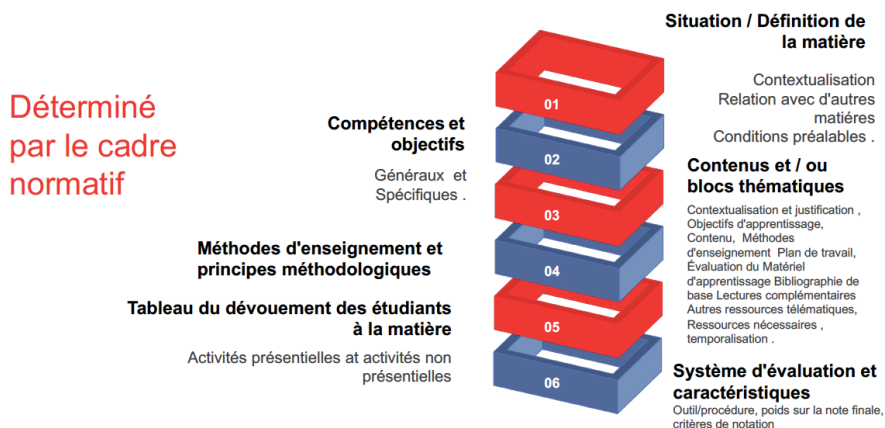

Figure 1: Basic structure of the teaching guides at UVa.

Déterminé par la cadre normatif	Determined by the normative framework
Compétences et objectifs	Competencies and objectives
Généraux et Spécifiques.	General and Specific.
Méthodes d'enseignement et principes méthodologiques	Teaching methods and methodological principles
Tableau du dévouement des étudiants à la matière	Table of students' dedication to the subject
Activités présentielles at activités non présen-tielles	Face-to-face and non-face-to-face activities
Situation / Définition de la matière	Situation / Definition of the subject
Contextualisation Relation avec d'autres matières Conditions préalables.	Contextualisation Relationship to other subjects Prerequisites.
Contenus et / ou blocs thématiques	Content and/or thematic blocks
Contextualisation et justification. Objectifs d'apprentissage, Contenu, Méthodes d'enseignement Plan de travail, Évaluation du Matériel d'apprentissage Bibliographie de base Lectures complémentaires Autres ressources télématiques, Ressources nécessaires, temporalisation.	Contextualisation and justification. Learning objectives, Content, Teaching methods Work plan, Evaluation of learning materials Core bibliography Further reading Other telematic resources, Resources needed, Timing.
Système d'évaluation et caractéristiques	Assessment system and characteristics
Outil/procédure, poids sur la note finale, critères de notation	Tool/procedure, weight on final grade, grading criteria

4.1.1. *Good practices*

When teachers and students are consulted about the usefulness and efficiency of the teaching guides, there are four sections on which they usually agree when focusing their evaluations: the learning outcomes, the proposed methodology, the evaluation criteria and systems and, finally, the estimation of the workload. Thus, we will focus our attention in this section on describing some good practices in relation to these four aspects.

In the case of learning outcomes, understood as statements about what the student is expected to be able to do, understand or demonstrate once a learning process is finished, most authors agree that there are four conditions that they must comply with in their writing, this in turn being significant not only for the students themselves but also for the teacher, as it helps them to have a complete map of their teaching work within the framework of the subject to which the guide corresponds, and for other evaluation and

monitoring agents of the corresponding degree, as they allow them to fit this piece of the puzzle with the rest of the pieces of the curriculum or degree to check that everything fits together properly. The four conditions mentioned are:

1.   The learning outcomes should refer to behaviour that is visible, explicit and that can be measured objectively in order to facilitate an evaluation of their degree of achievement.

2.   The statement must have the student as its subject, as it refers to what the student has to know or be able to do and be formulated preferably in the infinitive, using action verbs.

3.   The learning outcomes must be presented clearly and in a way that students can readily understand, since they set out what is expected of them.

4.   As far as possible, it is appropriate or advisable to include in the wording some indications of the expected level of achievement or criteria for evaluating its achievement.

When writing learning outcomes, it is often useful to use classifications such as that of Bloom, Anderson (Krathwohl & Anderson, 2010), which updates the previous one, or SOLO (Structure of Observed Learning Outcomes).

Regarding the methodological principles, a recommendation that helps to generate good practices is to start out from objectives and skills when setting about determining them. It is essential in this regard to include the analysis of the context in the choice-making. It is a good idea to think about using different strategies and methods and to be aware that there are no correct and incorrect methods, only appropriate and inappropriate ones depending on the situation. Thus, there are four criteria to take into account when setting the methodological approach in the teaching guide:

— *Specificity*: not all methods are suitable for all purposes or circumstances.

— *Relativity*: the value and effectiveness of a method depend on the way it is applied, the suitability of the tools used, as well as the previous training of teachers and students.

— *Complementarity*: an objective that cannot be achieved with some methods can be achieved by resorting to others. The weaknesses of some methods will be compensated for by the strengths of others.

— *Interdependence*: with the target groups, the objectives, the level, the material means, etc.

Regarding the estimation of the student's workload, this is measured, within the scope of the European Higher Education Area, in ECTS (European Credit Transfer System) credits, understood as:

> *Units of evaluation of academic activity, harmoniously integrating theoretical and practical lessons, other guided academic activities and the volume of work that students have to do to pass each of the subjects (* Dr. R. Pagani-ECTS Counsellor & Diploma Supplement Promoter)

There are three common methods to carry out the corresponding allocation and distribution of hours associated with ECTS credits, the third being the most recommended:

— *Experiential:* the estimate is based on the teacher's experience in similar courses or activities.

— *Proportional:* the teacher estimates the time it would take to complete the task and multiplies it by a correction factor.

— *Dialogical:* the initial estimate is adjusted continuously (or at the end of the course for future courses) according to the experiences of the students, collected in surveys, questionnaires, portfolios, etc.

In order to carry out this process in a more systematic way, telematic support tools that help to carry out some of the associated calculations based on evidence, such as the one developed by the University of Auckland and which we show below, are becoming more and more frequent.:

Figure 2: Tool designed by the University of Auckland for estimating student workload.

Finally, in the aspect that concerns the evaluation, there are two recommendations that we wish to show at this time, one referring to principle and a second referring to criteria:

— *Principles:* It is preferable for evaluation to be continuous and understood in both its formative and summative dimensions, and in any case to be an element of the teaching-learning process that informs students about the progress of their own learning and at the same time serves to certify their passing a higher educational level.

— *Criteria:* the evaluation of students' academic performance will respond to public and objective criteria and will tend towards the fulfilment of international quality standards[1] in terms of adequacy, usefulness, comparability, feasibility and precision. The specific evaluation criteria for each test will be provided together with the instructions, orientation or guidelines for carrying out the corresponding activity.

4.2. Evaluation by skills in Higher Education: what, when and how to evaluate

In training by skills approaches, evaluation acquires a preponderant role, since those aspects that are subject to evaluation will condition the learning of the students and, therefore, their knowledge and abilities (Alsina *et al.*, 2011). The evaluation of skills cannot be carried out using the traditional evaluation approach, since valuation must be dynamic (skills are dynamic), contextual (it must place the training action in the concrete context) and it must integrate not just knowledge, but also skills and attitudes. In addition, it must be an evaluation oriented towards the execution or fulfilment of tasks, which requires students to be involved in learning, and it must be authentic, that is, with evaluation tasks that are close to reality.

Therefore, evaluation by skills is conceived as a complex formative evaluation model, which allows responses to be given to the different axes that define the evaluation process: what to evaluate, how to evaluate, who evaluates and when to evaluate.

4.2.1. *Good practices*

Below are some of the actions that need to be carried out when planning an evaluation plan based on learning skills:

1.   Establishment of the skills (and learning outcomes) that students will have to develop during the teaching-learning process, that is, the knowledge, attitudes and abilities (de Miguel, 2006) that the training action pursues. As we have previously stated, the evaluation process must be linked to the rest of the components of the curricular design; for this reason, it is essential to start the planning of the evaluation on the basis of the skills that are to be developed.

---

[1]   Joint Committee on Standards for Educational Evaluation. (2003). The Student Evaluation Standards: How to Improve Evaluations of Students. Newbury Park, CA: Corwin Press.

2. Determining the type of evaluation on which the training process will be based. Within this action, it will be necessary to analyse not only the function that the evaluation will have within our training model, but also at what moment or moments we will carry it out (when to evaluate), which aspects we are going to evaluate (what to evaluate) and who will be the agent(s) in charge of this evaluation.

3. Determination of the means and instruments of evaluation. Following Ibarra Sáiz (2008) and Rodríguez and Ibarra (2011), we understand that the means of evaluation are tests or evidences that serve to gather information about the object to be evaluated. For their part, the evaluation instruments are concrete and tangible tools that allow the evaluator to evaluate these means of evaluation. From a training perspective whose main purpose is the development of skills in the students, the learning tasks become means of evaluation, since they are the actions that will inform us about the learning outcomes and which the evaluator uses to ascertain student progress. In this sense, each of the learning tasks (means of assessment) will be accompanied by its corresponding assessment instrument, in order to guide students in their performance and, consequently, in their learning process. In the following figure, we see a relationship between various means of evaluation and the skills to be developed, depending on their type: conceptual (*savoir*), procedural (*savoir-faire*) and attitudinal (*savoir-être*) (Arias Blanco, 2010).

4.
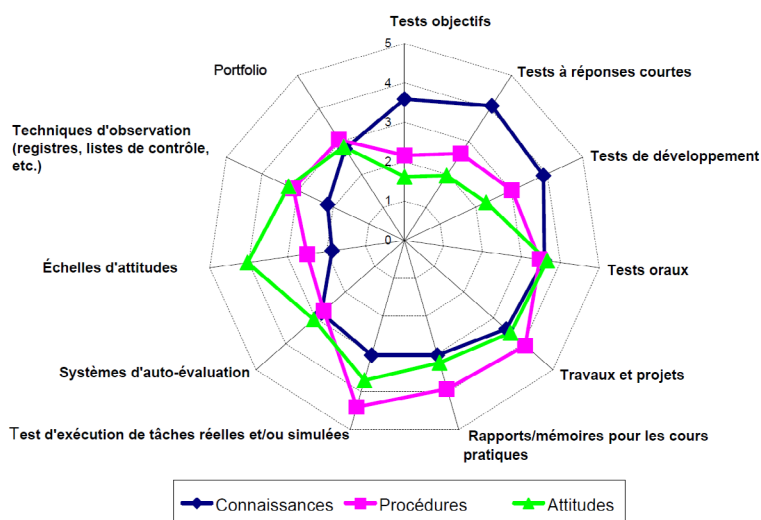
Figure 3. Relationship between means of evaluation and skills (adapted from Arias Blanco, 2010)

Tests objectifs	Objective tests
Portfolio	Portfolio
Techniques d'observation (registres, listes de contrôle, etc.)	Observation techniques (registers, check lists, etc.)
Échelles d'attitudes	Attitude scales
Système d'auto-évaluation	Self-assessment system
Test d'exécution de tâches réelles et/ou simulées	Testing of real and/or simulated tasks
Connaissances	Knowledge
Procédures	Procedures
Attitudes	Attitudes
Tests à réponses courtes	Short answer tests
Tests de développement	Developmental tests
Tests oraux	Oral tests
Travaux et projets	Assignments and projects
Rapports/mémoires pour les cours practiques	Reports/dissertations for practical courses

5.   Planning of the collection procedure (delivery of the means of evaluation) and of return of information to the student (feedback). This is a matter of defining the time or times for collecting the students' performances and recording the level of achievement in each of them. It is also appropriate to establish the procedure and the particularities of the feedback offered to the students during the teaching-learning process. In this regard, some of the principles that can guide this action are the following (Nicol and Milligan, 2006; Villardón, 2006):

— It must help to clarify and detail what a good performance is (skills, criteria, expected results) and focus especially on the procedure required to carry it out.

— It must facilitate the development of reflection in relation to the learning process, so it should focus more on learning than on the grade obtained.

— It must offer clear information to students about their learning, focusing on the actions (guidance, reinforcement, etc.) that must be carried out in order to improve.

— It must strengthen the student's motivation and encourage dialogue with the teacher.

— It must offer opportunities to fill gaps in performance.

Feedback needs to be provided with an appropriate frequency and early enough to be useful to students.

6. Reflection on the evaluation process and the results obtained in it from the teaching perspective. The detailed analysis of the learning outcomes and of all the components that make up the curriculum design, taking as a reference the means of evaluation, constitutes a fundamental stage of the teaching-learning process, since it favours the implementation of continuous improvement plans.

In the framework of the first phase, that is, when determining *the type of evaluation to be implemented*, we approach the evaluation process from different dimensions, which will help us define the different types and concepts of evaluation that constitute our action plan in relation to this element of the curricular design (García Sánchez, 2010): purpose and function of the evaluation, agents involved in it, and the scope or extent of the evaluation.

In relation to the first criterion, that is, the purpose and function of the evaluation, we can identify three different types of evaluation (*ibid.*): diagnostic, formative and summative.

— *Diagnostic evaluation.* This is conceived as evaluation that takes account of the characteristics and skill level presented by students before starting the training action, in order to organise and adapt the teaching process to the particularities of the recipients. In this initial evaluation, attention can be given not only to previous knowledge but also to other personal or academic characteristics that can influence the learning process (Álvarez *et al.*, 2004).

— *Formative evaluation.* This is conceived as a strategy focused on student learning, the main purpose of which is the overall improvement of the process. In other words evaluation is understood not as a means of rating the student but as an instrument providing the teacher with information on which to base decisions as to how to help the student improve and learn more (Pérez Pueyo *et al.*, 2009). It therefore contributes to identifying difficulties, learning gaps, conceptual errors, procedures not acquired, etc., which will allow actions to be taken to correct the situation and achieve the expected results. The concept of formative evaluation also implies a process of reflection on their learning by students, a process that will help them consolidate the foundations of that learning and give them autonomy (López Pastor, 2009).

— *Summative evaluation.* This is an evaluation focusing on the results obtained from a teaching/learning process (Álvarez *et al.*, 2004), in other words it evaluates the final products, in order to issue a rating which demonstrates the level of acquisition of skills on the part of the students. This type of evaluation is the one that has predominated in traditional university teaching models focused on teaching and not on learning.

Based on the second classification criterion, that is, depending on *the agents involved in the evaluation process*, we can identify the following types of evaluation:

— *Self-evaluation.* This allows students to assess their skills acquisition level and reflect on the learning process carried out.

— *Third-party evaluation.* Evaluation in which the learning evaluator is not the person being evaluated.

— *Peer evaluation.* A type of evaluation and learning activity involving a process whereby students evaluate one another's actions, tasks and products, either individually or in groups.

Regarding the third criterion, that is, the *breadth or extent of the evaluation*, we can identify partial evaluation models, in which attention is paid to some of the aspects integrated in. the training action, or global evaluation models, whose objective is to evaluate not only the learning achieved by the students, but all the components or dimensions involved in the teaching-learning process (methodological approach developed, evaluation plan, didactic model implemented, learning resources and tools, teaching actions, etc.).

As previously mentioned, evaluation instruments are essential when planning a training action based on skills, as they will not only serve as a basis to define the evaluation, but will also guide and orient students in the process of carrying out the task they accompany. Two examples of evaluation instruments are rating scales and rubrics (Rodríguez Gómez and Ibarra Sáiz, 2011). Rating scales allow evaluation of the degree or frequency of compliance of a particular attribute or item. In the following figure we see a rating scale for self-evaluation of the 'responsibility in group work' skill.

Competency: responsibility in group work	Never	Sometimes	Most of the time	Always
I was involved in carrying out the tasks of the group				
I adapted to the established schedule				
I kept in mind the purpose of the tasks				
I have attended the sessions and meetings I have been called to.				
I am punctual in my participation and development of work				
I am organised and careful in carrying out the work				
I have thought about the consequences of what I have done and take responsibility for it				
I have considered the pros and cons of my actions				

I have managed my time and resources in carrying out tasks				
I delegated responsibility to my peers when necessary				
I planned my time to complete tasks				
I collaborated with the rest of the group to achieve results				
I controlled the work to be done and guided my peers during the execution of the task				
I took responsibility for the work of others and the allocation of resources				

Figure 3. Scale for evaluating the skill 'responsibility in group work' (adapted from Blanco Fernández, 2010)

For their part, the rubrics, also called 'evaluation matrices', allow the evaluation of the degree of fulfilment of a certain attribute by means of an explicit description of the requirements that define each level (Rodríguez Gómez and Ibarra Sáiz, 2011). They are very useful in evaluation by skills models, as they allow the different levels of acquisition to be accurately defined by means of evaluable indicators. Figure 4 provides an example of a rubric for the evaluation of the first level of acquisition of the 'teamwork' skill.

Level 1	Indicator	Descriptors			
		1	2	3	4
Participate and actively collaborate in team tasks, promote trust, cordiality and guidance in group work	Delivery of work on time	Not delivered	Delivered after several reminders		Delivered within the established deadline
	Involvement in defining the work objectives	No involvement	Limited involvement. Gets involved only when directly asked to help	Actively involved	Actively involved, dynamising and organising the working group

Collaboration in defining and distributing group work tasks	Impedes the work of others	Only performs the part assigned by the rest of the group	Participates in planning	Encourages the organisation and distribution of tasks, gathering the work of the rest of the group and making proposals
Involvement in the group's objectives and constructive feedback	Not involved in the objectives and makes difficulties	Not involved in the objectives	Accepts the opinions of others and offers his/her point of view in a constructive way	Encourages constructive dialogue. Encourages the participation of others.

Figure 4. Example of description of the first level of acquisition of the 'group work' skill (adapted from Vila Merino and Badia Miró, 2013, p. 35)

4.3.   Tutoring as a methodological approach in Higher Education. Mentoring as a methodological approach in Higher Education

A mentor, according to Rey Carr (1999), is "simply someone who helped you learn something you might not have learned, or would have learned more slowly or with more difficulty if you had to learn it completely on your own." In this way, mentoring helps both parties, mentor and student, contributing to the development of beneficial attitudes and skills for both new students and veteran students or teachers.

Since the beginning of the twenty-first century, this work has become very significant when guiding entrepreneurs on starting up their projects, for example. In this case, a mentor is usually someone specialised in a certain area and having accumulated great experience in it. This experience serves as the perfect guide for entrepreneurs who need an action plan and a strategy to develop their ideas. _Mentoring_ is now a profession much in demand.

Here are some areas in which a mentor can help:

— Serve as a guide on starting up a business project.
— Analyse and implement specific strategies.
— Help form teams with a common objective: to work in harmony and with shared objectives.
— When it comes to practicing a sport, a mentor is more than a coach; he is the image, the talent and the guide to success.

However, it is also necessary to choose a good mentor who has a set of characteristics that inspire confidence and commitment.

These are some of the characteristics of a good mentor:

— Experience is essential: life situations and circumstances that have served for them to become an experienced reference in a certain sector.

— Emotional knowledge: more emotional knowledge such as emotional intelligence and empathy will serve to transmit this to the student and also instil this in them as something very beneficial to them.

— Foster challenges with students: this will help them grow and motivate them to get the best out of themselves through the teachings received.

— Resolve their doubts so that they keep learning and moving forward.

— Professionalism, above all: being and educating a good professional is essential. Conveying positive and consistent values will be of great help during this relationship between student and mentor.

Agreeing with and following on from the work developed by Valverde Macías *et al.* (2003) of the SIMUS project (System of student Mentors of the University of Seville) we can say that mentoring tasks are a very common technique in the continuous professional training of teachers, workers or students of middle and higher educational levels.

Likewise, the mentoring of students by teachers or other students in more advanced courses is common in some foreign universities, notably in English-speaking countries. Here, mentoring programmes are common, with first-year college or university students participating by way of teacher mentoring, peer mentoring, peer helper, peer educator or alumni mentors.

From the perspective of these authors, which we share, in order to develop an optimal system of mentors or peer tutors in a university we must start from some premises that support this system:

a. Learning with peers gives better results (academic, personal and professional) than learning with others, since the distance and involvement that exists between the students themselves already present optimal learning conditions (as long as it is planned and worked on previously).

b. In addition, supporting students entering the university is a key step in its continuity.

c. t is much more effective, in the long term, to create an institutional culture of regulated support for new students, than to carry out isolated actions with individuals or services, so it is necessary to create a service in which there is total integration between the university and all the elements involved in it (integrated university guidance system).

d. The student mentoring system must be embedded in the university structure as something of its own, not as an added extraneous element; that is, it should be seen as a resource by and for the university.

e.   Mentoring should be seen as an element that increases the quality of the university; we cannot conceive of a better university without an offer of support services for students in light of their needs.

4.3.1.   *Good practices*

The peer mentoring programme, which is one of the most interesting, is based on a student of higher courses - a student mentor - guiding and advising a new student or group of students to achieve their academic and social integration, and contribute to the success of their university studies.

Thus, new students will have the necessary tools to achieve a good and rapid academic, social and personal integration in the university they end up at.

Throughout the programme there will be no type of evaluation, there is an agreement between the student-mentor and their student-mentees, they must meet periodically (in groups or individually) and, depending on the interests of the mentees, different topics will be discussed more or less related to the educational and academic environment.

Another objective is to carry out different activities, of a cultural, sporting or recreational nature that improve the social integration of new students.

The main objective of the mentor students is the adaptation and integration of their mentored peers, preventing any confusion generated by entering the university.

In turn, the mentor students will be assigned a tutor teacher (from the same branch of studies) who will advise and supervise them continuously, answering all their questions and evaluating their performance of their duties.

The programme could start with the academic year, in September, with some face-to-face meetings between all the participants in the programme (mentors, mentees, tutors and the programme Coordinator). Although, previously (it could be in the period of university registration, in July), there may already be virtual communications. During the first months of the course, a training course-workshop could be held for the students who will act as mentors. And the completion could be in the month of March.

Due to the above, the best way is to secure the support and collaboration of the Vice-Rector's Office for Students, the Faculty or School, the Office of University Attention and the Student Council.

From this perspective, the mentored students will be new students in any of the degrees taught at the university and who enrol in the Mentoring programme through the university's website.

This activity is voluntary and does not entail the granting of free-choice credits (other academic activities), since it is understood that they are the beneficiaries of the programme.

Their duties are as follows:

— Meet with fellow mentors.

— Act responsibly, with commitment and respectfully with classmates, teachers-tutors and with the coordination of the programme.

— Actively participate in the proposed activities.

— Spread the programme among colleagues.

The requirements to be a mentor student are: be enrolled in 2nd year or higher in any of the degrees taught at the corresponding university; have passed, for example, 65% of the credits of the 1st year; carry out a selection interview and carry out the mentor training course-workshop.

In the selection of student-mentors, priority can be given to those who are enrolled in last courses, those who were mentors or substitute mentors the previous year, those who were students mentored during their first year, those who are members of an association, social entity and/or volunteer organisation, those who perform student representation duties, and those who have training and/or experience in: Free Time Monitoring, Socio-cultural Co-ordination, Orientation, Work Teams, New Technologies, etc.

The benefits for the mentor are:

— Credit recognition.

— Free sports card.

— Free training sessions.

— Being able to participate as a speaker in events related to mentoring.

— Certificate of participation as a mentor in the Mentoring programme.

— Personal development, by having a rewarding cooperative, social volunteering activity.

— Establish broader social relationships at their university.

— Improve their social and communication skills.

— Acquire new knowledge for their training.

— Develop new skills recognised at the labour level, tasks such as organisation, direction and group management.

— Find out more about the services and functions of the university.

The main functions that the mentor must fulfil are:

— Advise, inform and guide assigned students, both academically (study plans, choice of subjects, credits, virtual campus, library, study habits and techniques, etc.); administratively (academic regulations, scholarships and grants, validations, procedures and enrolment changes, mobility and exchange programmes) and socially (organisation, structure, operation of various services, accommodation, transport, university canteens, etc.).

— Organise meetings (no more than an hour) with their mentees.

— Attend the meetings organised by their teacher-tutor as well as by the programme's coordinator.

— Participate in the development and coordination of the programme.

— Encourage their peers to participate and to promote it among new students.

— Prepare and deliver to their teacher-tutor an Assessment Report and various questionnaires that will allow them to obtain academic recognition (credits).

4.4. Tutoring end-of-studies projects

A TFG can be defined as an original and autonomous thesis written by the student with the guidance of a tutor who can be one or more teachers of the degree whose main objective is to act as a facilitator of the student's learning process.

The content of this thesis is usually agreed between the student and their tutor and has different focuses depending on the area of knowledge, but generally speaking they can be distinguished as descriptive or narrative, experimentation, project development thesiss, etc.

The TFG has to include the skills of the degree so that the student has to demonstrate that they have acquired the skills and that they are capable of drawing up scientific-technical thesiss in their discipline or area of study.

There is no type of TFG that can be considered standard in terms of its content, structure, methodology or development, so each institution must clarify what types of thesis are admissible and provide recommendations and instructions for tutors and students (Sánchez, 2013).

In general, the TFG can be defined from different perspectives, for example, depending on the type of thesis to be drawn up, four types can be distinguished:

— Research/Inquiry; generally they involve an initiation of the student in the research related to their area of knowledge.

— Intervention, proposing improvement actions, etc. adapted to each discipline.

— Creation/Innovation, developing guides, educational material, software, etc. of interest to the professional or academic area.

— Entrepreneurship, committing to the creation of companies, organisations, etc. and promoting the culture of entrepreneurship in students.

However, they can also be classified as:

1. Bibliographic review, which ranges from the traditional search for information on a subject that the student develops to the preparation of working documents, instructions, etc. depending on the discipline in question.

2. Case studies, the application of different concepts, themes in an interest group.

3. Experimental/qualitative/quantitative (pilot) research, making a small contribution to a research project.

4. Participation in research project, when the student joins a formal project and develops a part of it with a different degree of participation.

5. Applied thesis with the realisation, conception, design or implementation of a design, prototypes, or the realisation of a proof of concept.

In general, after taking the TFG subject, students are expected to:

a. have shown that they possess and understand knowledge in an area of study that starts from the basis of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study.

b. know how to apply their knowledge in their work in a professional manner and possess the skills that can be demonstrated in argument development and problem solving in their field of study.

c. have the ability to gather and interpret significant data (usually within their area of study) to make judgements that include reflection on significant social, scientific or ethical issues.

d. can transmit information, ideas, problems and solutions to both specialised and non-specialised audiences.

e. have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

4.4.1. *Good practices*

The recommendations for the teaching and development of the end-of-degree thesis subject can be summarised in 4 main items.

A. *Role of the tutor/supervisor*

The tutor has the responsibility of guiding the student during the TFG, but without carrying out the work, since it has to be the student who is able to complete it so that the differences between the student's work and that of the tutor have to be clear. It is also very important for the tutor/supervisor to be able to complete the evaluation of the student on at least two different levels, on the one hand, evaluating the student's performance during the development of the thesis, through continuous evaluation and providing the necessary feedback so that the student can progress and, on the other hand, participating in the evaluation of the result of the thesis (generally in the form of a report). In summary, the teaching work in a TFG differs remarkably from the traditional role as a university teacher.

B. *Development of the TFG*

To facilitate the development of the thesis, it is recommended that a meeting calendar be structured and defined (see Figure 5) with deadlines set in advance to avoid delays. Thus, the tutor can promote students' autonomy and their ability to take charge of their learning (Odón and Fidias, 2018), so that students will be responsible for completing the assigned tasks and attending follow-up meetings to receive feedback from the tutor. It is important to note that student autonomy is not synonymous with independence (Little, 2007).
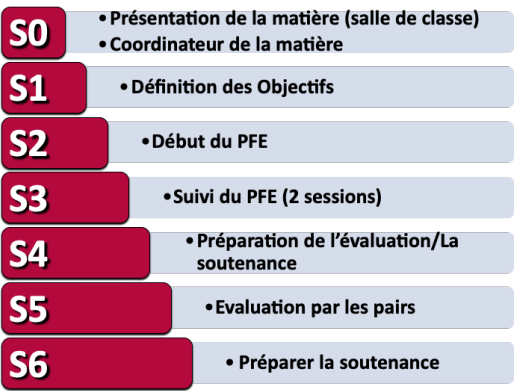
Figure 5. Example of a calendar of meetings between the tutor and the student for the development of the TFG structured in six work sessions

Présentation de la matière (salle de classe)	Presentation of the subject (classroom)
Coordinateur de la matière	Subject coordinator
Définition des Objectifs	Definition of Objectives
Début du PFE	Start of the FYP
Suivi du PFE (2 sessions)	Follow-up of the FYP (2 sessions)
Préparation de l'évaluation/La soutenance	Preparation of the assessment/the defence
Evaluation par les pairs	Peer assessment
Préparer la soutenance	Preparing the defence

C. *Evaluation of the TFG*

It is recommended to differentiate at least 3 aspects in the evaluation (Derounian, 2011):

1. Continuous (formative) evaluation of the student, which has to be carried out by the tutor/supervisor, providing the necessary feedback in each of the scheduled follow-up visits.

2. Evaluation of the result or of the report of the TFG, which is recommended to be shared by the tutor and at least one other independent teacher (summative evaluation).

3. Presentation and defence of the work, which we recommend be carried out by a panel of 3 members, focusing on the presentation and defence that the student makes of their work (summative evaluation).

There is no consensus on the "weight" or impact of each section on the final grade (summative evaluation), some arguing that the tutor should have a greater, some a lesser

weight in the evaluation, but it is generally accepted that the defence and evaluation of the memo have to be evaluated by a team other than the tutor.

However, it is recommended that the evaluation criteria are previously known and described to students and tutors, and evaluation rubrics are used to facilitate an evaluation process that is as homogeneous and appropriate as possible (Kleijn *et al.*, 2015).

D. *Tools to support the completion of the TFG*

There are different tools that can be used for the development and supervision of the TFG throughout the process (Figure 6). These range from a traditional approach (student and tutor meetings) to the use of different information technologies (ICT) that can specify the meeting schedule, the presentation of the deliverables by the student, etc. These include tools such as document repositories, work management tools such as Trello or Microsoft Teams, etc., but without a doubt the use of Moodle can also facilitate the evaluation (incorporating rubrics in students' tasks) and the communication of the teaching team (subject coordinators, court, evaluators, etc.).
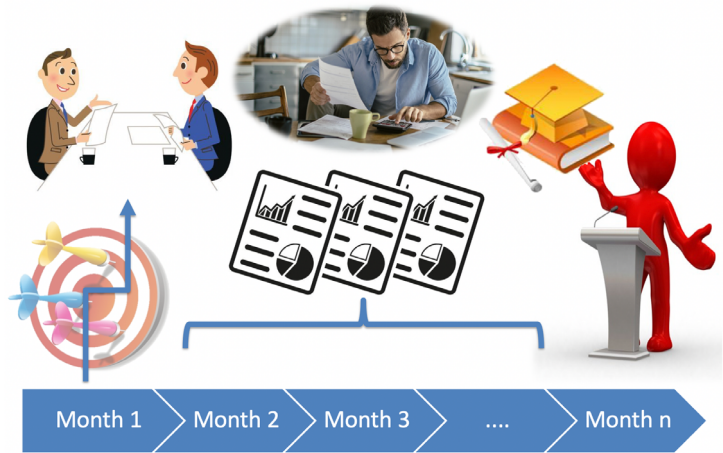
Figure 6. TFG process over time from goal setting to defence

Mois 1	Month 1
Mois n	Month n

5. CONCLUSIONS

This section gives an account of the main conclusions drawn from the experience associated with the mission, and does so in terms of contributions from the participants and the results expected and obtained.

5.1. Contributions of the participants

In relation to the work carried out in the framework of the design and development of teaching guides, the sessions of a more theoretical nature gave rise to a long, intense and interesting debate in question and answer format, which not only allowed to strengthen learning, but also showed a high degree of involvement and interest of all the participants and a high potential of the group to put into practice initiatives for the drawing up of teaching guides in their field or work context.

The contributions of the participants in the work sessions on evaluation by skills were also very enriching and, through various practical activities, they allowed the foundations of this evaluation model to be laid and its advantages and disadvantages to be identified. Likewise, some examples of instruments for skill assessment (rating scales and rubrics) were also analysed and several were designed collaboratively.

Regarding tutoring and mentoring, the participants affirmed that these types of activities are usually very positive and enriching, agreeing that the mentor teachers and the participating teachers, or the mentor students and the mentees learn a lot from each other. What for some is recycling and continuous training is for others easy integration into new areas.

Finally, the particularities of the end-of-studies projects were analysed together with the participants, paying special attention to their classification and types based on the branch of knowledge. Some tools for the supervision of end-of-studies projects were also identified, and the role of the tutor/supervisor in the development of this type of work was addressed.

5.2. Results expected and obtained

The results expected and obtained in each of the mission axes are presented below.

In the first place, in relation to teaching guides, the need for university teaching staff to be able to develop teaching guides and projects adapted to new academic realities to facilitate and transform the teaching-learning process is considered of special relevance. The difficulties and concerns expressed by the participants in this regard are not different from those experienced at the UVa itself in the implementation of their degrees adapted to the EHEA, some of which are still under debate and discussion, the university facilitating permanent training in this line of work. It is, therefore, a complex but necessary objective that requires both a high degree of coordination between teachers, universities and evaluation agencies as well as a follow-up and a commitment to permanent training in all the sections that finally make up a teaching guide.

The skills to design teaching guides and projects adapted to a skill-based teaching model have been improved, especially in relation to the development of teaching guides

as an exercise in teaching planning, as a tool for the cohesion of the various elements of curricular design and as an element of coordination and evaluation.

It is necessary to establish an internal quality assurance system that allows monitoring of the different phases of preparation, execution and evaluation of projects and teaching guides, so that the level of internal coherence of these documents and their fit in the plan of corresponding studies are adequate.

Regarding the evaluation by skills, the strengths and weaknesses of the evaluation by skills model and its application to university teaching were identified, the guidelines were established to plan and design an evaluation by skills plan and, finally, The design peculiarities of some suitable instruments for skill assessment were analysed.

In the field of tutoring and mentoring, the results obtained have to do with teaching and professional skills. These skills are:

— Greater knowledge about the teaching-learning process.

— Greater critical capacity, regarding the knowledge transmission process and regarding the different cross-cutting areas (business ethics, gender equality, reconciliation of family and professional life, etc.).

— Higher quality of the network of contacts with various university levels.

— Greater socialisation of all participants in the process.

— Overcoming possible defects in the process of transmission of knowledge and optimisation in the management of time dedicated to teaching duties.

— Introduction of improvements thanks to the feedback received as tutors, to the needs expressed personally in a climate of trust and mutual respect.

— Greater closeness to the student community, participating in both academic and cultural initiatives.

— Promotion of reflective and critical attitudes towards university teaching, both through individual analysis and in joint meetings.

Finally, in the area of the end-of-course theses, the particular characteristics that the TFG subject presents compared to a traditional subject were identified. There was also time for reflection on the skills that students have to acquire, and a task of these characteristics was carried out in order to apply it in different areas or academic disciplines. Third, the different modalities of TFG applicable to the different areas of knowledge or disciplines were described, differentiating their possible contents. Another of the results shows us that the main tools were identified to direct a TFG, from a traditional approach to the use of computer tools, making a concrete proposal for the tutoring of this thesis in its discipline or area of knowledge in the the session itself. Finally, the main duties of the teacher when directing or supervising a TFG and the differences from the teaching responsibility in a traditional subject were described, differentiating the responsibilities of tutor and student in the process of carrying out the work.

6. FINAL ASSESSMENT OF THE MISSION

The peculiarity of the training experience described throughout this chapter was the fact that it was carried out online, this not being the initial intention but rather a consequence of the limitations imposed by the COVID-19 pandemic. In this regard, despite some initial difficulties and limitations, as the sessions were carried out, it was possible to solve all of them and provide a rhythm, a process dynamic and a level of participation through different communication tools that allowed us to generate a remarkably fluid and close relationship between the experts and the participants, which facilitated the resolution, in real time, of doubts, as well as the clarification of comments that stimulated the debate and significantly enriched the activities carried out. In this way, it was possible to establish in a practical way how communication technologies are a useful and effective tool for the transfer of knowledge, while not necessarily representing a barrier to learning. The involvement of the participants, in fact, was intense and proactive, compensating for the online teaching mode, so it can be considered that a highly satisfactory result was obtained, both from the point of view of the experts and from the point of view of the participants themselves.

7. DOCUMENTARY CONTRIBUTIONS AND REFERENCES

ÁNGEL, P. and AMAR, P. (2007). *Practical guide to coaching*. Barcelona: Paidós.

ALSINA, J. (coord.) (2011). Evaluación por competencias en la universidad: las competencias transversales. *Cuadernos de docencia universitaria*, 11. Barcelona: Ed. Octaedro. http://diposit.ub.edu/dspace/bitstream/2445/145000/1/18cuaderno.pdf

ÁLVAREZ ROJO, V., GARCÍA JIMÉNEZ, E., GIL FLORES, J. *et al.* (2004). *La enseñanza universitaria: planificación y desarrollo de la docencia*. Madrid: EOS Universitaria.

ÁLVAREZ, J. (2008). Evaluar el aprendizaje en una enseñanza centrada en competencias. In Gimeno, J. (Comp.). *Educar por competencias ¿qué hay de nuevo?* (pp. 206-233). Madrid: Morata.

APODACA, P. and LOBATO, C. Eds. (1997). *Calidad en la Universidad: Orientación y evaluación*. Barcelona: Laertes.

ARIAS BLANCO, J.M. (2010). Metodologías de enseñanza–aprendizaje para el desarrollo de competencias. Teacher training course. Oviedo University. https://www.uvic.cat/sites/default/files/Presentacio-JMARIAS.PDF

BAIN, K. (2004). *What the best college teachers do*. Harvard University Press.

BIGGS, J. (2004). *Calidad del aprendizaje universitario*. Madrid: Ed. Narcea.

BLANCO FERNÁNDEZ, A. (coord.) (2009). *Desarrollo y evaluación de competencias en Educación Superior*. Madrid: Ed. Narcea.

BUTLER, E. *et al.* (1989). *Empowering Teachers through Collaborative Mentoring Designs: An Empirical Assessment*. San Francisco, AERA.

CARR, R. (1999). Achieving the Future: The Role of Mentoring in the New Millennium. *Peer Resources*. British Columbia. https://citeseerx.ist.psu.edu/viewdoc/down-

load?doi=10.1.1.197.4848&rep=rep1&-
type=pdf .

De Miguel Díaz, M. (2005). Modalidades
de enseñanza centradas en el desarrollo
de competencias. *Orientaciones para pro-
mover el cambio metodológico en el Espacio
Europeo de Educación Superior.*

— (Coord.). (2006). *Metodologías de ense-
ñanza y aprendizaje para el desarrollo de
competencias. Orientaciones para el profe-
sorado universitario ante el EEES.* Madrid:
Alianza Editorial.

Derounian, J. (2011). Shall we dance? The
importance of staff-student relationships
to undergraduate dissertation prepara-
tion. *Active Learning in Higher Education,*
12, 91-100.

Fernández Sánchez J.A., Tarí, J.J., de
Juana, S., Valdés, J., Andreu, R., Man-
resa, E., Sabater, V., and Rienda, L.
(2015). *Análisis del proceso de elaboración y
tutorización de los TFG y TFM.* XIII Jor-
nadas de redes de investigación en docen-
cia universitaria.

García Sánchez, I.M. (2010). *Sistemas de
evaluación.* University of Salamanca. Free
electronic edition. https://www.eumed.
net/libros-gratis/2010b/687/index.htm

García Sanz, M.P. and Morillas Pedreño,
L.R. (2011). La planificación de evalu-
ación por competencias en Educación
Superior. *REIFOP,* 14 (1), 113-124.

Guilarte Martín-Calero, C., Marbán
Prieto, J. M., and Miranda Casta-
ñeda, S. (2008). *Principios básicos para el
diseño de guías docentes de asignaturas en el
marco del EEES.* University of Valladolid.

Ibarra Sáiz, M.S. (Dir.) (2008). *Evaluación
de competencias en un contexto de apren-
dizaje mixto.* Cádiz: Publications service
of the University of Cádiz.

Kleijn, R.A., Meijer, P.C., Brekelmans, M.,
and Pilot, A. (2015). Adaptive research
supervision: exploring expert thesis super-
visors' practical knowledge. *Higher Educa-
tion Research & Development,* 34, 117-130.

Krathwohl, D. R., & Anderson, L. W.
(2010). Merlin C. Wittrock and the revi-
sion of Bloom's taxonomy. *Educational
psychologist,* 45(1), 64-65.

Little, D. (2007). Language Learner Auton-
omy: Some Fundamental Considerations
Revisited. *Innovation in Language Learn-
ing and Teaching,* 1, 14-29.

López Pastor, V. (2009). Fundamentación
teórica y revisión del estado de la cuestión.
In López Pastor, V. (Coord.) *Evaluación for-
mativa y compartida en Educación Superior.
Propuestas, técnicas, instrumentos y experien-
cias* (pp. 45-65) Madrid: Ed. Narcea.

Merriam, S. B., Thomas, T. K. and Zeph, C.
P. (1987). Mentoring in higher education:
What we know now. *Review of Higher
Education,* 11(2), 199-210.

Mullen, C. A (Ed.). (2008). *The handbook
of formal mentoring in higher education.*
Norwood, MA: Christopher-Gordon

Nicol, D. and Milligan, C. (2006). Rethink-
ing Technology-supported Assessment
Practices in Relation to the Seven Princi-
ples of Good Feedback Practice. In Bryan,
C. and Clegg, K. (eds.) *Innovative Assess-
ment in Higher Education* (pp. 37-47).
New York: Routledge.

Odón, A. and Fidias, G. (2018). Metod-
ología para la valoración de resultados
en Trabajos Finales de Grado (TFG)
de áreas tecnológicas. *REDU. Revista de
Docencia Universitaria,* 16, 177-191.

Pérez K., Ruiz de Gauna P., Fernández
E., Bilbao, B., and Molero, B. (2015).

Elaboración, tutorización y evaluación del TFG. Editorial Erroteta.

Pérez Pueyo, A., Julián Clemente, J.A. and López Pastor, V.M. (2009) Evaluación formativa y compartida en el Espacio Europeo de Educación Superior (EEES). In López Pastor, V.M. (Coord.) *Evaluación formativa y compartida en Educación Superior. Propuestas, técnicas, instrumentos y experiencias* (pp. 19-45). Madrid: Ed. Narcea.

Rodríguez Gómez, G. and Ibarra Sáiz, M.S. (eds.) (2011). *E-evaluación orientada al e-aprendizaje estratégico en Educación Superior.* Madrid: Ed. Narcea.

Salmerón, H. and López, V.L. (2000). *Orientación educativa en las universidades.* Granada: University publishing group.

Sánchez Moreno, M. (2008). Asesoramiento en la universidad. Poniendo a trabajar la experiencia. In *Profesorado. Revista de Currículum y Formación de Profesorado*, 12 (1), 1-19. www.ugr.es/~recfpro/rev121ART7b.pdf

Sánchez, P. (2013). Trabajo Fin de Grado en Administración y Dirección de Empresas (ADE): de la teoría a la experiencia de la Facultad de CC. Empresariales y Turismo del campus de Ourense (Universidad de Vigo). *Revista de Docencia Universitaria*, 11:461-481.

Valverde Macías, A., García Jiménez, E. and Romero Rodríguez, S. (2003). *La función tutorial en la Universidad de Sevilla. La Mentoría como respuesta: el proyecto SI.M.U.S.* http://hdl.handle.net/11441/28004

Vera, J. and Briones, E. (2014). Elementos clave del proceso de tutorización y evaluación del TFG: análisis y resultados en la UVA y la UC. I Congreso interuniversitario sobre el trabajo fin de grado (Universidad de Valladolid).

Vila Merino, B. and Badia Miró, M. (2013). Trabajo en equipo. In Alsina Masmitjà, P. (Coord.) *Rúbricas para la evaluación de competencias* (pp. 32-37). *Cuadernos de docencia universitaria*, 26. Barcelona: Ed. Octaedro. https://octaedro.com/wp-content/uploads/2021/02/16526-1-CDU.pdf

Villardón Gallego, L. (2006). Evaluación del aprendizaje para promover el desarrollo de competencias. *Educatio siglo XXI*, 24, 57-76.

Yendol-Hoppey, D., and Fitchman-Dana, N. (2007). *The Reflective Educator's Guide to Mentoring. Strengthening Practice through Knowledge, Story, and Metaphor.* California: Corwin Press.

Zabalza Beraza, M.Á. and Zabalza Cerdeiriña, A. (2010). *Planificación de la docencia en la Universidad. Elaboración de las guías docentes de las materias.* Madrid: Ed. Narcea.

— (2003). *Competencias docentes del profesorado universitario: calidad y desarrollo profesional* (Vol. 4). Ed. Narcea.

The use of pedagogical material: intellectual property issues.

Enrique J. MARTÍNEZ PÉREZ

University of Valladolid (Spain)
Department of Public Law
enriquejesus.martinez@uva.es

1. INTRODUCTION

Intellectual Property is one of the types of property that are recognised by the Law. It is the most important of properties in fields such as academia. The protection of creations resulting from our intellectual work is necessary to ensure the promotion of creativity, avoid abuse and fraud, and guarantee honesty and respect among all of us who learn and teach thanks to the knowledge and effort contributed to society by others.

Despite its importance, Intellectual Property is subject to permanent threat and aggression. Sometimes out of ignorance and sometimes deliberately; We observe daily how some people use the content and creations of other authors without permission, sometimes even passing them off as their own works, thus attributing to themselves the efforts of others, which is "intellectual" theft that can lead to serious legal and academic sanctions.

The development of information technologies has made available to us vast amounts of content that can be easily located and processed. This, together with the widespread use of computer equipment and programs, has generated a serious problem in educational settings, dramatically increasing cases of plagiarism and illicit use of content.

For this reason, it is necessary not only to promote respect for the rights of others, but also to train teachers and students, through practical and simple advice, on the limits of what can and cannot be done when we use texts, photos, videos or any other type of content created by someone else.

2. FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1. Background

Intellectual Property only protects creations resulting from the human intellect that are original and expressed in some form or medium. This implies that neither works created by machines or computers, nor ideas in an abstract sense (not expressed or materialised)

are the object of this type of property. Nor is there any protection for content that is the result of a copy or that is limited to reproducing general information or knowledge without creative merit.

Unlike other legal disciplines such as Industrial Property, to achieve the protection deriving from Copyright it is not necessary to carry out any registration or administrative procedures.

It is common for teachers to develop their own teaching materials to illustrate their educational activity with students, or to include in their face-to-face or virtual explanations complete or fragmented works (e.g. a video, a recording, an article, etc.) that have been created by third parties. These tasks may involve some legal risks that you should be aware of.

As a general rule, resources (textual, graphics, audiovisual, sound, etc.) of other authors that may be protected by copyright may not be used without their authorisation or without the permission of the rights holder. This limitation applies to all types of works, including textbooks and manuals.

However, this general rule has some exceptions: uploading a chapter or a fragment of a book to the University's virtual teaching platform (not to external platforms) is allowed, as is using it in the physical or virtual classroom; under the right to quote, the inclusion of small fragments of others of a written, sound or audiovisual nature, as well as isolated works of a plastic or photographic nature, is allowed, but only providing they are works already disclosed and that their inclusion is by way of citation or for analysis, comment or criticism. This kind of use can only be carried out for teaching or research purposes, to the extent justified by the purpose of that use and subject to the source and the name of the author of the work used being indicated; regarding the use of links to existing content on the Internet, this practice is valid and risk-free as long as it links to pages where works are legally disclosed; if contents of works that are under an open licence are used (Creative Commons type, or if it is GPL-type software), the source must in any case be indicated, and the limits indicated by the licence itself must be adhered to; regarding electronic resources under licence, most universities have subscribed, through libraries, licences that allow us to access the content of electronic resources, such as databases, books and journal articles. Each publisher offers its own type of contract that, in turn, can be negotiated by each educational institution, so that the conditions of use are very different, but all licences contain clauses that establish who is authorised to access (users: students, teachers, admin staff), how (access method: authentication and servers), from where (sites: educational centres or remotely) and what its authorised uses are.

2.2   Objectives

Review the methodological approaches within the framework of university education related to the use of teaching materials, addressing intellectual property issues and the detection of plagiarism.

— Promote respect for the rights of others.
— Identify what cannot be done when we use materials created by someone else.
— Recognise the works that are the object of intellectual property.
— Determine the types of use of the works.

2.3.   Methodology and expected results

The methodological approach used in each session was similar, with all the mission experts carrying out a common scheme that they had previously discussed and planned in the corresponding mission preparation sessions. In particular combined use was made of the expository technique for the presentation of concepts and theoretical frameworks, of the 'learning contract' method for the follow-up and individualised support to each participant, in cases where it was required, and cooperative learning techniques in the Moodle environment, all under a 'workshop' approach, that is, one in which the contents are built, to a large extent, based on the needs and actions of the participants themselves. This was incorporated in the structuring of the sessions, starting with the presentation of the theoretical foundations, in a format open to discussion and debate, encouraging the active participation of the attendees by allowing time for questions and answers at the end of each presentation, a format that was extremely practical to apply, and which, in fact, would have required even more time than initially planned. Questions were raised through the chat function of the video-conferencing tool, questions that were generally answered before each break.

The initial presentation, carried out on Monday 1 February, was of the content that would serve as the basis for the following sessions. During this, Enrique Martínez Pérez presented the main details of Mission 2.3B, dedicated to the training of teachers in teaching methodologies, describing the content of the mission, the calendar, and the experts who were going to participate in it. Subsequently, each expert presented his or her module or block of content according to the schedule described.

After the introduction with the contextualisation of the mission, the training session began in which Mr Martínez analysed the particularities of the use of teaching materials in virtual classrooms. Works that are protected (and those that are not) were presented, with clear and simple examples, the types of use of works, with a special focus on creative commons licences. The contents included in this session were added to by those dealt with in the second session, which aimed to describe the content of the rights (moral and patrimonial), their ownership and the basic rules for using own and others' works

(images, translations, texts on the internet, etc.). The third session was dedicated to plagiarism, with special reference to non-classical modes of copying (mosaic and inadequate paraphrasing), in addition to providing the appropriate advice regarding its prevention, as well as on recognising the most common errors in order to correct these (immediacy of the citation, bibliographic insufficiency, etc). Finally, in the last session on Monday, a more practical activity was carried out, which aimed to show different tools to detect plagiarism in the university setting. The students also answered some of the questions raised in the three practical cases that we left them on the virtual campus: the existence of plagiarism and the type of plagiarism. The activity related to making acceptable versions of plagiarism was left to be carried out during the week. They had to upload a document in the activity created.

3. GOOD PRACTICES

The many examples raised, the practical cases and the virtual discussion, did not allow us, of course, to answer all the issues that teachers may face in the daily use of other people's materials; however, we did provide criteria and tools so that, in those unforeseen or unaddressed cases, the reader can resolve them themselves.

We also explained what plagiarism is and the various ways in which it manifests itself, presenting those that are less familiar to teachers. The most important thing was to teach and discuss the acceptable versions from a number of examples.

We also provided information on how to protect works: the use of free licences, such as the well-known Creative Commons. If contents of works that are under an open licence are used (Creative Commons type, or if it is GPL-type software), the source must be indicated in any case, and the limits indicated by the licence itself must be observed.

And, finally, how to use one's own and others' works in the academic field, noting, for example, that the fact that a work is on the Internet, and can be freely accessed (seen, read, listened to) does not mean that it can be freely copied into one's own teaching materials; and that the reuse of previously created own materials may also entail legal risks.

4. CONCLUSIONS

4.1. Results expected and those obtained:

The main objective of the mission was to address the aspects necessary for the training of teachers in teaching methodologies aimed at improving these methodologies in the areas related to the use of teaching materials and their relationship with intellectual property and academic cyberplagiarism.

The objectives and results of each session and of the course were achieved in accordance with the forecasts and estimates initially planned together with the adaptations that were made as the mission progressed. The tasks were carried out in accordance with the

established calendar, without delay, completely and, in view of the work submitted and the participation of the students, in a very satisfactory manner. The presentations met the requested objectives and the contents presented by the experts were appropriate to the requirements set for the mission. Each session devoted enough time to the participants, fixing the handing back of the corrected tasks for a later time since not all participants were able to complete them during the sessions themselves.

4.2. Documentary contributions and references

1. Presentation: L'utilisation du matériel pedagogique: questions de propriété intellectuelle.
2. LIVRE BLANC Intégrité académique dans un monde digital: Définir le plagiat.
3. Programmes pour détecter le plagiat.

5.   Basic bibliographical resources

IFLA, Cuestiones clave para el desarrollo de colecciones con recursos electrónicos: Una guía para bibliotecas, 2012, available at:https:// www.ifla.org/files/assets/ acquisition-collection-development/publications/ electronic-resource-guide-sp.pdf

Rebium-Crue, Recomendaciones sobre creación y uso de materiales docentes, 2019, available at https://rebiun.xercode.es/ xmlui/handle/20.500.11967/477

Román Pérez, R., Guía de propiedad intelectual en el ámbito universitario, 2017, available at: https://riubu.ubu.es/bitstream/ handle/10259/4865/Román-Guia_de_ la_propiedad_intelectual. pdf?sequence=1&isAllowed=y

Temiño Ceniceros, I., El plagio en el derecho de autor, Civitas- Thomson Reuters, Cizur Menor, 2015.

What is an evaluation rubric? Clarifying nomenclature concepts

Raúl MARTÍN HERRANZ

University of Valladolid (Spain)
Department of Physics TAO
raul@ioba.med.uva.es

1. INTRODUCTION

One of the widely described problems among university teachers concerns communication problems related to pedagogical terminology, and even among communication experts a clear definition of the terminology used in evaluation has been demanded (Joint Committee on Standards for Education Evaluation, 2007 and Hamodi C, *et al.* 2015), so it is necessary to establish or define some key concepts that directly affect the process of designing and using an evaluation rubric.

The evaluation can be classified according to different criteria, among which at least these four main criteria stand out:

1. By *purpose*, distinguishing:
   a. *Summative:* Establishes the final balance with the results of the teaching-learning process and establishes the level of achievement of a specific learning content.
   b. *Formative:* It establishes the level of understanding of the students, allows the teaching-learning process to be planned and serves to guide teachers and students. It is also defined as the evaluation that allows the teaching-learning process to be assessed. It is often called continuous evaluation, but perhaps they are not synonymous terms in all their dimensions.
2. By the *moment*, distinguishing:
   a. Initial, aimed at obtaining knowledge of the general framework in which the teaching action will take place
   b. Intermediate,
   c. Final

In the latter two cases, these evaluations can be summative or formative. Continuous evaluation (which is carried out in various phases of the teaching-learning process) could also be included.

3. By *approach*, distinguishing:
   a. *Of learning*, it allows the degree of assimilation of the contents to be determined, it would be a summative evaluation.
   b. *For learning*, for example, with the use of continuous evaluation that allows formative (or summative) evaluation to be used and applying it to assess learning.
   c. *As learning*, in this case it is about using formative evaluation to monitor and consolidate learning, as it is a key process in student learning.
   d. *Sustainable*, its objective is the development of a set of skills allowing teachers to evaluate the learning of students on a large scale, generally involving the student in the evaluation process through collaborative strategies (such as self-evaluation, peer evaluation, or co-evaluation).

4. By the *evaluating agent*, distinguishing:
   a. "Hetero" or third-party evaluation, where the evaluation is carried out by someone other than the student or teacher of the subject. An example is the evaluation of clinical communication skills in health sciences degrees when it is the patient who values the care received.
   b. *Self-evaluation*, carried out by students so that they become aware of their own learning and take responsibility for it.
   c. *Of the teacher*, when the evaluation is carried out by the teacher of the subject (classically it is the most frequently used in the university).
   d. *Peer evaluation* also called Co-evaluation, when students evaluate other students (peers or equals).

2. FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1. Background

Evaluation is a process based on collecting information, whether through written or unwritten instruments; to analyse it and make a judgement about it, making decisions in accordance with the judgement issued. For its part, the rating is based more on translating these evaluations of or judgements about student learning into quantitative terms, generally in the context of a summative evaluation (Figure 1).

It is also important to identify the object of the evaluation (evaluation pyramid) since traditionally the objective of the evaluation refers "almost exclusively" to the student, to the level of learning that the student achieves in a certain aspect with the aim of certifying or informing the student and other stakeholders of the student's competence in relation to

learning outcomes. This aspect is basic and indispensable in the university and is directly related to the action of qualifying in the final part of the evaluation process.

But the process of evaluating encompasses more than the act of grading and can also be applied to evaluation for learning, which is especially useful since this approach allows teachers to design the teaching process and the student to make progress in their learning process. In other words, in this case, evaluation as learning is not used to "measure" learning or offer a final grade (summative) but rather to place the evaluation in the area of formative evaluation.

Finally, the evaluation process can and does allow teachers to guide and provide opportunities for each student to monitor and critically reflect on their learning and identify the next steps to follow until the learning objectives/outcomes set for the subject are achieved. This aspect is very useful since it transfers the responsibility of their learning to the student and positions the teacher as a facilitator in this process. But to achieve this, it is necessary to define evaluation criteria that meet the necessary requirements as will be described throughout the chapter.

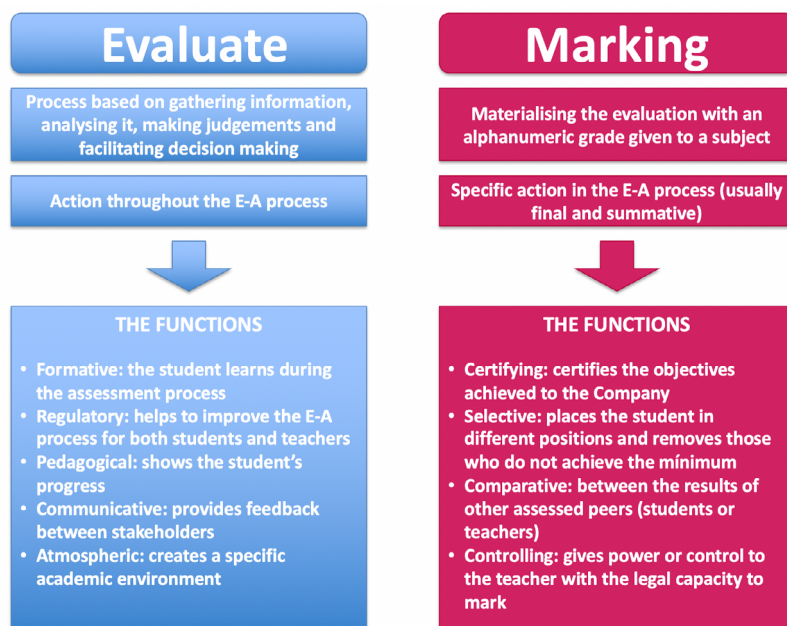| Evaluate	Marking
Process based on gathering information, analysing it, making judgements and facilitating decision making	Materialising the evaluation with an alphanumeric grade given to a subject
Action throughout the E-A process	Specific action in the E-A process (usually final and summative)
THE FUNCTIONS	THE FUNCTIONS
• Formative: the student learns during the assessment process • Regulatory: helps to improve the E-A process for both students and teachers • Pedagogical: shows the student's progress • Communicative: provides feedback between stakeholders • Atmospheric: creates a specific academic environment	• Certifying: certifies the objectives achieved to the Company • Selective: places the student in different positions and removes those who do not achieve the mínimum • Comparative: between the results of other assessed peers (students or teachers) • Controlling: gives power or control to the teacher with the legal capacity to mark

Figure 1. Differences between evaluating and grading (adapted from Hamodi, *et al.* 2015).

Évaluer	Evaluate
Processus basé sur la collecte d'informations, leur analyse, la prise de jugement et la facilitation de la prise de décision	Process based on gathering information, analysing it, making judgements and facilitating decision making
Action tout au long du processus E-A	Action throughout the E-A process
LES FONCTIONS	THE FUNCTIONS
Formatrice: l'étudiant apprend pendant le processus d'évaluation	Formative: the student learns during the assessment process
Réglementaire: permet d'améliorer le processus E-A, tant pour les étudiants que pour les enseignants	Regulatory: helps to improve the E-A process for both students and teachers
Pédagogique: montre les progrès de l'étudiant	Pedagogical: shows the student's progress
Communicatrice: produit un feedback entre les acteurs	Communicative: provides feedback between stakeholders
D'ambiance: créer un environnement académique spécifique	Atmospheric: creates a specific academic environment
Noter	Marking
Matérialiser le jugement avec une note alphanumérique attribuée à un sujet	Materialising the evaluation with an alphanumeric grade given to a subject
Action spécifique dans le processus E-A (généralement finale et sommative)	Specific action in the E-A process (usually final and summative)
LES FONCTIONS	THE FUNCTIONS
Certificatrice: atteste à la société les objectifs atteints	Certifying: certifies the objectives achieved to the company
Sélective: place l'étudiant dans différentes positions et élimine ceux qui n'atteignent pas le mínimum	Selective: places the student in different positions and removes those who do not achieve the minimum
Comparative ; entre les résultats des autres camarades évalués (étudiants ou enseignants)	Comparative: between the results of other assessed peers (students or teachers)
De contrôle: donne le pouvoir ou le contrôle á l'enseignant en ayant la capacité juridique de noter	Controlling: gives power or control to the teacher with the legal capacity to mark

2.2. Objectives

— Review the methodological approaches within the framework of university education related to the evaluation process (design and use of evaluation rubrics as well as the use of formative and shared evaluation as a key element of learning).

— Unify the nomenclature and key concepts related to the evaluation process (types of evaluation, evaluation methods, evaluation techniques and evaluation instruments).

— Describe the main characteristics of the rubric as an evaluation instrument.

— Identify and contextualise the use of evaluation media, techniques and instruments in the university context.

— Describe the main characteristics that the evaluation criteria have to meet.

— Define the concept of evaluation indicator.

— Detail the qualities that the evaluation indicators have to meet.

— Justify the requirements to express an evaluation indicator, detailing the argument, the standard and the index.

— Identify the use of evaluation criteria and indicators in the process of preparing or constructing an evaluation rubric.

— Present the basic structure of an evaluation rubric, identifying the dimensions, criteria and indicators.

3. GOOD PRACTICES

The recommendations for the use of rubrics in the evaluation can be summarised in 4 main items.

3.1. Identify the means, techniques and instruments of evaluation

Despite the fact that the literature is ambiguous when defining the means, techniques and instruments of evaluation, it can be accepted that:

1. The *means of evaluation* are the students' tests or means of evidence that the teacher can collect, see, and/or listen to in order to demonstrate the degree of learning acquired, therefore they can be presented in three main ways; through written documents, oral demonstrations or practical demonstrations.

2. The *evaluation techniques* include the strategies used systematically by the teacher to gather information about the means of evaluation and the students' productions, mainly through observation or listening in addition to documentary analysis.

3. The *evaluation instruments*, finally, are the real and tangible tools used to evaluate in an organised way the learning evidenced through the means and evaluation techniques used. Furthermore, the evaluation instruments explicitly or implicitly reflect the evaluation criteria and indicators. They are usually differentiated into checklists, estimation scales, rubrics or others or even a combination of the above.

Table 1 summarises some of the means, techniques and instruments most used in the evaluation process.

3.2. Definition of the evaluation criteria

The evaluation criteria are the conditions that an activity, action, process or product must meet to be considered quality and therefore define a quality objective in relation to what is to be evaluated. It is therefore a principle defined in advance that is used to issue an evaluation in the teaching-learning process.

Means	Technical	Instrument
Folder or dossier Practice/field notebook Questionnaire Examination Report Test Debate/Exhibition Presentation Oral exam Practical demonstration Role-Playing Action	Documentary analysis (individual or group work review, exam correction) Student observation (direct, recorded, group, etc.) Self-evaluation/Peer evaluation/Collaborative evaluation	Teacher's diary Comparative scale Numerical scale Descriptive scale or Rubric Check list Decision matrix Follow-up files Reports

Table 1. Summary of some of the means, techniques and instruments used in the evaluation process.

Therefore, a criterion must be concrete, explicit and presented or specified in a clear and detailed way, without implying or taking anything for granted and therefore understandable by students and teachers, and it must be measurable or quantifiable. It is also important that the criterion is accepted by the interested parties and especially by the teaching team (especially if several teachers teach the subject), but also that it is valid and appropriate to the university or professional context of the discipline to be evaluated, that is, it is significant that the criteria are accepted by the scientific community. No less important is the possibility that the students themselves participate and accept the evaluation criteria. Finally, it must be known in advance by the students and teachers involved and, therefore, it must facilitate and allow learning.

3.3. Definition of the evaluation indicators

An evaluation indicator is understood to be a qualitative or quantitative expression that allows evaluating or measuring the degree of compliance by the student with the evaluation criterion to be evaluated.

An evaluation indicator has to be objective, so that all students and teachers understand the same thing, realistic, that is, it must be possible to estimate it in a reasonable time, and be based on evidence so that it can be demonstrated how it has been calculated or obtained, so that it is useful and provides significant information for learning, being pertinent and adequate, in addition to being accepted or agreed upon by the agents involved. Ideally they have to be sensitive, that is, capable of differentiating the level of learning accurately and adequately, and reliably without bias in their application.

Evaluation indicators generally require three different parameters for their description:

1. *Argument*: that expresses or justifies by means of a reasoned statement the relevance of the indicator.

2. *Standard*: that describes the degree of compliance that is required or that is acceptable to define a specific quality level and that is used to determine the minimum (threshold), intermediate and maximum acceptable levels for the indicator.

3. *Index*: which is the result that is expressed by a result that is usually a number such as the rate, ratio, percentage, etc.

3.4. Basic structure of an evaluation rubric

The evaluation rubric is, therefore, an evaluation instrument with a basic structure that can be described as a matrix (Table 2) that shows the evaluation criteria - grouped by dimensions if applicable - and the different standards that correspond to the levels of execution of a specific learning task (Gil, 2007). In addition, they usually incorporate "scoring guides" that describe the specific characteristics of the performance of a product, project or specific task with different levels of performance or execution-which will receive a different evaluation or score - depending on the degree of achievement by the student.

	Criterion A	**Criterion B**	**Criterion C**	**Criterion D**
Dimension 1				
	D1-1A indicator	D1-2B indicator	D1-3C indicator	D1-3D indicator
	D1-2A indicator	D1-2B indicator	D1-2C indicator	D1-2D indicator
	…	…	…	…
	D1-nA indicator	D1-nC indicator	D1-nC indicator	D1-nD indicator
Dimension 2				
	D2-1A indicator	D2-2B indicator	D2-3C indicator	D2-3D indicator
	D2-2A indicator	D2-2B indicator	D2-2C indicator	D2-2D indicator
	…	…	…	…

	Criterion A	Criterion B	Criterion C	Criterion D
	D2-nA indicator	D2-nC indicator	D2-nC indicator	D2-nD indicator
Dimension n				
	Dn-1A indicator	Dn-2B indicator	Dn-3C indicator	Dn-3D indicator
	Dn-2A indicator	Dn-2B indicator	Dn-2C indicator	Dn-2D indicator
	…	…	…	…
	Dn-nA indicator	Dn-nC indicator	Dn-nC indicator	Dn-nD indicator

Table 2. Representation of a matrix with the criteria, dimensions and indicators to design an evaluation rubric (adapted from Torres & Perera, 2010).

Finally, the rubric defines and explains to the students what the teacher (or the academic institution) expects them to learn and shows the criteria on how this learning will be assessed (evaluated) in each of the aspects described. This description of the criteria has to be as clear and specific as possible, so that the student, knowing the criteria in advance, can organise and structure their learning process to adapt it to the requirements demanded in the evaluation, helping and guiding the learning process.

4. CONCLUSIONS

The rubric is an evaluation instrument based on the use of a quantitative and/or qualitative scale that defines the pre-established criteria and indicators on which the evaluation process will act in a way that allows evaluating the actions of the students on the aspects of the task or activity that will be evaluated (Hamodi, *et al.* 2015; Torres & Pereda 2010). It is, therefore, a versatile tool, with different applications depending on the type of evaluation that is proposed, applicable in very different ways to evaluate and tutor the work of students in different academic situations and also evaluate the teaching-learning process itself. In addition, it provides feedback to students to improve the teaching-learning process and helps to improve the evaluation process.

4.1. Results expected and those obtained:

— The description and design of evaluation rubrics in the university context were analysed. First, some of the concepts and nomenclature related to the evaluation process were clarified. Next, the characteristics of the evaluation techniques and criteria applicable to the university context were described. Finally, a series of recommendations were

presented to address the design of an evaluation rubric, breaking down in a practical way its main characteristics, how to apply it in the evaluation and the most frequent problems related to its design and/or use.

— We unified the nomenclature and key concepts related to the evaluation process (types of evaluation, evaluation methods, evaluation techniques and evaluation instruments).

— We described the main characteristics of the rubric as an evaluation instrument.

— We identified and contextualised the use of evaluation media, techniques and instruments in the university context.

— We described the main characteristics that the evaluation criteria have to meet.

— We defined the concept of evaluation indicator.

— We detailed the qualities that the evaluation indicators have to meet.

— We justified the requirements to express an evaluation indicator, detailing the argument, the standard and the index.

— We identified the use of evaluation criteria and indicators in the process of preparing or constructing an evaluation rubric.

— The process was defined to design an appropriate evaluation tool in the evaluation of competencies in higher education.

— The implications of the evaluation process for university teachers and students were shown.

— The basic structure of an evaluation rubric was presented, identifying the dimensions, criteria and indicators.

4.2. Documentary contributions and references.

ADAM S. Using Learning Outcomes: A Consideration of the Nature, Role, Application and Implications for European Education of Employing "Learning Outcomes" at the Local, National and International Levels. United Kingdom Bologna Seminar, 1-2 July 2004, Heriot-Watt University (Edinburgh Conference Centre), Edinburgh. 2004

BLANCO BLANCO, A. Las rúbricas: un instrumento útil para la evaluación de competencias, en La enseñanza universitaria centrada en el aprendizaje: estrategias útiles para el profesorado Ed Octaedro-ICE, Universidad de Barcelona, Barcelona 2008 Pág: 171-188

CEBRIÁN, M. Buenas prácticas en el uso del e-portafolio y e-rúbrica, En El practicum: buenas prácticas en el Espacio Europeo de Educación Superior Ed. Tórculo. Santiago de Compostela 2007 Pág 67-87

GIBBS G. Uso estratégico de la evaluación en el aprendizaje. In Evaluar en la universidad: problemas y nuevos enfoques, Pag 61-75 Ed. Narcea. ISBN: 84-277-1422-X 2003

GIL FLORES, J, La evaluación de competencias laborales, Revista Educación XXI, 2007;10:83-106

GOVAERTS MJ. Educational competencies or education for professional competence? Medical Education. 2008;42(3):234-6

Hamodi C, Pastor VML, Pastor ATL. Medios, técnicas e instrumentos de evaluación formativa y compartida del aprendizaje en educación superior. Perfiles Educ. 2015;37(147):146–161

Ibarra-Sáiz MS, Rodríguez-Gómez G. Evaluando la evaluación. Validación mediante PLS-SEM de la escala ATAE para el análisis de las tareas de evaluación. RELIEVE – Revista Electrónica de Investigación y Evaluación Educativa, 2020;26(1)

López Pastor, VM. Evaluación formativa y compartida en la universidad: clarificación de conceptos y propuestas de intervención desde la Red Interuniversitaria de Evaluación Formativa. Psychology, Society, & Education, 2012;4:117-130

Mertler, CA. Designing scoring rubrics for your classroom. Practical Assessment, Research & Evaluation, 2001;7(25):1-8

Pérez-Pueyo, Á, Tabernero B, López VM, *et al*. Evaluación formativa y compartida en la docencia universitaria: la concreción de cuestiones/clave para su aplicación en el camino hacia el Espacio Europeo de Educación Superior (EEES). Revista de Educación 2008;347:435-451

Roblyer, MD, Wiencke, WR. Exploring the interaction equation: validating a rubric to assess and encourage interaction in distance courses. Journal of Asynchronous Learning Networks, 2005;8

Rodríguez, G y Soledad-Ibarra M. e-Evaluación orientada al e-aprendizaje estratégico en educación superior, Madrid, Ed. Narcea. 2011

Sanmartí, N. 10 ideas clave: evaluar para aprender, Madrid, Ed. Graó. 2007

Torres Gordillo, J.J. and Perera Rodríguez, V.H. La rúbrica como instrumento pedagógico para la tutorización y evaluación de los aprendizajes en el foro online en educación superior. Pixel-Bit. Revista de Medios y Educación, 2010;36,141-149.

Active learning and flipped classrooms

Alfredo PRIETO MARTÍN
José BARBARROJA ESCUDERO
University of Alcalá (Spain)
Department of Medicine and Medical Specialities
alfredo.prieto@uah.es

1. INTRODUCTION

In traditional teaching, the protagonist is the teacher, who makes "autocratic" decisions about what has to be done and learnt. What alternative methodologies have in common is that the teacher is no longer the only protagonist - the students are also leading players in the teaching-learning process. The most radically different alternative is learning through enquiry, in which the role of the teacher is to challenge the students and it is the students who have to identify what they need to learn, investigate it and discover the answers that will allow them to overcome that challenge. In this way, students learn in a more autonomous way and develop skills for self-regulated learning. A second method is a more gradual alternative in which the teacher combines guidance with letting the students decide what they need to learn. These hybrid methodologies combine elements of the traditional approach with new ones - the teacher explains some things, but the students have to investigate and assimilate information themselves.

They include active learning and flipped classrooms. These methodologies pose a very simple challenge to students: before we explain them, they have to first try to understand the readings and videos we provide unaided and inform the teacher of any difficulties they encounter. By eliciting questions and doubts from the students, the teacher can concentrate in class on resolving those doubts and on activities in which the students partly take the lead.

2. FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1. Background

Research on alternatives to traditional teaching methodology concludes that several alternative methodologies are better than the traditional one for producing learning. One of them is active learning. Studies have shown that incorporating active learning into

classes improves student grades by 0.5 standard deviation, an 18% percentile improvement. It also reduces the failure rate by a third. The flipped classroom achieves even better results. The adaptive flipped classroom improves average scores on learning assessment tests by up to one standard deviation, representing a 34% increase in the percentile.

Bonwell and Eison published the first book on active learning in university teaching in 1991. Their concept of active learning is: "Students must do more than just listen: they must read, write, discuss, or be engaged in solving problems. Most important, to be actively involved, students must engage in such higher-order thinking tasks as analysis, synthesis, and evaluation. Within this context, it is proposed that strategies promoting active learning be defined as instructional activities involving students in doing things and thinking about what they are doing." What was new in this approach was the view that instead of allowing students' activity to take place after class, something had to be done to make them active IN class, and in that sense we could define active learning as getting students to carry out, in class time, activities that consist of doing things with the information that they must learn to exercise those skills and competencies that they have to develop.

In an active learning, hybrid or interactive class, teaching is not continuous but paused from time to time to give students the opportunity to think and express their ideas. This is accomplished by introducing questions and live activities that lead to discussions in pairs, groups, or the whole class. We use these questions for our students to apply knowledge and show what they have understood.

There is a wealth of research showing the benefits of active learning. The first works are from the last century and in them it was demonstrated that in different disciplines the use of active learning produces learning gains that double those obtained with traditional expository methods. Among the works with the most impact, we would highlight Freeman's meta-analysis, published in 2014, which gathered data from 225 studies comparing traditional learning with active learning and obtaining evidence of their superior efficacy in producing learning and reducing failure rates.

The flipped classroom conveys information without wasting class time. We send the students instructional videos and documents, which they study, but we no longer have to explain everything and we can focus class time on solving their doubts or doing activities. With better prepared students and teachers who know their interests and difficulties, it is easier to choose relevant activities and for them to be successful.

We have developed the adaptive and interactive flipped classroom methodology on which we have published articles. The methodology has four phases. In the first phase, the teacher, before starting the topic, sends the materials to the students and asks them to review them and sends them a questionnaire of open and reflective questions in the answers to which the students will express their reactions to the materials. Students review the materials and tell the teacher about their difficulties and about what they do

not understand. The teacher analyses this information and then redefines the class plan, which is why this method is referred to as 'just-in-time' teaching - it is not until the day before the first class that the teacher finds out what the students do not understand and reacts by creating a class focused on resolving those doubts and difficulties. The fourth phase is an interactive class incorporating active classroom learning.

2.2. Objectives

Present active learning methodologies and flipped classroom and competence-based learning in the educational field.

Make participants aware of the need for a change in university teaching methods and give then an understanding of the main alternative methodologies for achieving this.

2.3. Methodology and expected results:

The session was organised in four parts. The first one discussed how the flipped classroom creates the ideal environment in which we can introduce more active learning in our classrooms. In the second part, the implementation of the flipped classroom at the University was addressed and methodologies to put it into practice were illustrated, such as just-in-time teaching, peer instruction, team-based learning, PEPEOLA (Promotion of Study and Preparation by Automated Online Evaluation) and the adaptive and interactive flipped classroom. The third session discussed how to document the impact of methodological innovations so as to be able to produce scientific publications on this subject. In the fourth part, we addressed the question of how to motivate students to do those things that will help them to understand.

Session 3.1 was devoted to exposing the limitations of the traditional expository model and its lost opportunity costs in terms of time spent 'teaching' that could have been used for students to use their skills. Active learning and inductive learning methodologies were proposed as alternatives to the deductive expository method. The adaptive flipped classroom model was introduced. The four phases of the information flow in the flipped classroom were explained. The steps that teachers must take to incorporate the flipped classroom into their subjects were discussed. Finally, the presenter answered the questions raised by the participants.

In session 3.2, various methodologies to implement the flipped classroom in university subjects were explained. Its history, university origins and spread were summarised. Data were shown to illustrate the popularisation of the flipped classroom as of 2012 and how the COVID-19 pandemic has driven its use even further. Finally, the flipped school experiments carried out in institutes and universities in various countries were shown.

In session 3.3, the methods used to measure and report the effect of educational innovation were explained. We described the research methodology used to carry out systematic measurements and studies on how particular innovations affect students'

involvement and work, their perception of the learning experience and the learning outcomes obtained. The session ended with an explanation of the pedagogical basis of inductive methodologies, problem-and project-based learning.

Session 3.4 provided tips on how to motivate our students to do things that help them learn. The gamification strategies that we can use to get students involved in the flipped classroom were summarised: an agile method of checking the preparatory study (online questionnaire) that tells us which students have prepared and enables us to reward them, and a narrative that appeals to the sense of mission of the student in the subject. The two most successful strategies for 'marketing' the flipped model to students to get their involvement in preparatory study were studied in depth. Exercises were conducted on interpreting graphs of results of previous years and letters of recommendations on how to tackle the written work from colleagues from previous years.

3.   GOOD PRACTICES

With the intention of facilitating the application of the contents of the mission, different activities, tasks and exercises were proposed. In addition, various documents of interest were added to the project's tele-training platform, which participants can consult to expand the content shown. Participants were also invited to consult the experts with any questions they may have.

In session 3.1, a survey was conducted among participants on the reasons why most university teachers continue to use traditional methods rather than those supported by educational research such as active learning. The majority response was that it is the demand for extra effort on the part of teachers, the lack of teacher training in new methodologies and the lack of institutional support that most hinders teachers when deciding whether to incorporate new methodologies focused on the leading role of the student in their teaching.

Session 3.2 began by answering some questions that had been left pending from the previous session and announcing the activity of the wishes that we would ask the learning genie to grant to improve the learning of our students. Participants were asked to respond to this activity in order for the speaker to provide feedback on them in the fourth session in which a live analysis of their responses was carried out and we provided advice on how those wishes of the participants could be achieved using, instead of magic, good teaching methodologies and pedagogical innovation

4.   CONCLUSIONS

4.1.   Results expected and those obtained:

The need for a change in university teaching methods and how to achieve it was transmitted and discussed. Participants understood the steps to follow to switch to the flipped classroom methodology. The first recommendation is to start by flipping some parts of our

classes, inserting some case studies and questions to apply in which students have to apply and discuss what has been presented. In a second step, complete classes are flipped, that is, students are asked to study for a class in which we focus on those things students have difficulties in. In a third step we could flip themes or complete units. The next steps we would have to take is to flip complete subjects and to do this we must ensure that our students do the preparatory study. To achieve this, it is very important to evaluate continuously and to reward those students who make an effort. The last step will be to help our fellow teachers to change their methodology by teaching them how to do it themselves and teaching them to document the impact that these innovations have on our students' learning and learn that necessary to be able to publish articles about our experiences.

4.2. Documentary contributions

Prieto, A., Díaz, D., Monserrat, J., Reyes, E., *et al.* (2014). Experiencias de aplicación de estrategias de gamificación a entornos de aprendizaje universitario. ReVisión, 7 (2): 76-92.

Prieto, A., Díaz, D., Lara, I., Monserrat, J., Sanvicen P., Santiago, R., Corell, A., Alvarez-Mon M., (2018b) Nuevas combinaciones de aula invertida con just in time teaching y análisis de respuestas de los alumnos. RIED Revista Iberoamericana Educación a Distancia.; 21(1): 175-194

Prieto, A., Barbarroja, E. Lara-Aguilera I, Díaz-Martín D, Pérez-Gómez A, Monserrat J, Corell-Almuzara, A., Álvarez de Mon, M. (2019). Aula invertida en enseñanzas sanitarias recomendaciones para su puesta en práctica FEM. Revista de la Fundación Educación Médica, ISSN 2014-9832, Vol. 22, no. 6, pp. 253-262.

Prieto, A. and Giménez, X. (2020a). La enseñanza universitaria basada en la actividad del estudiante: evidencias de su validez. In Docentes universitarios. Una formación centrada en la práctica Porlan. R., de Alba Fernández N. Madrid. Ed Morata.

Prieto, A., Díaz, D., Monserrat, J., Barbarroja, J., (2020b). the impact of methodological innovations on the results of university teaching RIECS2020 https://www.riecs.es/index.php/riecs/article/view/201

Prieto, A., Barbarroja, J., Álvarez, S., Corell, A., (2021) Effectiveness of the flipped classroom model in university education: a synthesis of the best evidence. Revista de Educación No. 391, pp. 149-177.

Competency-based learning in the educational field

David HORTIGÜELA ALCALÁ

University of Burgos (Spain)

dhortiguela@ubu.es

1. INTRODUCTION

It is essential to give importance to the teaching processes, since, depending on the way they are approached and the methods applied, learning will be more or less significant (Munna & Kalam, 2021). This assertion, which seems unquestionable in the framework of compulsory education, is less so in higher education, since traditionally more weight has been given to the acquisition of content than to the use of active and participatory methodological strategies that actively involve students (Mandell & Jelly, 2020). In many cases, the teaching approach revolves around learning objectives based purely on knowledge of the subject, which, although important, should not ignore the more competence-based educational sphere, which must be based on the development of the capacities of the student.

Under this paradigm of bidirectionality between what and how to teach, teacher training takes on a fundamental role. In this sense, it is essential that the training plans of university subjects address the use of methodologies that go beyond the teaching of lessons by the teacher, with evaluation acquiring an essential role, different from that of mere grading (Hortigüela- Alcalá *et al.*, 2019a). To this end, there are currently a large number of consolidated teaching strategies that have demonstrated positive effects on student learning, showing that it can be more significant and transferable to a variety of contexts. In addition, the application of pedagogical models centred on the student allows attention to be given to other substantial spheres such as affective, motor and social spheres, aspects of relations with others which if well managed can have a multiplier effect on learning. What good is rote learning that has no applicability in different social contexts? Where is the development of the transversal skills that are so important? Consequently… What is regarded as academic success?

In view of these issues, it is essential to establish a direct connection between social and professional needs and university education, based on the belief that university and

society must be connected, with clearly complementary purposes. Therefore, true innovation is change that transforms the context in which it is applied, not just something new. It is through this prism of addition, contribution and growth that university education has to become one of the fundamental pillars of social transformation, from the most humanistic, integrative and reflective perspective possible.

2.   FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1.   Background

This chapter is based on three significant aspects in the teaching process: a) work based on skills; b) formative and shared evaluation; c) cooperative learning. Any other methodological principle that calls itself innovative should be governed, in one way or another, by these three pedagogical pillars, regardless of the field of study or the subject in question (Pérez-Pueyo *et al.*, 2020).

Although working on skills, since the Bologna Declaration in the university field, has been in force for a few years, even today the teaching model has not structurally modified its teaching approaches (Barba-Martín *et al.*, 2020). There is a lack of a common structure, for example, of related areas seeking a parallel and progressive development of skills throughout the degree courses, in many cases each subject being totally independent, both in form and in substance. This situation can lead in certain cases to various overlaps, even in the content itself, resulting in inconsistencies about what is intended to be taught. Another aspect that continues to generate inconsistencies in the teaching process, as well as confusion among teachers, is evaluation (Hortigüela-Acalá *et al.*, 2019b). One of the main problems is its confusion with grading, with all that that entails. If we start out from the basis that education must be a synonym for learning, aspects such as transparency of criteria, the delimitation of instruments in advance and the involvement of students in an active way, should be non-negotiable. Another of the indissoluble elements, if teaching is to be as democratic as possible, is cooperation. In the university environment, this is very often confused with group work, which greatly reduces its possibilities (Bores-García *et al.*, 2021). Whereas group work merely concerns the distribution of tasks and roles to achieve a goal, cooperative work involves learning from, with and for others, positive interdependence and mutually stimulating interaction being key elements.

Working along these lines means putting aside rote and individual learning to promote a more social learning interconnected with social demands.

2.2.   Objectives

The main objective of this chapter and the training given is:

Review the methodological approaches in the framework of university training related to competence-based learning.

Analyse the importance of competence work, formative and shared evaluation and cooperative learning in higher education, proposing didactic strategies for application in the classroom.

2.3. Methodology and expected results:

The methodology applied in training was of an expository nature, with a contextual *tour d'horizon* of the most significant aspects established in the scientific literature. All the arguments and strategies presented are based on evidence, which gives them greater foundation and rigour. The more theoretical justification was framed within the variety of practical resources and strategies proposed for attendees to apply in their professional contexts. Interaction with participants was facilitated at all times, resolving doubts and clarifying aspects, through both chat and audio functions. From there, the intended results revolved around reflection on the importance of applying quality teaching in higher education, an in-depth and critical analysis being carried out of aspects that can be improved.

3. GOOD PRACTICES

The good practices developed were structured around the three thematic axes addressed:

1. *Competency work*: we worked on a possible proposal for sequencing transversal skills by courses, taking as an example approaches developed in compulsory education (https://grupoactitudes.com/material/#competencias). In this way, aspects such as group work, the search for information, oral presentation or the way of citing bibliography, could have a consistent and progressive path in the various degree courses. This would allow teachers to structure their educational practice in a more coordinated and transversal way, focusing on those common aspects that have been decided. In addition, collaborative, creative, critical and communicative capabilities were emphasised as being those fundamental to promote the student's skills development.

2. *Formative and shared evaluation*: we stressed certain techniques such as the distribution of grades (Pérez-Pueyo *et al.*, 2014) establishing the importance of consciously promoting the student's evaluative responsibility within group work. To do this, two application techniques were provided; a) complemented group grade, in which a final grade is awarded to the group plus some extra points that they have to distribute; b) distribution of total points, in which the final grade awarded to the group must be distributed in its entirety. In both cases, it is necessary to use periodic follow-up diaries, in which intragroup co-evaluations are carried out covering the perception that each member has of himself or herself (self-evaluation) and of the others. This favours joint decision-making and the delimitation of actions for the benefit of the group, fostering the development of ethical and fairness processes. In addition to intragroup co-evaluations, concrete examples of intergroup evaluations were shown, that is, of those that one group performs on another

group. To do this, a variety of instruments were presented (assessment scales, check lists, rubrics, etc.) on different cross-cutting aspects such as oral presentations, written comprehension and the ability to summarise information). Another of the strategies applied was the development of joint examinations, where it was explained how students can make their own examination questions, taking into account their number, type and variety, and always based on the principle of review both within the group and between groups. We also worked on three-way evaluation, explaining how, through the same instrument, self-evaluation could be combined with co-evaluation and third-party ('hetero') evaluation, always as an evaluative tool prior to final grading.

3.   *Cooperative learning*: the fundamental principles of cooperative learning were established, showing its main benefits and key elements to be able to put it into practice. Some aspects were addressed such as the importance of delimiting roles within the group, how to establish the groups and the spatial distribution within the classroom. At the same time, certain excuses for not applying cooperative learning were dismantled, such as time wasted organising the groups or how little students are prepared for a competitive life. Under this initial approach, certain practical strategies were proposed such as round robin, numbered heads together, 1-2-4, learning gallery or the jigsaw technique, specifying the steps to carry out to achieve a climate of motivation and cohesion in the classroom, both in permanent training and in initial teacher training (Hortigüela-Alcalá *et al.*, 2020).

4.   Conclusions

4.1.   Results expected and those obtained

The results obtained in the training given were quite satisfactory. The three fundamental axes related to competence work, formative and shared evaluation and cooperative learning were addressed in the established time and in a balanced way. The French translation process was very good, which made the presentation fluent and understandable. There was a good interaction with the participants, attending to the doubts and questions that arose. For this, the chats were of great help. Although there were not very many people connected, all the material presented was made available to the participants, in order to be of use to them once the training was completed. The attendees appreciated the information that had been addressed, reflecting on the importance of truly working on competencies in higher education, as well as understanding formative and shared evaluation

4.2.   Documentary contributions and references

Bores-García, D., Hortigüela-Alcalá, D., Fernández-Rio, J., González-Calvo, G., & Barba-Martín, R. (2021). Research on Cooperative Learning in Physical Education. Systematic Review of the Last Five Years. Research Quarterly for Exercise and Sport, 92(1), 146-155. doi: https://doi.org/10.1080/02701367.2020.1719276.

Hortigüela-Alcalá, D., Pérez-Pueyo, A., & González-Calvo, G. (2019a). Pero… ¿A qué nos referimos realmente con la Evaluación Formativa y Compartida?: Confusiones Habituales y Reflexiones Prácticas. Revista Iberoamericana de Evaluación Educativa, 12(1), 13-27. doi: https://doi.org/10.15366/riee2019.12.1.001.

Hortigüela-Alcalá, D., Palacios, A., & López-Pastor, V. (2019b). The impact of formative and shared or coassessment on the acquisition of transversal competences in higher education. Assessment & Evaluation in Higher Education, 44(6), 933-945. doi: 10.1080/02602938.2018.1530341.

Hortigüela-Alcalá, D., Hernando-Garijo A., González-Víllora, S., Pastor-Vicedo, J.C., & Baena-Extremera. A. (2020). "Cooperative Learning Does Not Work for Me": Analysis of Its Implementation in Future Physical Education Teachers. Frontiers in Psychology, 1(1539), 1-10. doi: 10.3389/fpsyg.2020.01539.

Barba-Martín, R.A. Hernando-Garijo, A., Hortigüela-Alcalá, D., González-Calvo, G. (2020). Tras casi una década de Bolonia, ¿realmente hemos mejorado la calidad de la enseñanza? Espiral. Cuadernos del Profesorado, 13(27), 97-108.

Mandell, A., & Jelly, K. (2020). Creative Tensions in Progressive Higher Education. Journal of Adult and Continuing Education, 26(1), 149-173. doi: http://dx.doi.org/10.1177/1477971419876295.

Munna, A.S., & Kalam, M.A. (2021). Teaching and Learning Process to Enhance Teaching Effectiveness: A Literature Review. Online Submission, International Journal of Humanities and Innovation, 4(1), 1-14.

Pérez-Pueyo, A., Casado, O., & Hortigüela-Alcalá, D. (2020). La evaluación formativa, la autorregulación y la secuenciación de las competencias. In J. Manso and J. Moya (coords.) Profesión y profesionalidad docente (103-120). Collection: Diálogo Educativo. ISBN: 978-84-86141-70-7.

Pérez- Pueyo, A., Hortigüela-Alcalá, D., & Hernando, A. (2014). La coevaluación intragrupal y el reparto de notas bajo un proceso de evaluación formativa. In P. Membiela, N. Casado and M.ª I. Cebreiros (Eds). Experiencias e innovación docente en el contexto actual de la docencia universitaria (285-289). Ourense: Educación Editora. ISBN: 978-84-15524-14-4.

Teacher training in teaching technologies

Pablo FUENTES DE ANDA

University of Valladolid (Spain)

1. INTRODUCTION

In activity 2.4, which took place between 5 and 10 April 2021, our objective was to show and review different methodological approaches and educational trends mediated by technologies in the context of higher education. To do this, we focused on the training actions and learning objects presented and developed at the Universities of Burgos and Valladolid.

2. FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1. Background

We started from the basis of transmitting the experiences of the University of Valladolid and the University of Burgos in the field of e-learning and the different tools and methodologies. In this weekly session, the set of previous missions continued, contributing to the general objectives of the project. The starting scenario changed after the mission stopped due to the global health emergency, and after a year of delay, the project was resumed with a new work model: through video-conferencing tools.

2.2. Objectives

The main objective of the mission was to address the necessary aspects for the training of teachers in educational technologies and their implementation in teaching. From my field, I tried to show a simpler work process that is applicable to any video publisher. That is, I tried to show a simple and universal workflow to generate independence in the publishing of audiovisual content, from content layout to videos.

2.3. Methodology

As in the previous mission I did, the presentations I gave were based on a small PowerPoint for visual support, but above all on practical examples sharing a screen with BlackBoard and leaving time for the participants to experiment with the tools and ask questions to be answered and that they be given solutions immediately. My idea in audiovisuals is that you learn using tools and that is why that point was important to me.

3. GOOD PRACTICES

During the sessions this week, I explained from my experience at the University of Valladolid the subjects to be addressed, following the approach that I started in 2019 (in the first mission I participated in), working towards a simpler, more detailed more and effective work process, using the experience acquired with teleworking, online tools and the workflow acquired during the pandemic. The first session I attended was on Tuesday, and it focused on visual and content design. In the first presentation, the content editing and layout was addressed, both for summaries in PDF and for videos. To do this we looked at different tools and their possibilities: PowerPoint, free Office and Canva. The idea of this session focused on simplicity and clarity when making a layout, taking into account that the participants clearly followed the basic concepts shown in the presentations. The objectives achieved were the acquisition of basic knowledge for content layout and the development of synthesis capacity.

The second session focused on video recording, involving the preparation, technical aspects, script, type of video, etc. Different strategies were shown when recording both real video and screens (presentations or desktop). Both blocks joined each other in an activity to explore the tools and resolve doubts. The key idea was to learn by exploring the tools, since design and video are learned by "doing"; therefore, the approach was to be given freedom and for different tasks to be delivered (a presentation, a video, a script). In other words, more than a typical class, it was a workshop. The objective was the acquisition of technical knowledge for video recording and screencasting aimed at creating a video for online teaching.

In the last session I gave, we developed a workflow to edit video. The free Hitfilm and Shotcut editing tools were used to make it easy to learn how to edit video using the editors' pre-cropping tool. Time was also set aside for homework and to answer questions and suggest tips for video editing.

4. CONCLUSIONS

This being a mission that was carried out online, sometimes we found ourselves confronted with the limitations of online teaching, as well as connection failures, less closeness to participants, delays and waiting for translations… But nothing unforeseen

or out of the ordinary. The involvement and participation of the participants was equal to or greater than in face-to-face mode, which helped ensure that the week was a success.

It is noteworthy that on occasion we had connection problems, but it was always solved thanks to the good work of Antonio Bueno and Rafik Benzine. At this point, it is worth mentioning the coordination/accompaniment work carried out in all sessions by Antonio Bueno and the willingness and interpreting skills of Rafik Benzine, in addition to the translations carried out by Widad Sellal.

5.   BIBLIOGRAPHY

Morales, F. (2013). Montaje audiovisual. Teoría, técnica y métodos de control, Editorial UOC.

Various authors (2012). Vídeo Digital, Tikal ediciones.

Manual OBS, Universidad Politécnica de Valencia.

https://wiki.upv.es/confluence/download/attachments/344490205/Manual%20OBS%20Studio%20para%20Screencast%20v1.2.pdf?version=1&modificationDate=1584097535000&api=v2

Teacher training on educational technologies: moodle and wordpress

Juan Pablo DE CASTRO
Ignacio DE MIGUEL
Eduardo GARCÍA OCHOA
University of Valladolid (Spain)

1. INTRODUCTION

This chapter describes the training actions carried out on the use of online services to support the process of training and public communication of academic information. Specifically, a condensed training programme was given on the Moodle training management platform and the WordPress content manager, including basic themes and some advanced aspects.

We sought to achieve basic proficiency in the use of the tools, so the training was accompanied by practical activities and a mechanism for evaluating evidence.

Two of the three experts on this mission had previously participated in other project missions, so they were already familiar with certain peculiarities of these, such as the influence of consecutive translation on their execution. In an attempt to improve this aspect we tried out pre-recorded simultaneous translation for the first time instead of consecutive translation. Before the start of the mission we did not know what effect the use of this method would have, but it seems to have been very positive thanks to the time saved by not having to wait for each sentence to be translated and to the improved focusing of attention as a result of being able to follow the narrative thread at conversational speed. Additionally, the speakers can energise the video-conference forum at the same time as the presentation is being conducted. This technique requires more time to prepare, record, dub and video edit, but produces substantial improvements in this particular environment.

2. FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1. Context and basic characteristics

As in previous missions carried out virtually due to the COVID-19 pandemic, the training was given mainly using two tools. In the first place, the project's Moodle platform (http://papers-mesrs.ufc.dz/) was used, which made it possible to offer different types of

resources to participants. Second, the Blackboard Collaborate video conferencing tool was used, which allowed the training to be delivered in the form of a webinar. The proposal worked well, although at times some students had difficulties with their connection. The experts provided different solutions to allow follow-up by all present.

Officials from various Algerian universities participated in this mission, as well as members of the project management, university teachers from the three regional conferences and members of the National Pedagogical Commission.

The mission also had the constant support of the general coordinator of the project, Antonio Bueno, who stood in for the interpreter when necessary. We must highlight the excellent work carried out during the preparation of the mission and throughout its execution by the project interpreter, Rafik Benzine, and by the translator Widad Sellal. This collaboration was particularly significant for the success of the methodology used.

2.2. Objectives

The objective of the mission was to train academic managers and teachers with the ability to disseminate the use of online technologies to support teaching and to encourage the diversification of teaching methods in all fields of study in the Algerian higher education system, making it easier to reduce, where appropriate, the number of face-to-face courses

Specifically, a training plan on online education technologies adapted to one week was given. During the sessions, the main concepts of using the Moodle and WordPress platforms were explained with a practical exercise plan on each aspect taught.

2.3. Methodology

The daily sessions all basically followed the same method: the presentation of the contents of each session was accompanied by materials in both PDF and video format for subsequent consultation by the participants, as well as practical parts (guided and/or planned to be carried out autonomously) to consolidate the eminently practical concepts of the training action.

Based on the experience of previous missions, it was determined that one of the biggest drawbacks was the use of consecutive translation. To do this, the option of carrying out a recorded simultaneous translation was tried out. To do this, several of the presentations with theoretical content and/or demonstration of the use of the tools were previously recorded and dubbed into French. These dubbed recordings were played through the video conferencing system instead of making the presentation with consecutive translation. This technique sought to:

1.   Eliminate time wasted by repeating the same phrases in two languages.

2.   Allow the expert to answer questions live (via chat and forums) while their presentation is being played.

3. Increase the attention of the spectators by improving the synchronisation between the actions shown on the screen and the audio of the speaker/translator.

4. Have a recording stored on the supporting track for later reference.

The production of the videos entails additional preparation time, in addition to the fact that the materials must be made available to the interpreters several days in advance so that there is time to record the dubbing and make the final video montage. This mechanism does not eliminate the need for both the panel of experts and interpreters to be available throughout the sessions, which means more time spent overall. However, this approach is rewarded by a calmer atmosphere during the synchronous session and better attention to interactions via chat with the participants.

During the sessions, participants were invited to use the forum of the course to refer any major questions and doubts so that we could answer them in more detail and record them for others who were unable to attend. Likewise, participation in the 'chat' function enabled on the video-conference channel was allowed for the resolution or clarification of more specific questions. The video-conference 'chat' function proved a very active channel, since the entire team of experts and the project management team took it upon themselves to answer the questions and stimulate the conversation. Although this mechanism is very dynamic and constructive (in some sessions there were peaks of 600 messages per hour), it can generate information overload and/or distraction in some participants. On balance is is more advantageous than otherwise, so it was promoted as a bonding mechanism.

The fact that the sessions were recorded gives greater value to the materials available in the course, since it allows interested parties to consult them subsequently in a convenient and integrated way.

The afternoon sessions were mainly devoted to practical activities. However, a small part of the proposed tasks were left open for completion in the days following the synchronous video-conference sessions, due to their greater complexity and the fact that the density of content and the time available during the sessions made shorter completion times unrealistic.

We were struck by the very positive reception of the peer evaluation system used in several of the course activities, previously unknown to the participants, which allows the evaluation of the acquired skills to be shared by both the participants themselves and the experts.

2.4. Expected results

Participants are expected to transfer the training acquired on the Moodle and WordPress platforms to their respective institutions in the areas of teacher training, teaching innovation and the use of ICT in education. Since all the theoretical presentations were accompanied by practical exercises, all participants acquired a minimum practical competence to be able to start using these systems in their profession and promote their use in their academic environment.

3. SKILLS, USE CASES AND GOOD PRACTICES

Basic training on the tools was provided in the different sessions of the course, accompanied by examples of use cases and good practices.

Aspects addressed related to Moodle (days 1, 2 and 4)

Day 1

— Knowledge of the basic features of Moodle.

— Knowledge of various online assessment teaching strategies and Moodle tools for implementing them.

— Knowledge of different strategies and tools for communication with students through Moodle, and mechanisms for obtaining feedback

— Knowledge of the tools that Moodle offers to make backup copies, restoration, import and reinitialisation of courses.

— Ability to make basic use of the Moodle platform, including the configuration of the course and the creation of basic elements (resources and activities), as well as the use of backup/restore tools.

Day 2

— Knowledge of the basic characteristics of tests in Moodle.

— Ability to create and launch tests in Moodle and view the results of the students.

— Ability to organise a question bank into categories to adapt it to the teaching needs of a subject.

— Ability to create test questions, of different types, within Moodle itself, in the appropriate category.

— Ability to configure the parameters of a test in Moodle for different teaching strategies (e.g. formative or summative assessment).

— Ability to select questions from the question bank, both deterministically and randomly, to incorporate them into a test.

— Ability to preview tests before launching them

— Ability to visualise the results of the students in a test and to correct the evaluation if necessary

— Knowledge of the basic characteristics of peer evaluation in Moodle through the Workshop activity, pedagogical foundations, potential and problems.

— Basic knowledge of how to configure and implement a peer evaluation workshop.

— Day 4.

— Knowledge of the differences between the concepts of Group and Grouping in Moodle.

— Knowledge of different use cases for groups and clusters.

— Ability to create groups and groupings in Moodle (manually, automatically and through the Choice of Group activity).

— Ability to configure a forum with groups, using the "No groups", "Separate Groups", and "Visible Groups" settings

— Ability to configure an Assignment activity for the delivery of group work.

— Ability to establish access restrictions to resources and activities of the course.

— Knowledge of the basic functions of the evaluation book.

— Knowledge of methods of implementing an evaluation strategy in the evaluation book.

— Ability to perform a basic configuration of the evaluation book.

— Ability to organise and combine grades in the evaluation book.

— Ability to use the "*MoodleQUIZ_template_Uva*" template to create test questions with Word.

—

— Aspects addressed related to WordPress (day 3)

Day 3

— What WordPress is

— What WordPress can do

— Creation of websites for:

- the dissemination of undergraduate and master's studies, and the recruitment of students
- teachers (biography, publications, research areas, collections of useful links, additional exercises, multimedia material…)
- research groups (members, publications, participation in congresses, awards, collaborations…)
- congresses and conferences and specific events (general information, location and venue, calendar and important dates, news, registration…)
- associations (how to become a member, participation…)

— What are the advantages of using WordPress?

- Easy to use
- Easy to learn
- Functions, capabilities, and security
- Brand consistency
- Freedom and personalisation

— What is WordPress Multisite?

— What do I need to get started with WordPress?

— Create content with WordPress: page or post

— Post content to a page

— Post content in a post

— The navigation menu
— SEO
— Use of multimedia elements
— Add items to the library and to articles
— Highlight images
— Use of multimedia elements: audio and video
— Users and functions
— Configuration
— Export and import of content from WordPress
— Website customisation
— Extensions
— Interaction with the public

4. CONCLUSIONS

The main conclusion obtained is that the participants recognised the enormous potential and importance of the use of learning management systems (LMS), such as Moodle, and content management systems (CMS), such as WordPress, within the framework of current university teaching.

Moodle, for example, makes it possible to make different learning resources available to students, but also to propose different activities, with a constructivist approach, to support student learning and adapt to different teaching styles. Along these lines, it is very important to note that Moodle or WordPress are nothing more than additional tools that the teacher can have, but that it is neither realistic nor necessary nor appropriate to use all their functionalities. Of course, it is very important to know what they consist of and what can be done with them, but ultimately teachers themselves must decide, depending on the characteristics of their subject, the profile of their students, the learning objectives set and their own teaching style, which of these tools can help them with their teaching and with what configuration.

It is therefore crucial for teachers to be receive training on the use of these tools, both from the technical point of view and from the point of view of their teaching applications, and for this it is highly desirable for them to have case of use examples such as those provided in the various sessions of this mission. However, due to the high number of tools available, if possible these training actions should extend over several weeks instead of condensing them into a few days, as it favours a better acquisition and consolidation of the knowledge and skills related to the use of these tools. Having courses or test platforms on which to experiment with the use of these tools is another very important element.

Teaching and online assessment presents great challenges, at a technological, methodological and even ethical level, since not all teachers and students have the same resources (and skills), nor do they all adapt the same to a different teaching scenario from the one

they are used to, in which validity and honesty when carrying out the evaluation tests is usually under suspicion. Also, throughout the different sessions of this mission, the participants put themselves in the shoes of the students and were able to verify what their perception and concern may be when, for example, connection failures occur while teaching or conducting a test. In any case, although the tools addressed in the mission are useful in completely online settings, they are also of enormous interest as a complement to face-to-face teaching. In fact, that is precisely the main use that is given to them in the University of Valladolid.

As has already been pointed out in a previous mission, we consider it of great importance to form a coordinated network of "trainers of trainers", as it can help to apply standardised training criteria to teachers and facilitate the development of a common bank of training resources.

As a general conclusion, from our point of view the training activity was very positive and the results of the survey carried out among those attending the activity confirm this.

5. BIBLIOGRAPHY

This mission is essentially practical and with a totally technical content, so the bibliography is confined to the online information of the Moodle and Wordpress products:

— Moodle documentation, https://docs.moodle.org/3x/fr/Accueil
— WordPress Documentation, https://fr.wordpress.org/support/

Training university teachers in personal and social development

Gloria PÉREZ DE ALBÉNIZ

University of Burgos (Spain)
Educational Sciences Department

Javier GARCÍA MEDINA

University of Valladolid (Spain)
Department of Criminal Law and History and Theory of Law

Rafael DE LA PUENTE LLORENTE

Secretariat of Social Affairs
University of Valladolid (Spain)

1. INTRODUCTION

The image that one has as a professional is gradually configured from a reflective process that is formed in spaces of interaction with other people who perform the same tasks. For some authors, in these spaces the professional identity is configured through identifications, representations and socially recognised attributions that differentiate one group from others (Jaurata and Pérez Cabrera, 2017). Relating the construction of professional identity to psychological and social well-being is an even greater challenge, which has not been analysed in depth, although it is well known that improving our repertoire of social skills will directly influence our personal well-being and our effectiveness as teachers. Likewise, Paz *et al.* (2016) state that, in the academic sector, in addition to the commitment to shaping society with ethical-moral principles from their role, teachers have the responsibility of providing students with the elements to develop their social skills.

Along the same lines, Durán *et al.* (2015), affirm that social skills are conceived as a set of effective behaviours in interpersonal relationships, which has been linked to the educational process, to generate procedures aimed at training the subject in the broadest and most effective way possible. If higher education aspires to train socially responsible people, the teaching of social skills takes on a life of its own because, without them, it is not possible to achieve students' commitment to the world in which they live.

Another factor to consider is the profile and the psychosocial characteristics of the students that we currently find in our classrooms. Offering a comprehensive vision of this generation of university students is not an easy task, since they come from different sociocultural contexts, from economic situations that limit equity…

We can conclude that it is the most diverse generation in the history of Higher Education, so the teacher faces the challenge of serving a variety of students with the most up-to-date methodologies possible and using the latest technologies that we have at our disposal.

Since, in any case, the university must be the framework and the pillar of reference for the transformation and emancipation of young people who decide to undertake training and academic processes in order to achieve a comfortable future, with an adequate capacity for action and a prosperous personal and social well-being (Serrate, Navarro and Muñoz, 2017).

2. TRAINING FRAMEWORK AND ITS CHARACTERISTICS

Currently, Spanish universities are undergoing a significant transformation in terms of convergence within the framework of the European Higher Education Area (EHEA). This reform is not only structural and harmonising of the academic or scientific organisation, but, to a great extent, is also related to the personal and social training of teachers.

As indicated by strategic priority 3 of the EU Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030), *"teachers, trainers, educational and pedagogical staff and education and training leaders, at all levels, are at the heart of education and training. To support innovation, inclusion, quality and achievement in education and training, educators must be highly competent and motivated, which requires a range of professional learning opportunities and support throughout their careers."*

More than ever, attention must be paid to the well-being of teachers, trainers and educational personnel in education and training systems, an important factor also for the quality of education and training, since it affects not only the satisfaction of teachers, but also the quality of teaching.

Therefore, our training activity in action A.2.1 Structure of a training unit and design of training plans for teachers in the Twinning Project was divided into three thematic axes considered fundamental in the personal and social development of teachers, which we describe below.

2.1. Training in the field of service-learning as a teaching and personal development instrument

service-learning is a methodology that has its roots in a basic idea of learning by doing. Putting into practice what has previously been studied, overcoming learning by comprehending. Service-learning combines classroom instruction with meaningful community service. It is a process of setting goals and actions that has positive effects on others. Making others a reference is a perspective that makes students leave their immediate environment and perceive the world around them. Service-learning emphasises critical

thinking and personal reflection. Having to deal with real problems forces us to relate what we have learned to circumstances of various kinds while at the same time questioning the very constructs with which we face life. It also promotes the development of a strong community spirit, civic commitment, and personal responsibility.

It is an opportunity to:

— Improve pedagogical knowledge and skills by allowing it to be applied to real problems;
— Build positive relationships;
— Discover new fields of interest and new skills;
— Set and achieve goals;
— Work together;
— Demonstrate leadership;
— Learn the value of helping and caring for others;
— Cultivate a feeling of belonging;
— Develop a positive image of oneself.

The use of service-learning as a methodology in the university environment implies a commitment on the part of the teaching staff and the collaborating professionals in the tutelage of the students, they are the protagonists of the teaching-learning process but they require a team of teachers and professionals that are in a position to support them and resolve their doubts. Students offer their service, support and assistance to non-profit entities (NGOs, associations, etc.) but also to institutions that can work with groups in situations of exclusion and vulnerability. In return, the students receive learning about the topics covered, and above all they strengthen their sense of responsibility, their experience and their commitment. Also contributing to develop the Social Responsibility of the University, enabling society to benefit from everything that the academic field entails.

Present the service-learning experiences at the University of Valladolid

The general framework worked on was that the Sustainable Development Goals (SDGs) would be considered attained when the human rights linked to each of them were assured, to bring about which in practice it is obviously necessary to introduce a human rights based approach. Consequently, a form of service-learning, such as a Legal Clinic, contributes precisely to the effective realisation of human rights.

The methodology and spirit of a Legal Clinic implies focusing on and helping those most disadvantaged social groups while allowing students to approach real and concrete situations that will be the subject of their professional activity. Students offer free, non-profit legal and educational support to NGOs and non-profit organisations dedicated to people without economic resources or at risk of social exclusion.

The *clinical method* requires *putting in place a set of competencies and skills that must be constantly developed and confronted with the reality* to which it intends to offer a service in

the defence of human rights, whose dimension as indicators of achievement of objectives requires rigorous learning by the student but also by the teachers and professionals who make up the legal clinic. The defence of human rights means going through all branches of legal knowledge and seeing how realisations can be contributed to real events complemented with other areas of knowledge, from fields such as education to journalism, sociology or economics, to name a few.

The objectives essentially aimed at are:

— Deepen and recognise the ethical commitment of the professions that may intervene in the development of the project (law, education, journalism, etc.)

— Articulate the essential coordination of an interdisciplinary and inter-university group.

— Integrate professionals who already know or act through *pro bono* (free professional assistance in human rights)

— Promote human rights through knowledge and awareness.

In particular, some experiences related to the following topics were presented: disability, the elderly, immigration, asylum and refuge, human rights education, international law.

Acquisition of skills and evaluation in service-learning

The call to a critical training or critical spirit of university students is related to the acquisition of a set of both generic and specific skills. This grasping of skills not only places students in a position to adequately understand the educational environment in which they live, but also prepares them to carry out a critical and non-conformist reflection on both the legal contents and their practical application and the social impact that they have, generating inequality and injustice for many social groups in many cases.

Participation in a Legal Clinic equips students in these skills as the clinic elaborates and facilitates the acquisition of skills such as those described below:

1. In the first place and within the generic skills, the following should be especially highlighted:

a. Instrumental

— *Cognitive*: Capacity for analysis and synthesis: students must determine the factual and normative elements to offer a conclusive result. Capacity to apply knowledge in practice: when having to offer a proposed solution it is essential to link theory and practice; Basic general knowledge in the field of law: all areas of law must be handled for an adequate understanding of each case; Basic knowledge of the profession: when exercising an advisory task, students act as different legal operators do; Ability to manage information (ability to search for and analyse information from different sources): the information needed to resolve a case goes beyond legal, jurisprudential and doctrinal references, making it necessary to go to other sources of information (records, files, etc.);

Critical and self-critical capacity: in the work of the clinic, what is being done must be constantly evaluated since the progress of the work depends on it.

— *Methodological*: Planning and time management: the case must be resolved according to a process and within reasonable time limits, therefore controlling processes and time is essential; Research skills: enquire about the facts, determine the significant facts, articulate an orderly and coherent legal argument; Problem solving: it is the essential objective of the clinic, to solve an issue that poses a question to a vulnerable group; Decision making: students are faced with having to make many decisions both in terms of the procedure and the outcome itself.

— *Technological*; Basic computer skills: all the information collected must be processed and shared by the work team, which requires computer tools. In addition, work presentations must be made.

— *Linguistic*: Oral and written communication in the native language: it is very important that students acquire a knowledge of technical legal terminology and that they know how to explain it in understandable and accessible language; Knowledge of a foreign language: the clinic's areas of help and support are usually foreigners and immigrants, which requires knowing other languages and the legal systems of other countries.

b. Interpersonal

— *Individual*: appreciation of diversity and multiculturalism; ability to work in an international context; knowledge of cultures and customs of other countries; ability to work autonomously and efficiently; ethical commitment.

— *Social*: teamwork; interpersonal skills; ability to work in an interdisciplinary group.

— *Systemic*

— *Organisation*: project design and management; concern for quality.

— *Entrepreneurial capability*: ability to adapt to new situations; ability to generate new ideas (creativity); initiative and entrepreneurial spirit.

— *Leadership***:** Leadership; Achievement motivation.

2. Secondly, specific skills can be differentiated according to the objectives to be achieved:

a. Related to knowledge and understanding objectives: Demonstrate a knowledge of the main features of the legal system including a certain familiarity at a general level with its institutions and procedures; Ability to identify and apply basic legal sources; Ability to identify and go to significant sources of information whether they are jurisprudential, doctrinal or legal that allow the location, selection and organisation of information in the field of legal speciality and social sciences.

b. Related to analysis objectives: Ability to identify significant legal issues based on a complex set of facts that are not legally structured; Ability to identify and work with the main aspects of a foreign legal system

c.   Related to synthesis objectives: Ability to prepare and present a legally grounded decision; Ability to develop self-directed and autonomous learning that affords the student access to the professional world with an attitude of permanent enquiry

d.   Related to application objectives: Ability to draft legal documents/texts, using technically appropriate terminology; Ability to work in interdisciplinary teams as an expert in law and contribute effectively to their tasks

e.   Related to attitudinal and evaluation objectives; Ethical awareness of the legal professions; Possess social, communication and interpersonal skills necessary and key to future professional practice; Know and evaluate the different responsibilities related to the exercise of professional activity, including the basic operation of free legal assistance and the promotion of the social responsibility of the lawyer

With this background of skills, the students who have participated in a Legal Clinic assume a much more critical perspective not only in the legal field but in all other contexts. Training in the Legal Clinic complies with the human rights training requirements required by the European Higher Education Area.

Skills learning requires evaluation mechanisms to determine whether or not students have acquired such skills, the ideal tool being the use of rubrics, which are shown generically in the following table:

Skill	Indicators (Several can be included)	Levels of learning				
		1	2	3	4	5
Definition of skill	Definition 1					
	Definition 2					

From the definition of the corresponding skill, a series of indicators are determined that allow teachers and students to know what has to be taken into account to acquire a skill and, therefore, what is going to be evaluated and in the end qualify. The rubric provides objectivity, security and a shared framework between teacher and student.

Considering such explanations and contents, the course participants were asked to carry out a short project on service-learning that was adapted to their field of knowledge

and to develop a series of rubrics with which to evaluate some of the skills that they understood could be acquired within the framework of their project proposal. The projects dealt with diverse and interesting topics:

— Rehabilitation of the city.

— The magic of optics serving children in hospital.

— Setting up an information campaign for the authorities to remake the pavements (sidewalks) in the Bouzaréah commune to facilitate the movement of blind people in urban areas.

— Integration of digital technologies in the education of preschool children (3 to 6 years)

— Teaching communication to resident physicians in neurology.

— Creation of a database of people with disabilities and people with chronic diseases.

2.2. Training for teachers on measures, resources and strategies for supporting people with disabilities at the university of valladolid

Every academic year sees an increase in the number of people with disabilities and/or special educational support needs accessing university classrooms. This is facilitated to the same extent that the university establishes operational guidelines to guarantee equal opportunities in access to and pursuit of higher education. In turn, the implementation of the *European Higher Education Area* has led to a shift from knowledge-based education to learning skills, and in this context, teachers are using new teaching methods and assessment systems.

Through the Teacher Training Course that we implement at the University of Valladolid (UVa), teachers approach the perspective of diversity, in situations of disability, functional diversity, special needs, aware of the myths and prejudices and valuing inclusive education. Barriers will be identified in the classroom and in teaching.

The objective of this course is to *address, in a theoretical, practical and interdisciplinary way, the main actions and teaching strategies carried out with students with disabilities at the University of Valladolid*: their needs, applications and actions in favour of equal opportunities in the university context. University teachers are offered advice and support on resources, technology, and strategies to ensure a quality education for all.

The training course starts with an explanation of the main actions of the UVa in favour of people with disabilities and the support for people with disabilities provided by the UVa Social Affairs service. In the initial sessions of the training, legislation related to equal opportunities and educational inclusion for college students with disabilities is addressed.

The approach to explaining the *practical guidelines for the supporting of students with disabilities in the UVa* has the following structure: it begins with the general considerations for each group of students with disabilities, the existing adaptations and resources are explained for each group of students of similar characteristics, and teaching and learning processes in class (methodological aspects), in practices, tests and exams are addressed.

This structure is explained and analysed with each of the main disability groups present in higher education, such as: students with physical, visual sensory, auditory sensory disabilities, students with disabilities due to mental illness, Autism Spectrum Disorder (ASD) and Asperger's syndrome, attention deficit disorder with or without hyperactivity (ADHD), and some other specific learning disabilities (e.g. dyslexia, difficulties with writing or spelling, etc.).

Academic accommodations for students with disabilities are a measure of attention to the training needs of students with disabilities and/or educational needs. They consist of: Provision of resources and/or adjustments of non-prescriptive or basic elements. In the Spanish context, they are fundamentally endorsed by Organic Law 4/2007 of 12 April amending Organic Law 6/2001 of 21 December on Universities and Royal Decree 412/2014 of 6 June establishing the basic regulations for admission procedures to official university degree courses.

"Reasonable accommodation" (as defined in the Convention on the Rights of Persons with Disabilities, UN, 2006) is made depending on the specific need for educational support presented and justified by each student with a disability. These needs are specific to each person and will vary depending on personal characteristics, the support products used, the degree course followed and their current situation, among other factors. The prior evaluation of the students and their circumstances will allow the most appropriate type of accommodation and resources to be established. These must be expressed in positive terms, based on the student's abilities and qualities. The recommendations established in this document, while general in nature, will serve as a guide, so they should be adapted depending on the personal and health circumstances of each student. First, those aimed at all students with Educational Needs will be presented, and then the more specific adaptations depending on the disability or learning difficulty that the person presents.

Most frequent kinds of accommodation

In the academic methodology:

— Accessibility to the venue or physical space where teaching takes place.
— Location in the classroom or in a specific space.
— Time adaptation (additional time).
— Providing the student with material and human resources, assistance, supports and technical aids that the student needs (adapted tables, adequate lighting, adapted computer, attention from support personnel, etc.).
— Accessibility of information and communication of processes. Make sure the student follows the teacher's explanations.

When taking examinations and assessment tests:

— Preparation of special examination models (e.g. Braille, expanded text, adapted format, medium other than paper, etc.).

— Accessibility of information and communication of processes.

— Accessibility to the venue or physical space where the tests take place. Adaptation of the type of test (e.g. oral, written, personal interview, work, etc.).

— Adaptation of the number of tests (partial, continuous evaluation, etc.).

— Adaptation of the content of the test (e.g. number of questions, number of options, amount of material to be examined, etc.).

— Adaptation of the question format (e.g. multiple choice, short questions, essay questions, etc.).

— Adaptation of written characters (e.g. Braille, enlarged characters with contrasting colours, etc.).

— Use of technology (e.g., computer, Braille-speak, FM station, etc.).

— Adaptation/change of the place and/or date of the test.

— Adaptation of the assessment (e.g. assess content and not the form of the language).

The training methodology of the course combines participatory seminar sessions with group work, as well as practical work in the educational support of university students with disabilities.

Adjustments and adaptations due to the health crisis brought about by COVID-19

Due to the health crisis situation caused by COVID-19, the university centres and buildings have made changes, both in the organisation of the centres and classes, as well as in the teaching and evaluation methodology. In addition, there have also been important changes in the accommodation measures introduced on university campuses and canteen services, as well as in many other areas (e.g. cultural, sports, volunteering, etc.).

Most Spanish universities have opted for a hybrid method of teaching that combines face-to-face classes (always preferred) and tele-teaching via the Internet.

Below are some questions and answers about the inclusion of university students with disabilities that the UVa Social Affairs service believes may be useful at this difficult time.

Must reasonable accommodation and adjustments be made for university students with disabilities?

Yes, according to Article 11.1. of the Regulation on Support to People with Disabilities in the UVa, the general procedure to process requests from people with disabilities of the university community is the following:

a. Any member of the Valladolid university community who, in view of his or her disability, requests any measure, service or resource must do so in writing, completing the request in the model provided for that purpose. Requests must be addressed to the UVa Social Affairs Secretariat and will be submitted through the corresponding registry, in accordance with the law.

b.   The person who has requested support from the Support Unit will be summoned to an interview to assess the need to establish adaptations and resources or measures based on the content of the request.

Procedure for adapted access to the curriculum.

In accordance with the foregoing point, the Secretariat of Social Affairs will process all requests from students with a recognised degree of disability equal to or greater than 33%, as well as those of students with permanent special educational needs associated with personal circumstances of disability. Requests for academic adaptations must be justified by updated optional reports, issued by professionals or competent bodies in the matter, with the pertinent and detailed indications on the required adaptation. These reports must be provided by the student along with the request.

For teachers, the following are some examples of the possible adaptations that each student with disabilities and/or special educational needs may request in this *new situation brought about by the COVD-19 pandemic*:

— Accessibility: seek accessible routes and sufficiently wide spaces in the classroom for the use of wheelchairs (currently manual, not automatic).

— Increased time to stay and leave the hall of residence or university accommodation.

— Possibility of being accompanied by a family member, personal attendee or carer if the disability needs so determine (e.g. students with certificates of disability and reduced mobility, students with severe visual and/or hearing disabilities, students with ASD, etc.), or this is advised by the Secretariat for Social Affairs.

— Increased time to do academic assignments and written exams.

— Breaks during the day, between classes and homework.

— Support from teachers and colleagues in taking notes, when justified by the specific need for educational support.

— Access for recording class video-conferences.

— Transcription or subtitles of podcasts and online conferences from the Internet.

— If necessary, interpreter service for online class chats.

— Ability to use some form of Assistive Technology (e.g., FM station, voice-to-text transcriber, computer, etc.).

— If necessary, a separate classroom to take a face-to-face examination and make the necessary adaptations in the examinations.

— Housing adaptations and the possibility of staying in a private room, if deemed necessary.

— Any other adaptation that is justified and can make training, academic materials or adaptations of university accommodation more accessible.

There are students who before the COVID-19 situation did not need adaptations but who, as a result of the health crisis, consider that they need to receive support. As

indicated in Article 39 of the *UVa Academic Regulations* on students with disabilities: "The evaluation tests must be adapted to the needs of students with disabilities, with the centres and Departments proceeding with the precise methodological, temporal and spatial adaptations under the supervision of the service or Unit of the University of Valladolid responsible for supporting students with disabilities. Students with disabilities who require any of these adaptations must request this in writing to the centre in the first 15 days of each semester".

Some ideas to develop Accessible Teaching Tasks when we carry out tele-training

It is important to focus on pedagogy, not just on the platform, be it face-to-face or virtual. Being in a physical classroom does not guarantee that a class is totally effective or engaging. The same applies to online platforms. Therefore, teachers have to take time to think and decide which are the best virtual tools for non-face-to-face teaching, and which are not so useful for their classes.

Wherever possible, take advantage of interactivity, as most students are "digital natives" who already use remote technology for their own meetings. Therefore, we must take advantage of these possibilities. This is true even for conferences. For example, as described below, you can increase student engagement by:

— Asking pop-up questions that students have about the material.
— Using real-time surveys to encourage the interaction of all students and the collective idea about the topic of the class.
— Inviting students to answer particular questions.
— Having students participate in small "focus group" conversations, sharing conclusions.

Likewise, it is advisable to provide a detailed and easy-to-understand programme of the subject you teach. To do this, you have to make the syllabus, texts and other materials available in advance.

Whether the materials are on a Moodle virtual platform or delivered digitally, consider colours, fonts, and formats that students with poor vision or colour blindness can easily see.

It is recommended to make concept maps or summaries of the academic material that you provide to the students (e.g. documents, notes, bibliography, exercises, etc.) with the essential ideas of each topic.

As far as possible it is a good idea to subtitle presentations and conferences. There are virtual tools available for captioning in real time or after the presentation has been recorded.

Similarly, all academic documents must be sent in accessible formats. Text without images is the best format for visually impaired and/or blind students to access the document using a speech synthesiser. This also benefits the rest of the students.

Final consideration. Adaptation of teaching for students with disabilities. At the beginning of the teaching of a subject, it can be asked, in an online questionnaire, if a student has a disability and/or specific need for educational support and has required academic adaptations in the previous educational level.

This will serve to encourage the student to take the step of commenting on it, so that the support service can accredit the requested supports and so that the teacher has academic adaptation standards adjusted to the reality of the educational needs of each case.

2.3. Design of a social skills training programme and analysis of the profile of current university students

We understand social skills as behaviours available in a person's repertoire that favour the quality and effectiveness of the relationships established with others. They include thoughts, feelings, actions, and desires. They are learned, especially implicitly, and are highly dependent on the social and cultural context (Del Prette and del Prette, 2008).

The starting point of this programme begins with a reflection: Why is it important to train in social skills to improve teaching-learning processes?

The answer is twofold.

On the one hand, if we analyse the general skills that a university teacher needs, we can see that they are based on four basic pillars:

The first, dedicated to cognitive skills (having an in-depth knowledge of the subject they teach, planning the teaching, researching…).

The second refers to technological skills, also essential, and all the more so in times like these.

The other two are linked to the resources that the teacher has to interact effectively: they are communicative and social/personal skills.

Before, with a more traditional teaching approach, they were not so important, but the new higher education plans entail a really new and demanding degree of communication and cooperation between people: tutoring with students, cooperative methodologies, interdisciplinary projects, and so on.

In addition, the studies that analyse the qualities that define an effective teacher include many social variables, both in the face-to-face and online context (respect, sensitivity, accessibility, communication skills, use of humour, etc.).

Therefore, it is essential for teachers to know how to establish relationships in a harmonious way, thus fostering a suitable climate for the learning process.

This type of social skills training usually has a modular structure and the content blocks are as follows:

In module I, the skills aimed at having an effective body language to facilitate interpersonal relationships are worked on. The objective of sensitising teachers to the power of corporal expression as a facilitator of communication processes. Also to be aware of the role of non-verbal, paralinguistic and emotional components.

In block II, effective communication techniques are worked on. This module is aimed at developing skills to communicate orally as effectively as possible and to make our interlocutor feel good in this process.

The styles with which we relate to others (aggressive, passive and assertive) are also analysed. Knowing how to recognise and manage them properly is key to improving the quality of personal relationships.

In addition, teachers must have tools that allow them to improve their expression of desires, expectations, needs or values. This will improve the affective relationships with the students.

Block III works on cognition and internal dialogue. It is aimed at analysing those dysfunctional thoughts that tend to block us, generate anxiety and prevent us from moving forward. It is important to learn to recognise them and develop strategies that allow us to exchange them for more adaptive ones that will improve interpersonal relationships and perceived well-being.

The key to learning social skills is putting them into practice. For this reason, a series of exercises are presented aimed at working on social skills in real educational contexts.

Likewise, interpersonal problems arising from professional practice occur in the workplace. In fact, conflict resolution within the classroom is one of the most useful skills for a teacher. Although not only with students, human relationships are complex and complications can arise with colleagues, management teams, etc.

In conclusion, the teacher's ability to resolve and overcome conflicts is a fundamental tool for the development and achievement of the objectives set by the educational process.

For this reason, one of the practical activities proposed tries to deepen the optimal management of this skill. Guidelines for action are proposed to overcome them.

It is intended that at the end of this training section:

— The teacher will know the factors that come into play in social relationships and the different types of relationships that can be established,

— recognise the personal style of relationship and the keys that allow it to be modified,

— be able to analyse the relationships that can cause conflicts in the practice of the profession,

— take responsibility for the quality of their own social relationships,

— put the acquired theory into practice in real situations,

— reflect on the need for continuous professional development through self-evaluation of their own practice.

Different evaluation rubrics are presented for each of the sections, since the participant in this training activity is the main actor in the learning process and must have control over it.

The evidence in relation to the skills acquired must be capable of being contrasted throughout the process. In this sense, the feedback given by the trainer to the participant is a key element to self-regulate the way they learn.

It is also important to reflect on the psychosocial characteristics of current university students.

We consider it a priority that all societies ensure optimal development of young people, provide them with stimulating opportunities to promote their personal development and develop actions aimed at increasing their commitment to sustaining and improving society.

For this reason, it is necessary to rigorously analyse the context in which they are immersed. This is a generation that has experienced unprecedented economic and health crises. Their future is full of uncertainty and this generates a high level of stress, but at the same time they have a great diversity of possible careers.

They have grown up surrounded by technology and their training possibilities have been greater than those of previous generations, they have more options for mobility between different countries or between universities in the same country… but it is essential to analyse whether there is a correspondence between higher education and market requirements. In this regard, the initiatives of some universities to adapt to these demands are discussed.

In addition, teachers face the challenge of serving increasingly diverse students with very different teaching methodologies and technologies.

It is a fact that diversity enriches all aspects of life. It favours the exchange of points of view about a multitude of situations and promotes cultural exchange. Being different and having unique characteristics is a good thing for any society that advocates political, social or economic pluralism.

In summary, there are defining characteristics of these student cohorts that must be taken as a starting point if we are to carry out a rigorous evaluation of the situation.

In this regard, it is proposed to consider the main obstacles and facilitators of learning that affect young people and that can condition their academic performance.

A theoretical model is presented that explains dropout or continuation in studies and dispositional variables that can help learning success are discussed in depth.

Among the variables analysed are resilience, interpersonal and intra-personal intelligence, self-esteem, self-efficacy and motivation.

The objective is to offer the participant of this training activity some teaching guidelines for action that help to improve the involvement and commitment of students, always starting from the characteristics of today's young people, both those who choose online courses and those who attend face-to-face.

3.   CONCLUSIONS

The general objective of the project is to offer superior quality training in a way that contributes to the development of the Algerian economy and the creation of a competitive space on a global scale in the knowledge economy.

It can be said that the general impact of the mission on the project as a whole has been to make teachers aware of the need for constant training in skills that enable a more inclusive and more personalised university, as well as the need to get closer to the students.

In this sense, the university teacher faces a complex path. In addition to the tasks inherent to their condition, it is the mission of the teaching staff at that level to try to promote the variables that are most related to the academic performance of the students.

From the *social dimension of the European Higher Education Area*, the approach of the service-learning methodology is proposed as a teaching and social practice tool that helps the university to get involved with the social reality it is part of. The EHEA represents an education focused on the student's teaching-learning process, so that the teaching staff must use new teaching methods and evaluation systems suitable for determining the achievement of the corresponding objectives and skills.

Likewise, communication skills should be promoted as an important resource in teaching activity since the teacher's role would move towards a "facilitating" figure for student learning.

Likewise, it is understood that teachers need to know and apply teaching strategies in favour of equal opportunities in the university context.

Future lines of work and research

In view of the above, it seems necessary to continue the training started in social and personal skills and their teaching applications.

As concrete proposals, the following are established:

— Delve into strategies for *improving motivation in the classroom* and learning effective communication techniques in educational settings.

— Address the *transition to a more inclusive university*, which develops teaching methodologies and strategies adapted to the educational needs of all students.

— We consider necessary the *training of teachers in "diversity"*, since as indicated during the sessions, most teachers consider that the teaching staff is not sufficiently trained in this aspect.

— Communication and *coordination between teachers* to lead improvement processes.

— Make *reasonable accommodation* necessary to provide curriculum adaptation for students with disabilities. Understood as necessary and appropriate modifications and adaptations that do not impose a disproportionate or undue burden, when they are required in a particular case, to guarantee people with disabilities, the enjoyment or exercise, on equal terms with others, of all human rights and fundamental freedoms (CRPD, 2006).

— *Networking*: extending a coordinated network of "trainers of trainers" can help to apply standardised criteria for teacher training. The organisation of university leaders to promote and nurture training networks is proposed.

4.   DOCUMENTARY CONTRIBUTIONS AND REFERENCES

BISQUERRA, R. (2000). *Educación emocional y bienestar*. Praxis.

CABALLO, V. (2002). *Manual de evaluación y entrenamiento de las habilidades sociale*s. Siglo XXI

CERMI (2020). Universidad y discapacidad, por una dimensión inclusiva. Informe del CERMI Estatal de propuestas de reforma normativa en materia de inclusión de las personas con discapacidad en el sistema universitario. With the technical support of: Gloria Álvarez Ramírez. Doctor of Law.

DEL PRETTE, Z. and DEL PRETTE, A. (2008). Um sistema de categorías de habilidades sociais educativas. *Paidéia: 18*(41), 517-530.

DURÁN, S., PARRA, M., & MÁRCELES, V. (2015). Potenciación de habilidades para el desarrollo de emprendedores exitosos en el contexto universitario. *Opción, 31*(77), 200-215.

FONTÁN MONTESINOS, M.T (2000). El perfil del psicopedagogo en los modelos de acción psicopedagógica. El Guiniguada. Revista de investigaciones y experiencias en Ciencias de la Educación. P. 158. University of Las Palmas de Gran Canaria.

FORTEZA, D. (2009). Los nuevos retos para la intervención psicopedagógica en los estudios superiores. Qurriculum: Revista de Teoría, Investigación y Práctica Educativa, ISSN 1130-5371, N.º 22, 2009, p. 35-54.

GALÁN-MAÑAS, A. (2015). Orientación a los estudiantes con discapacidad en la universidad española. Revista Española de Orientación y Psicopedagogía. ISSN 1139-7853, ISSN-e 1989-7448, Vol. 26, N.º 1, 2015, p. 83-99.

MEDINA GARCÍA, M. y ALCAÍN MARTÍNEZ, E. (2017). La educación inclusiva como mecanismo de garantía de la igualdad de oportunidades y no discriminación de las personas con discapacidad. Una propuesta de estrategias pedagógicas inclusivas. Ediciones Cinca. Colección Convención ONU, n.º 21. Retrieved from: http://www.convenciondiscapacidad.es/wp-content/uploads/2017/12/ONUn21.pdf

RED VEGA, N., PUENTE LLORENTE, R., GÓMEZ NIETO, C. and CARRO SANCRISTÓBAL, L. (2002). El acceso a los estudios superiores de las personas con discapacidad física y sensorial. Secretariado de publicaciones e intercambio editorial de la Universidad de Valladolid. Valladolid.

RODRÍGUEZ INFANTE, G., BORRELL PUCHARES, R., ASENSI BORRÁS, C., JAÉN JAÉN, E. (Eds.) (2017). Guía de adaptaciones en la Universidad. Published by: ONCE Foundation, CRUE Student Affairs and SAPDU Network. Retrieved from: http://sapdu.unizar.es/sites/default/files/Guia %20de %20adaptaciones_DIGITAL.pdf

UNIVERSITY OF ALICANTE (2015). Regulation of Curricular Adaptation of the University of Alicante. Approved at the Governing Council session on 11 September 2015. Retrieved from: https://web.ua.es/es/consejo-gobierno/documentos/consejo-de-gobierno-24-07-2015/punto-7-1-regdamientos-adaptacion-curricular-ua.pdf

JARAUTA, B., and PÉREZ CABRERA, M.J. (2017). La construcción de la identidad profesional del maestro de primaria durante su formación inicial. El caso de la

Universidad de Barcelona. Profesorado. *Revista de Curriculum y Formación del Profesorado, 21*(1), 103-122.

Paz, A., Núñez, M. G., García, J., & SALOM, J. (2016). Rol del liderazgo ético en organizaciones académicas. *Opción, 32*(12),148-168

Ramón Cortés, F. (2012) *La isla de los cinco faros.* Planeta.

Roca, E. (2005) *Cómo mejorar tus habilidades sociales.* ACDE Ediciones.

Serrate, S., Navarro, A. B. & Muñoz, J. M. (2017). Perfil, motivaciones e intereses de los aprendices mayores hacia los Programas Universitarios. *Revista Educación y Desarrollo Social, 11*(1), 156-171. DOI: org/10/18359/reds.1863

Training related to research capacity

M. Gonzalo CLAROS DÍAZ

University of Málaga (Spain)

Department of Molecular Biology and Biochemistry

claros@uma.es

Azucena STOLLE ARRANZ

University of Valladolid (Spain)

Library of the University of Valladolid. European Documentation Centre

azucenamaria.stolle@uva.es

Agustín MAYO ÍSCAR

University of Valladolid (Spain)

Department of Statistics and Operations Research

agustin@med.uva.es

1. INTRODUCTION

Research methodology is an essential area in the university environment and in fact constitutes the fundamental axis of master's and doctoral programmes in university and research centres. From a practical point of view, it is a set of techniques, procedures and instruments that are used in research in a broad sense: from the formulation of the object of study to the publication of the results and conclusions obtained through articles, reports, books, etc., and their dissemination by any academic, scientific and/or social means. Between the beginning and end phases, we must not lose sight of other intermediate ones that can be summarised as the search for information, as well as its evaluation, selection and organisation, the analysis of data from the qualitative and quantitative points of view, the elaboration and writing of publications, etc.

It is crucially important for those who are going to train the future leaders of the different areas of society to have extensive knowledge of research methodology. In this regard, it is seen as fundamental that, once a research question has been generated, they possess the necessary rudiments to plan and execute an efficient search for information among sources of proven quality. Future trainers must be aware of the important role that different types of scientific documents play in communicating research results. Among

them, articles have a decisive role and could be represented as the atoms of scientific matter or the bricks in the wall of knowledge. Likewise, it is essential that they bring students closer to the process of publishing works in scientific journals, mentioning the decisive importance of key elements such as anonymous peer review. In this contextual framework, it is essential to know and use the computer and technological tools available to respond to the different tasks related to research work, many of them today based on free-use computer programs accessible to everyone anywhere in the world.

A priority area in any research is related to statistics and quantitative analysis, which seek to answer any research question by analysing the information obtained from samples of the reality under study or from data produced experimentally in an attempt to reproduce a certain process of interest. In this research a fundamental role is played by statistical techniques for data summary and representation which describe the observations available and the inference techniques that facilitate the obtainment, from data collected from the sample, of approximations to the parameters specified by the models governing the real situations from which the observations come.

We cannot fail to mention the huge strides that statistics has taken in recent years. Although much statistical methodology was available in the 1980s, it was the emergence of the personal computer and its wide dissemination that made it possible for much of this methodology to be applicable in multiple fields of quantitative research and industry. The implementation of the statistical methodology available for its application in very different situations led to the development of new procedures that better meet the needs raised. In recent years, technology has facilitated the automated acquisition and storage of huge amounts of data of different kinds. The available data are not only numerical or qualitative observations, they are also images, sounds, videos that contain information from different realities and that must be analysed in an automated way to respond to different objectives. This means that statistical techniques are undergoing a great development process to meet these challenges that are posed. Trainers must be participants in this important development that is taking place in Statistics and know first-hand the practical applications of its use in the course of their research and training activity.

2. FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1. Context of training in research capacity

The training in research capacities was integrated into the second strategic line of the project "Support to the Ministry of Higher Education and Scientific Research for the reinforcement of the pedagogical skills of teachers-researchers and governance capacities of administrators." The purpose of this strategy was to support teachers in carrying out their pedagogical and research practice.

The training activities that made up this line of action were the following:

1. Structure of a training unit and design of teacher training plans.
2. Implementation of the hub for online teaching in Algeria: infrastructure for online teaching and training programmes for teachers.
3. Teacher training in teaching methodologies.
4. Teacher training in teaching technologies.
5. Teacher training in personal and social development.
6. Teacher training in research skills.
7. Teacher training in internationalisation.
8. Courses on demand for university centres.

The training to provide Algerian university teaching staff with knowledge and skills in research was the sixth line of action of those referred to above, and its purpose was to respond to the strategic objective of providing researchers with the basic knowledge allowing them to pose a research problem, contextualise it and find quality information, and to use this information in academic publication and dissemination: writing, structuring and publishing scientific documents.

Activity 6 had a transversal character within the entire strategic axis and, in this sense, transversal skills imply those acquired in three areas:

a. Knowledge: mastering and differentiating concepts, theories, models and methods in the areas covered

b. Implementation: knowing how to implement a treatment in practice, knowing how to develop a plan, knowing how to present a report or a publication

c. Attitude: having a proactive attitude, mastering social skills and communication techniques, acting ethically in the field of communication and scientific dissemination, etc.

In this contextual framework, the initial starting point was to provide teachers at Algerian universities with knowledge about:

— Use of statistical research programs.
— Use of bibliographical search tools in the different areas of knowledge.
— Use of database management programs.
— Publication of scientific articles in international journals.

These aspects were later specified in specific objectives that were adapted, firstly, to the starting situation of Algerian teachers and their most immediate needs and, secondly, to the trends, habits and customs of research at an international level according to the different areas of knowledge.

2.2. Objectives of research training

The specific objectives pursued were organised around different thematic areas that provided the theoretical cognitive framework for contextualisation and the practical skills necessary for Algerian teachers to acquire good research skills.

1. Knowledge and use of bibliographical research tools in different branches of knowledge.

a. Know the types of documents in the scientific field, based on their information content and the communication objectives.

b. Know the types of sources of academic and scientific information, nationally and internationally.

c. Know the main information resources both of a multidisciplinary nature and in each field of knowledge.

2. Location of scientific and academic information in catalogues, databases, journal/ review websites and other resources.

a. Learn the techniques of documentary and bibliographical search in the scientific and academic field.

b. Differentiate the various phases of an information search process.

c. Learn to describe a research problem and precisely define an information search equation.

d. Learn to efficiently use database search systems and other sources of information in order to obtain pertinent results.

e. Know the usefulness of informative alerts in the bibliographical research process.

3. Scientific citation, development of bibliographical references and bibliographical managers.

a. Know the characteristics of scientific publication and its objectives.

b. Reflect on the obligation to use citations correctly and ethically.

c. Distinguish the different cases of plagiarism that can occur in the academic field.

d. Know the most common citation standards in each field of knowledge.

e. Know tools to obtain bibliographical references in different styles automatically.

f. Know the bibliography managers and their use in the organisation of information and automated generation of citations and bibliographies.

4. Use of basic tools for the management, citation and publication of data and writing of academic and scientific papers: *LibreOffice* and *Zotero*.

a. Know the advantages of open source programs.

b. Know the importance of publishing scientific results, and how to do it.

c. Become familiar with the *Writer* word processing program, which is part of *LibreOffice*, learn how to use styles, and know what templates are, how to use them, and how to generate them.

d. Basic handling of *Zotero* to search for references and save them.

e. Using *Zotero* with *LibreOffice* to insert bibliographical citations in documents: how to add citation styles and change them in the word processing program.

5.   Researcher profiles on the main international platforms and their importance for institutions and researchers: *Publons, ORCID, Google Scholar* and others.

a.   Know the problems around researchers' digital authorship.

b.   Understand the need for signature and authorship standardisation.

c.   Know the importance of researcher profiles in the field of authorship, institutional linkage and the dissemination of scientific publications.

d.   Know the main international scientific platforms on which to create a researcher profile: *Publons-ResearchID, ORCID*.

e.   Know the main academic and general social networks for collaboration and dissemination of publications.

f.   Recognise the importance of institutional or thematic open archives in the dissemination of information.

g.   Learn to plan a strategy for creating, managing and maintaining researcher profiles and dissemination on social networks.

h.   Know the characteristics of the specialised search engine *Google Scholar*.

i.   Learn how to create and maintain a researcher profile on *Google*, its characteristics and the *Google H index*.

6.   Statistical methodology

a.   Introduce the role of statistics in the research methodology.

b.   Introduce basic data description techniques.

c.   Introduce basic inference techniques and their interpretation

7.   Use of statistical software in research and practical application to real cases: R and Calc (*LibreOffice*).

a.   To know the important role played by random assignment of individuals in clinical trials and the random selection of samples in sample-based research

b.   Know the possibilities offered by spreadsheets to generate pseudo-random numbers that facilitate the tasks of randomisation and sample selection for the researcher.

c.   Show the possibilities of spreadsheets as a teaching tool in the teaching of descriptive statistics and inference techniques.

8.   Statistics with *R*

a.   Introducing *RCommander* as a statistical package accessible to non-statistical researchers.

b.   Apply the basic techniques of descriptive statistics and inference to compare two treatments.

c.   Introduce R programming of inference tools.

d.   Introduce clustering algorithms and their implementation in R.

e.   Introduce the predictive rules based on logistic regression and their obtainment in R.

9.   Graphic curriculum vitae with R and *Google Scholar*

a.   *Google Scholar* utility to make yourself known.

b.   Meaning and perversions of the H index and the impact factor.

c.   Use of an R script based on the *scholar* package to obtain a graphic curriculum and compare the curricula of several people.

10.   Dissemination of information through scientific publications and international journals, open access to science and dissemination on academic social networks.

a.   Learn about the movement towards open access to science and information.

b.   Know the field of scientific publication, its characteristics and the different means of publication.

c.   Identify bad practices to avoid in scientific publication.

2.3.   Methodology and expected results

The training methodology initially planned was based on face-to-face training using on-site electronic means to support the content. However, the COVID-19 pandemic made it impossible to travel to Algeria and, therefore for this direct and personal training to take place. For this reason, the *Moodle* training platform and the *Blackboard Collaborate* video conferencing platform were used.

1.   The *Moodle* platform was used as the medium for the contents: basic and complementary reading information that was considered of interest (from the presentations to the bibliography, articles, links, etc.), and also for the participation in forums, as well as for the delivery and qualification of the mandatory tasks that the attendees had to deliver by the end of the week.

2.   The *Blackboard Collaborate* platform was used daily for video conferences that had been previously set according to the usual morning and afternoon schedule in all the training activities of the project.

One of the main features of the video-conferences scheduled is that most of them were interconnected, either because they were given by the same expert and related to each other, or because, although they were given by different experts, they were closely related to the subject, being based on the same tools or programmes. The training schedule was established precisely to emphasise the connection between the contents and encourage the training to have a progression from theory to practice that facilitated the understanding and completion of the mandatory tasks that the participants had to present at the end of the week.

Although the training sessions were based on the materials previously uploaded to the *Moodle* platform, these were continuously combined with direct consultation of other sources prepared to show certain aspects, expand them, complement them with other information, etc. This method provided greater dynamism and also facilitated the

participation of the participants in the activities through small tasks that were entrusted to them at the time or through discussion through the chat about an issue.

As already indicated, the attendees had to deliver several tasks in which they applied the knowledge obtained throughout the week. The tasks that were requested were the following:

The first deliverable task was related to the search for bibliographical information, for which models, schemes, thesauri, etc. were provided.

The next one was looking for the application of style sheets and models to design a thesis model that also included how to cite scientific articles, using *LibreOffice*.

The third task was related to the application of statistics to a case using the *Calc* tool (*LibreOffice*).

Those attending this activity had a great responsibility in transferring the knowledge acquired to other teachers and researchers at their centres and universities, in addition to the teaching commitment they had towards their students, a fact that reinforced the interest and monitoring of the training sessions and practical activities proposed by the trainers.

In this context, the expected results in this training activity were, among other aspects, that the teachers of the Algerian universities strengthen the skills related to key aspects for university teaching and research, such as understanding research methodologies and techniques, scientific documentation processes, scientific communication techniques and methods, knowledge of statistical data processing, information management, analysis and interpretation, writing of research papers, and their dissemination to the scientific community and society in general.

To do this, not only were they provided with the basic knowledge to understand the procedures explained, but the practice of some of this knowledge was stimulated and they were provided with tools that they could adapt and use directly in both their teaching and their research activity. With all this, it was hoped that the participants would acquire the following work methodologies:

— Research methodology in the search and analysis of information.
— Methodology in the writing of academic and research papers.
— Methodology in the dissemination of publications.
— Statistical methodology.

3. GOOD PRACTICES

3.1. Search, use and dissemination of information

The Algerian teachers were provided with theoretical information that allowed them to identify the types of scientific documents and their communication objectives, the different sources of information and how to extract pertinent information from them, the use and ethics of information, and how to disseminate their own information through

academic and social profiles and networks. Likewise, they were provided with information on cases and methodologies easily adaptable to each area of knowledge and need.

3.1.1. *Sources of bibliographical information*

In order to properly search for information, it is essential to know the different types of scientific information that exist and what their informative purpose is in the academic-scientific field. Once the type of information and document that is required has been identified, we are ready to search and select the source of information that can provide it to us.

— Types of documents and their informative quality: journal/review articles, books, patents, reports, laws and regulations, factual data such as statistics or photographs, minutes of congresses and assemblies, theses and reports, etc. They were provided with different classifications with different degrees of completeness, among which the Classification et description détaillée de la Bibliothèque de l'Université de Montréal stands out: https://bib.umontreal.ca/guides/types-documents .

— Information sources: not only theoretical information on its content and use was provided, but the most useful Algerian, francophone and international sources of information on the different categories were indicated as exhaustively as possible:

⁘ catalogues: they provide access to books, journals/reviews, theses, etc. Their main purpose is to allow documents to be located, and they are the fundamental basis of the inter-library loan service at a national and international level. Of special interest are the collective catalogues that pool the stocks of various specialised or university libraries. They were provided with specific catalogues such as the Catalogue Collectif d'Algérie (https://www.ccdz.cerist.dz/), the Catalogue du Système Universitaire de Documentation de la France SUDOC (http://www.sudoc.abes.fr/) and the global collective catalogue Worldcat (https://www.worldcat.org/).

⁘ Likewise, the catalogues of national libraries were emphasised due to their usefulness as they contain the bibliographical heritage of each country: Bibliothèque Nationale d'Algérie (https://www.m-culture.gov.dz/index.php/fr/biblioth %C3 %A8que-nationale), Bibliothèque Nationale de France BNF (https://catalogueue.bnf. fr), or the compilation made by the Bibliothèque Nationale du Canada on Bibliothèques Nationales de la Francophonie (https://www.banq.qc.ca/documents/a_propos_banq/ nos_publications/nos_publications_a_z/Bibliotheques_nationales_Francophonie.pdf),

⁘ Databases: they can be bibliographical databases (they provide bibliographical references and sometimes access to the full text of articles, conference proceedings, book chapters, press releases, etc.) or factual databases (they provide information expressed in symbolic, graphic or numerical language, such as statistics, images or photographs). With few exceptions, most academic databases are subscription based.

⋄ The most important databases in the international arena are multidisciplinary in nature and are the basis for obtaining impact metrics for publications and authors. These databases are: Clarivate's Web of Science and its InCites bibliometric indexes (https://incites.help.clarivate.com/Content/Indicators-Handbook/ih-about.htm), and Elsevier's Scopus and its CiteScore indicators (https://service.elsevier.com/app/answers/detail/a_id/14880/c/10547/supporthub/scopus/).

⋄ Finally, tools were provided for searching and locating databases by areas of knowledge and speciality, among which the selection made by the Bibliothèques de l'Université de Montréal stands out for its degree of detail and ease of consultation (https://bib.umontreal.ca/explorer).

⋄ Thesis and end-of-studies projects: the sources of information for this type of document are characterised by their high dispersion, which makes it necessary to search in different sources. However, with the expansion of open access in the academic world, many of these documents are available in databases or repositories with free and open access such as Open Access Theses and Dissertations (OATD), DART- Europe E- theses Portal, TEL - Thèses en ligne, HAL archives-ouvertes.fr, thesis in OpenAIRE of the European Union, and many more.

⋄ Journal websites: these are similar to databases, but give access only to journal articles. Access can be paid or free in the case of open access journal websites. In the French-speaking world, the best known are: Cairn.info, OpenEdition Journals, Revues.org ,, Revuesonline Persée, Les revues en libre accès-Science ouverte France, etc.,

⋄ Open files, also called repositories: they are document files of all kinds in open access. The most widespread are files created by academic and scientific institutions, such as university repositories. There are very many repositories around the world, and the main tool to locate them is the Directory of Open Access Repositories (DOAR) (https://v2.sherpa.ac.uk/opendoar/), or also on the Dépôts institutionnels wiki mis en place par les universités et centres de recherche by disciplines at http://oad.simmons.edu/oadwiki/Disciplinary_repositories and, in Algeria, at ISTeMAG (Optimisation de l'Accès à l' I nformation S cientifique et Te chnique dans les Universités du Mag hreb).

⋄ Locate specialised blogs and conferences: this is very scattered information, but very useful to follow specific lines of research or detect new trends, as well as to locate professional conferences and seminars to attend. They can be found in social networks but also in some sources of information that collect this type of publications, such as specialised blogs in OpenEdition (https://www.openedition.org/catalogueue-notebooks) and Congresos en Calenda (https://calenda.org/search).

3.1.2. *Research techniques*

Special emphasis was placed on the need to establish a written search strategy prior to direct searching in any source of information. This phase of the research methodology

is essential because it allows the main research topic and secondary aspects to be specified, the specific terminology to be selected, its chronological, geographical or other limits to be defined and finally a search strategy to be established that can be evaluated according to the results obtained from the information sources. This methodological phase is important enough to have been the subject of one of the compulsory tasks of the course, and is related to the following aspects:

— Establishment of key research concepts: synonyms, complementary terms, geographical, chronological limiters, etc. For this, thesauri and specialised terminologies, encyclopaedias or manuals can be used.

— Identify the most appropriate sources of information to search for information and indicate which ones: catalogues, general and/or specialised databases, journal websites, open files, etc.

— Formulate the search equation with the selected terms by analysing the key concepts, and run it on the selected information sources.

— Evaluate the results obtained: refine the search equation in light of the results; to do this, apply limiters if the results are excessive, or broaden the search by replacing or eliminating any of the previously used terms.

— Create informative alerts in the information sources of interest to us: create alerts based on the optimal search equation to obtain information from the new publications that appear in our field of research.

3.1.3. *Citation. Bibliographical reference styles*

The citation of authors and works where new ideas, thoughts and empirical results have been published is a cornerstone of science. In fact, the recognition of a scientific work is measured mainly by the number of citations received by the scientific community and today constitute the basis of bibliometric studies that evaluate the impact factor of publications and researchers.

The citation of previous works has two aspects, one of an ethical nature and the other of a technical nature. From an ethical point of view, the citation must always be made with honesty and truthfulness, avoiding all kinds of plagiarism or improper mention of works not consulted. In this sense, sufficient resources were provided to identify, detect or correct plagiarism, for which we used as an example the Aix-en-Marseille Libraries biblioguide 'Plagiat, droit d'auteur, paraphrase, copier coller etc.: Plagier c'est…' (https://bu.univ-amu.libguides.com/plagiat). Automated programs to detect plagiarism, such as *Turnitin, Compilatio, Ephorus* or *Scribbr,* are increasingly being used in the educational field, although there are many more tools that teachers, researchers and students should also know.

Finally the *Subpœna tool from the University of Bordeaux was provided (https://www.u-bordeaux.fr/Actualites/Des-bibliotheques/Subpoena-un-serious-game-contre-le-plagiat)* which is a puzzle game based on the reconstruction of bibliographical references

and the detection of plagiarism, and which can be a useful tool to train undergraduate students in these subjects.

From a technical point of view, it is necessary to know the standards and styles of citation and bibliographical reference most used in each field of knowledge in order to follow the same conventions of the scientific community. Normalisation facilitates the unequivocal and precise identification of the sources used in our own study, analysis and research process, and this allows the construction of impact metrics on the one hand, or also indicators of use, consultation, downloads, etc., on the other. In order to know the most appropriate citation and reference standards and practices for each area and situation, various sources of information were provided, such as the guide provided in Scribbr by Justine Debret (https://www.scribbr.fr/citation-des-sources/apercu-des-styles-de-citation/). The "Cite" and "Create bibliographie" citation tools, which include some academic databases such as *Scopus* from Elsevier, *Web of Science* from Clarivate or all the databases hosted on the *Proquest* platform are also very useful.

And finally, they were given information and training on bibliographical managers, specifically *Zotero* but also *Mendeley* and *Endnote*, which allow the bibliography to be organised and automatically generate both the citations and the final bibliography of the cited documents in the works themselves; furthermore, these tools make it easier to change from one citation and reference style to another according to the researcher's needs, without having to master the corresponding norms and styles.

3.1.4. *Researcher profiles*

The management of the digital identity of the researcher through the personal profile is today a priority. This identity would be formed by the information that allows the person to be identified and distinguished in a lasting and unequivocal way, and is made through the signature and standardised name, a photograph, institutional affiliation, membership of research institutes, and professional category. Investigator profiles allow you to answer the questions: Who is it? Where does he/she work? What area does he/she specialise in? What projects does he/she have or in which ones does he/she collaborate? What has he/she published, and where?

One of the most outstanding qualities of the profiles is the dissemination of the publications and work carried out. In all academic and social platforms, researchers have the ability to integrate the metadata of the articles, as well as the full text, in accordance with the editorial policies on open access and intellectual property. The fact that the publications can be viewed by other users of the network increases the possibilities of citation and the impact of the researcher, and is a powerful incentive to stimulate scientific collaboration.

During the training workshops, detailed instructions and advice were given so that attendees could create their personal profiles in:

— Academic platforms, such as ResearchID/Publons (https://www.researcherid.com/#rid-for-researchers), linked to Clarivate's Web of Science, and ORCID (https://orcid.org/register), a global non-profit organisation supported by member organisations' fees and linked to Scopus de Elsevier in Spain.

— Manage the Elsevier Scopus ID using the Author Feedback Wizard tool (https://service.elsevier.com/app/answers/detail/a_id/26216/supporthub/scopus/kw/id+scopus/).

— Google Scholar (https://scholar.google.com/), use of which, including creation of the researcher profile, constituted a specific workshop with the aim of all participants ending the day with their website created.

— Specialised social networks, such as Academia.edu (https://www.academia.edu/) or Researchgate (https://www.researchgate.net/).

— General social networks, such as LinkedIn (https://www.linkedin.com/), Twitter (https://twitter.com/home?lang=fr), or Facebook (www.facebook.com).

Among good practices in this area, it is essential to detail a written action plan indicating the form of signature chosen, which personal profiles are the most appropriate according to interests and needs, a regular and periodic update calendar of the information that is disseminated through them, etc.:

— Objectives pursued: disseminate projects and research, improve professional reputation, meet colleagues from other institutions, more visibility…

— Scope: what is expected to be achieved through the presence in these areas in terms of other researchers, the area of specialisation, the institution they belong to, society as a whole…

— Lines of action: how to approach the creation and maintenance of personal profiles, decide and manage the unique signature, indicate the institutional and/or professional affiliation, control and correct the way in which the researcher appears in the media and existing information networks, etc.

— Profiles and dissemination networks chosen: which ones will be created or used according to the own needs and interests of the research area. The proactive attitude is essential as well as dedicating time per week to updating the information of each researcher profile.

— Evaluation: citations received, impact factor, altmetrics from social networks, indexing in databases, etc.

3. 2. Writing academic and research papers

To master the main aspects of the preparation of scientific papers, training and good practices were given on the aspects detailed below.

3.2.1. *Tools for writing articles and thesis*

We particularly stressed the use of open source or public tools, since there is no reason to think that everyone has to buy licences. *LibreOffice* was recommended for writing texts for the following reasons:

— A stable interface that does not change depending on the size of the window, the operating system, or the version of the program. This greatly facilitates teaching (students see the same thing as the teacher) and learning (the student will always see the same thing on any computer, and even with different versions of *LibreOffice*).

— Continuous updates and read and write support for the most common formats, including *Microsoft Office* documents and *Google Docs*.

— Contains everything needed: writing, spreadsheet, mathematical formulas, layout, slides, and database.

— It is translated into 119 different languages.

— It can be used on Windows, macOS and Linux without problems and with full compatibility.

The other important part of a scientific document is the bibliography. It was explained that there are tools to manage the bibliography that greatly simplify the work of the teacher and researcher. In keeping with the above, we recommend *Zotero* for the following reasons:

— A DOI, a PMID, or reading an article on the web is all that is required to include it as a reference without having to type anything.

— Although it is only in English, it has a native application for Windows, macOS and Linux; the bibliographical database is fully compatible between the three; in addition, it can be used from any browser, without installing anything.

— It is also constantly updated and improved.

— The bibliography is not stored in encrypted form (it can always be retrieved with a text editing program).

— The *Zotero* engine has also been incorporated into *Medeley*, *EndNote*, *Papers* and others, which guarantees its continuity and fundamental nature.

— It is designed to work with *LibreOffice*, but it also works very well with *Microsoft Word*, *Google Writer*, or any document saved in RTF format.

— Virtually all journal styles (at least 10,000+) are defined in a public repository, so you just have to "select and use", with nothing else to worry about.

3.2.2. *Organisation of a scientific work*

It must follow the IMRaD structure (introduction, material and methods, results and discussion) of any scientific article. The basic style rules that will facilitate its understanding in any language were explained: short sentences to describe clear ideas, respect the rules of the International System, begin each section with the main finding, include

graphical representations and tables to lighten the text, etc. It was also indicated that the order of writing began with the tables and figures, followed by the methods and the results, to continue with the introduction and end with the discussion. This is when you have to consider writing the synopsis (which will be read by thousands of people) and, finally, the title (which will be read by millions of people). It was also shown that each journal and each scientific document has a model that should be followed, so we indicated where to get these models. Given the importance and convenience of having models, part of the final evaluation consisted of creating a model that can be used to write theses in their corresponding faculties.

3.2.3. *Good practices that will facilitate writing and formatting*

To do this, you have to know how *LibreOffice* works and what its main contributions are. Special emphasis was placed on the use of styles and the ad hoc modification of fonts, size, margins, etc. was discouraged). Visualisation of hidden characters, opening and recording of documents in standard format (ODT and PDF) as well as other compatible proprietary formats was recommended. It was indicated how to insert special characters, the tracking of changes when the writing is collaborative, the inclusion of comments outside the text, the automatic creation of the index when styles have been used, the combination of pages with different orientation in the same document, and what a header and a footer must contain to properly fulfil their purpose. It was stressed that putting all this together in one model is really convenient and advantageous. They were invited to consult and use templates already designed for *LibreOffice* and even those for *Microsoft Office* (which are 100% compatible with *LibreOffice*).

3.2.4. *Optimal bibliography management with Zotero*

They were shown that the standalone version (Windows and macOS) of the program and the web version were identical, and that the only thing that changed slightly was the appearance of the application. They were shown in detail the interface, which is very simple, comfortable and intuitive —especially in relation to the addition of new references and their organisation in folders, —the meaning of the icons to know if the element is a book, an article, a website, a thesis, etc. It was explained how to synchronise (or disconnect) the content of the *Zotero* account with the document on your computer, as well as the most common ways to add references when we have a PMID, a DOI, an ISBN, a URL, even a PDF of an Article. We also showed how to add the articles that are consulted on the web, either in *PubMed*, in *Google Scholar*, or in websites of journals/ reviews and publishers (*Scopus*, *Loop*, *OUP*…). Manual entry was discouraged because it is very prone to errors, especially typographical ones.

3.2.5. *LibreOffice+Zotero, the ideal partner*

To make them aware of the advantages of using this pair of programs (and not others based on payment and encryption programs), the use of the *Zotero* tab that appears in any text document opened with *LibreOffice* was illustrated. This implies having the *Zotero* reference collection open to select the ones to be included in the text. We showed how to select the citation styles for different journals/reviews, as well as where to find the style needed from the *Zotero* public repository of styles. It was made clear that the best practice is to insert the bibliography with connection to the *Zotero* library so that simply by changing the journal style, the article bibliography is automatically reformatted. Although *Zotero* allows the inclusion of citations and references offline, this use eliminates all the advantages of combining the text with a bibliography manager. A practical case was created in which the references had to be included in the bibliographical collection in all the ways that had been taught before, and then cited in the text sometimes one by one, and at other times several at the same time. Then the reference list was created automatically and it was noted how easy it was for the list and citations to be made in *Cell* journal format and then to quickly switch to *Nature* without rewriting anything.

3.3. Statistics

The approach to good practices in the field of statistics was structured around data summary and inference techniques, the use of random procedures for the selection of individuals in research and, additionally, randomisation techniques in research that seek to compare treatments. Additionally, students were introduced to statistical procedures available to identify groups in data, encompassed in supervised and unsupervised learning and in the interest of using statistical techniques with robustness properties and simulation techniques to obtain empirical approximations to the properties of statistical procedures.

3.3.1. *Data summary techniques*

The mean and standard deviation were presented as the most commonly used data summaries to capture the location and variability of the distribution of numerical variables. When the distribution that we want to summarise is asymmetric, which happens, for example, when studying characteristics linked to the size of expenses or salaries and with characteristics related to time periods, it is more convenient to use the median and the interquartile range (difference between the 75th and 25th percentiles) in the characterisation of its distribution. Students were encouraged to routinely use percentiles to summarise distributions of values. In this regard, they were told that the joint use of the 25th, 50th and 75th percentiles is very frequent, which divide the sample into four intervals and which are the basis of the popular box plot. In the case of qualitative variables, we will summarise the observed frequencies with percentages.

3.3.2. *Inference techniques*

In most research, it will not be possible to study the entire set of individuals whose behaviour we are interested in, the population, it will only be possible to obtain measurements of a subset of these individuals, which we will call a sample. If this subset of individuals participating in the research, the sample, has been randomly selected, then from the observations collected in them, we can use inference techniques not only to approximate the population summary values but also to obtain measures of the error of estimation associated with these values. This is a property that makes statistical procedures unique when applied to randomly obtained samples, which provide us with bounds for the error we make in the estimation. The most widely used inference techniques are confidence intervals and hypothesis tests. With confidence intervals we try to enclose population summaries in intervals constructed from sample information. These ensure that those population values will be contained with a pre-set level of assurance, usually 95%. We told the students how to interpret them when they find them used in scientific literature articles or technical reports. To do this, they must identify the population summary that is associated with these intervals, which is the objective of their use, and we ask them to avoid a relatively frequent misinterpretation related to their use, related to thinking that they contain the values, in the characteristic of interest, of most of the individuals in the sample.

Regarding hypothesis contrasts, it should be mentioned that they respond to the classic research paradigm related to establishing a hypothesis about the operation of a phenomenon and deciding on the veracity of this hypothesis based on partial information, corresponding to a sample, collected on the operation of this phenomenon. We indicated that the construction of a hypothesis test requires that we know, if the hypothesis were true, the distribution corresponding to statistical summaries of the information from random samples. We provided them with information about the protocol related to its application in practice to make a decision on a hypothesis. This corresponds to comparing the statistical summary obtained from the sample with the aforementioned corresponding distribution of this summary. We did this by calculating the probability of observing, for that distribution, values as extreme or more than that observed value. If this probability is low, it is necessary to doubt the veracity of the hypothesis and reject it. The underlying reasoning is that if the observed value of the behaviour of the studied phenomenon is far from the interval in which we would expect it with high probability when the hypothesis is true, we will doubt that this hypothesis is true.

3.3.3. *Importance of randomisation*

It was explained to the students that when studies are carried out to find out the efficacy of a new treatment, for a certain disease the possibility of including in the research a control group that corresponds to the most frequently used treatment should always be considered or, if no effective treatment is available, to the administration of some type

of placebo. The usefulness of this proposal seems initially restricted to the evaluation of medical treatments, but it is much more general and can also be applied, for example, to all situations in which the evaluation of a new educational strategy is of interest. Assignment of individuals to the groups corresponding to the new treatment or to the control group, whenever possible, should be done randomly. Randomisation guarantees that, if differences appear between the two groups in the response variable, these differences can be attributed to the different treatment received and not to other factors. Randomisation is much more powerful than any strategy that we carried out aimed at balancing the two groups in characteristics that we had collected from the individuals. This is because the random assignment equalises the two groups on known and unknown factors. We illustrated the application of these procedures using scientific articles in which two of the first vaccines available for COVID-19 were evaluated for the first time.

3.3.4. *Statistical procedures with robustness properties*

We talked to students about the importance of using statistical procedures that resist the presence of outliers in the sample. It is known that many data summaries can perform aberrantly when the sample contains some outlier observation. Among them, the most frequently used data summaries, such as mean, standard deviation, correlation coefficient can be severely affected by a single observation. We explained to the students that there are statistical procedures that are known because they resist the influence of outliers, among them are those based on ranges or percentiles. We also made a brief introduction to the techniques based on the clipping of observations that allow robust properties and resistance to the presence of outliers in the sample to be given to the statistical procedures on which they are applied. These techniques are capable of identifying observations with discordant behaviours, in relation to the behaviour shown by the majority of observations, while at the same offering summaries of the data based on the majority behaviour observed in the sample.

3.3.5. *Statistical simulation*

Students were encouraged to use simulation and resampling techniques for approximating probabilities and for evaluating statistical procedures. In the first case, the use of these techniques will be of interest when the calculation of a certain probability is complex and, on the other hand, it is easy to reproduce the underlying random phenomenon with the computer. For this, obtaining independent realisations of this experiment would allow obtaining an estimate of the probability and, also, a 95% confidence interval for that unknown probability. Here we stressed again that the application of statistical techniques to samples obtained at random allows not only to give approximations to unknown values, but also to obtain limits for the error associated with those approximations. As for the second case, it will be possible to repeatedly apply a statistical procedure to data, obtained

by simulating a pre-set model, and study the behaviour of this procedure based on the values obtained in those repetitions. This allows an empirical evaluation, an alternative to mathematical evaluation, which is simple to obtain and, what is more important, within the reach of many users of statistical procedures. On the contrary, mathematical assessment usually requires significant mathematical skills and abilities, only available to those who have received specialised training in this field.

3.3.6. *Supervised and unsupervised classification*

One of the areas of statistics that has developed most in recent years is that concerning learning techniques, which are related to the identification of groups in samples of individuals. Among them is supervised learning, which corresponds to a situation in which the groups are known at the beginning of the research, but in which the diagnosis is difficult. In other words, given a new individual, it is difficult to correctly assign him to the group to which he belongs. In these cases, the strategy corresponds to having a sample of individuals in whom a collection of characteristics has been measured, which are called explanatory variables, and have a known membership group, and to apply statistical methodology that allows, given the values of new individuals in the explanatory variables, to assign them correctly to their group of origin. A large number of different methods are available for this.

An important classification for these methods corresponds to separating those that are based on probabilistic models, and therefore their operation will depend on whether these models are true for the situation in which they are applied, and those that we could call non-parametric and are usually based on the non-parametric estimation of densities and do not depend on the assumption of previous hypotheses about the models that verify the data. The other large area in which learning can be subdivided is related to unsupervised learning that responds to a need to identify groups in a situation in which they were never defined. Ideally, there are individuals in whom characteristics have been measured and we are interested in defining groups that integrate individuals who jointly take similar values in the multiple variables available. There will be two main types of approximations, those based on the assumption of models and those that are sequentially added by individuals.

3.3.7. *Statistical Computing with LibreOffice, SPSS, and R*

Statistical programs that allow us to apply them play a key role in the application of statistical techniques. Among them we have general-purpose programs, such as spreadsheets, which, although they are not specifically oriented to perform statistical analysis, incorporate many simple data analysis and representation techniques. Among the spreadsheets, we highlighted to our students the one included in *LibreOffice*. We used it to simulate the random extraction of samples from a population and to apply random

assignment of treatments to individuals in a sample. Likewise, we applied, in a simple estimation problem, confidence intervals and hypothesis tests.

Another type of software that allows the application of statistical methodology corresponds to statistical packages, generally paid, specialised in solving this type of problem. Among them, we introduced our students to *SPSS*, which is one of the most widely used statistical packages. The program is attractive because it is designed to be easy for non-professional users to use. With this program we handle several classic data sets to motivate the use of some statistical procedures that it incorporates.

Finally, we cannot fail to mention R, which is a free-to-use computer program resulting from a universal collaboration. Contrary to what was mentioned for SPSS, this program is not designed to be handled by non-professional users, except for one module, *R Commander*, which contains the simplest statistical procedures and which can be managed through menus. In any case, the main attraction of R is the possibility of programming, in its own high-level language, with the possibility of creating statistical meta-procedures, a mixture of other programmed procedures, which can be applied to different data sets in an automated way, available in files or generated by simulation, redirecting the output to different files.

3.4. Graphic curriculum vitae

In this topic, an attempt was made to integrate all the teachings received so far: bibliographical search, use of *ORCID, Publons and Google Scholar*, as well as programming in *R*, to obtain a curriculum from a researcher who is in *Google Scholar*. It was also seen how to compare the curricular evolution of two or more researchers.

The first thing that was taught was how to locate the researchers who have their CV in *Google Scholar*, and how to obtain their identifier. They were explained what it consists of and how to interpret the Hirsch index (H) to measure the quality of the scientist based on the citation of their works, since the impact factor is a measure of the quality of the journal, not of the published works (and in journals such as *Nature, Science, Cell* and other high impact journals, only 20% of the articles have a great impact, while 75% have much less relevance, as if they had been published in another journal of much less 'quality'). In addition, presenting a resume with images is surely going to be more impressive than based on text. The students installed the R *scholar* library and executed a *script* that was provided to them, in which they only had to change the IDs of the researchers. They were shown how to create the curriculum of the teacher who explained it to them, that of the course director, and they compared that of two very significant Spanish bioinformatics scientists.

4. CONCLUSIONS

Participants have received complete training on general and specialised information resources with open access programs and websites (*Google Scholar Metrics* and others).

They have also received additional training related to writing scientific articles and the best tools to do it (*LibreOffice*, *Zotero*, again all of them in the public domain). Attendees' scientific communication skills and competencies have been strengthened. Statistical skills have been highlighted, including handling the *LibreOffice* spreadsheet and the R programming language, given their enormous importance in the treatment of research data.

The attendees have acquired knowledge about bibliographical and document management, the monitoring of computer alerts and how to achieve a greater projection of their contributions in the academic and scientific fields, with which we hope that they will optimise the time and work dedicated to their teaching and research activity. They have received training on good practices when it comes to writing their own works and publications, editing them effectively and providing them with bibliographical references in accordance with international standardised styles according to the different fields of knowledge in which their activities are encompassed. More indirectly, they have also known general research means and procedures (how to cite, standards, editing and publication, revision, evaluation procedures…) based on the main international trends. This will have contributed to promoting e-learning and digital literacy in Algeria. Although the COVID-19 pandemic forced the training to take place remotely, we are convinced that, had it been face-to-face, it would have been even more beneficial for the participants and the activities could have been better supervised, since we know that some have had more difficulties and have not informed us, and so the opportunity to solve the problem has been lost (hence, perhaps, the very few evaluation exercises that were received).

We think that it would be a good to involve the libraries of Algerian universities in the training of teachers and students in some of the transversal skills to free teachers in relation to these general teachings. In this way, training could also be accessible to students, libraries would participate more actively in teaching and research, and the budget for the acquisition of bibliographical and documentary resources would be optimised.

We hope that the transversality of this module has contributed to a higher quality training and the creation of a competitive space on a global scale in the knowledge economy, thanks to which further development of the Algerian economy is expected. We are convinced that the course participants will be able to transmit the knowledge acquired to the different spheres of university institutions. But a one-off effort is not enough, and we urge the Algerian authorities to come up with a plan of continuous and permanent training of teachers to enhance their development as teachers and researchers; We support this recommendation in that the participants clearly showed their interest in the application of the lessons learned to verify its applicability in their own universities. Many aspects of the course could be addressed in much more depth (for example, bibliometric indicators of research and their use in the evaluation processes of researchers and institutions, the management of specific bibliographical databases by subject areas, or the fluent management of R and *LibreOffice*) and include new aspects, such as non-parametric alternatives

and robust approaches to estimation and inference problems, as well as the ideal discursive forms in scientific texts or the development of citation styles in *Zotero* from scratch. The overall impression of the three experts of the mission is very satisfactory and we hope that the impression of the participants was also very satisfactory.

5. REFERENCES

GUIDES OFFICIELS DE LIBREOFFICE https://wiki.documentfoundation.org/Documentation/Publications/fr#Guides_utilisateur_officiels [access 16-12-20].

GET STARTED WITH ZOTERO https://libguides.stkate.edu/zoteromendeley/zotero [access 17-12-20].

ROBERD A. DAY, BARBRA GASTEL (2016) How to write and publish a scientific paper (8th ed.) ABC-CLIO, Santa Barbara.

HARRIS JK, JOHNSON KJ, CAROTHERS BJ, Combs TB, Luke DA, Wang X. Use of reproducible research practices in public health: A survey of public health analysts. PLoS One 13 (2018) e0202447.

ZIEMANN M, EREN Y, EL-OSTA A. (2016) Gene name errors are widespread in the scientific literature. Genome Biol. 2016 Aug 23;17(1):177.

EWEN CALLAWAY (2016) Beat it, impact factor! Publishing elite turns against controversial metric. Nature 535 (7611), 210-211.

POCHET, B. (2018). Comprendre et maîtriser la littérature scientifique. Presses agronomiques de Gembloux. https://orbi.uliege.be/handle/2268/186181.

BIBLIOTHÈQUES DE L'UNIVERSITÉ DE MONTRÉAL. (s. d.). Méthodologie de recherche d'information. Consulté 10 juin 2021, à l'adresse https://bib.umontreal.ca/guides/methodologie.

MARTINOLLI, P., & UNIVERSITÉ DE MONTRÉAL. Bibliothèques. (2018). Rechercher et exploiter la documentation. Consulté 10 juin 2021, à l'adresse https://bib.umontreal.ca/multidisciplinaire/plu6058.

GESTION DE LA FORMATION: TRUCS ET ASTUCES. (2020, November 26). Guides Thématiques Du Service Des Bibliothèques et Archives de l'Université de Sherbrook. Consulté 10 juin 2021, à l'adresse https://libguides.biblio.usherbrooke.ca/c.php?g=172727&p=3344343.

GIRARD, A. (s. d.). Guides thématiques: Plagiat, droit d'auteur, paraphrase, copier coller etc.: Plagier c'est… Bibliothèques de l'université d'Aix-Marseille. Consulté 9 décembre 2020, à l'adresse https://bu.univ-amu.libguides.com/plagiat.

OUTILS DE CITATION: THE LEARNING PORTAL AT ONTARIO COLLEGES LIBRARY SERVICES. (2020, septembre 24). Le Portail d'Apprentissage, Bibliothèques des Collèges de l'Ontario. Consulté 10 juin 2021, à l'adresse https://tlp-lpa.ca/recherche/outils-citation.

BIBLIOTHÈQUE DE POLYTECHNIQUE MONTRÉAL. (2020, juillet 8). Mise en valeur de la recherche. Consulté 10 juin 2021, à l'adresse https://guides.biblio.polymtl.ca/mise_en_valeur_de_la_recherche.

MARTINOLLI, P. (2019). Gestion d'identité et de profil en ligne pour jeune chercheur universitaire. Consulté 10 juin 2021, à l'adresse https://github.com/pmartinolli/TM-SchoProMa.

CHAPTER XIII

Prospects and opportunities of internationalisation for university teacher training

Cristina Adrada Rafael
University of Valladolid

Roberto Baelo Álvarez
University of León

1. Introduction

Training faculty members is key to ensuring the highest quality of the higher education system. Moreover, this training needs to contribute to responding to the goals and challenges of the social context where higher education belongs to. In this sense, the Ministry of Higher Education and Scientific Research of Algeria has developed a project of collaboration with the the Regional Ministry of Education of Castilla y León government "Appui à la Pédagogie de l'Enseignement Supérieur et la Recherche Scientifique" (DZ16 ENI OT 01 18). Therefore, this project has been oriented to transfer the existing knowledge at the Castilla y León universities to strengthen the competencies of the faculty members of the Algerian system, increase the quality of the university activity and contribute to the development of the Algerian economy and society.

Besides, technological development and the interrelation with different contexts are characteristic elements of the current societies and, thus, essential aspects that need to be addressed in a high-quality higher education system. Furthermore, developing spaces for higher education, such as the European, shows how these can become competitive at the regional and global levels. In this sense, the internationalisation processes in general, and those related to the internationalisation of faculty training more specifically, play a central role.

In this sense, the project previously mentioned has compiled the development of a series of actions led by the universities of León and Valladolid, which have sought to inform, sensitise, exemplify and guide the representatives of the Algerian universities on the results derived from the research and the educational practices related to the following main themes:

— Training of faculty for the development of their work in international and inter-cultural contexts;

— Identification of resources to support the internationalisation of teaching, training, and research;

— Possibilities, opportunities, and requirements for the development of internationalised curricula;

— Teaching certification for teaching in a foreign language; and

— Actions for internationalisation at a micro level (teaching, curricula) and a macro level (institution and university system).

2. THE INTERNATIONALISATION OF TRAINING IN HIGHER EDUCATION

The European Commission has been promoting different programs and actions to support the development of a more competitive higher education space characterised by the quality of training, innovation, research, and the transfer of generated knowledge to society. The development of this area requires, among other actions, special attention to internationalisation and, through this one, essential questions such as interculturality and globalisation. All of this is in mind to create a space for higher education that contributes to scientific, humanistic, and technological development both at the European and global levels.

In line with the previous point, the higher education institutions from Castilla y León have firmly supported the internationalisation process. This is a consequence of the good results their universities have had in calls within programs like Erasmus Plus. In addition, both have a significant presence and leadership in international higher education networks, consortia, and actions oriented towards supporting transnational cooperation both in the teaching and research fields, innovation, and the transfer of knowledge to society and cooperation with society.

Along these lines, it is essential to recall that, in March of 2019, an agreement was reached between the four public universities in Castilla y León (Burgos, León, Salamanca, and Valladolid) and the Regional Ministry of Education to boost the internationalisation of the university system in Castilla y León around a series of strategic areas. Among these areas, it is explicitly pointed out the relevance of promoting collaboration with higher education institutions in countries in the north of Africa, the United States, and Latin America.

In this way, Algeria positions itself as a strategic partner for Castilla y León concerning university cooperation. This situation is confirmed by the findings derived from the "Programme d'Appui à la Pédagogie de l'Enseignement Supérieur et la Recherche Scientifique", financed by the European Union and developed by the Ministry of Higher Education and Scientific research of Algeria in cooperation with the Regional Ministry of Education of the Castilla y León government.

With regards to the Algerian context, the report prepared by the Ministère de l'Enseignement Supérieur et de la Recherche Scientifique (2019) as part of the project "MERIC-Net - Mediterranean Network of National Information Centres on the Recognition of Qualifications" points out that the internationalisation process is a crucial element within the Ministry own policies. In this sense, some objectives are highlighted, such as an increase in the number of Algerian students, researchers, and teachers educated abroad, as well as making the Algerian university system more attractive with the ultimate aim of attracting a higher number of faculty members and students.

Derived from the above, we conclude the predisposition and acknowledgement from both structures of globalisation's central role in the qualitative development of higher education systems. In addition, the foundations were laid to carry out cooperation actions between both contexts that translated into the strengthening and developing of the universities of Algeria and Castilla y León.

2.1.   Mobility programmes

The internationalisation of the faculty members' duties, both in their teaching and research roles, has evolved from being a relevant aspect to promoting their professional growth and projection to becoming a crucial element owing to the globalisation process that has been embracing us all since the last decade of the 21st century. In this sense, we count on academic programs that allow university faculty members to externalise their teaching and research activities, extrapolating them to other institutions in their fields.

Within this context, the interuniversity mobility system by excellence, widely accepted in Spain and the great European Union region, is the Erasmus Plus program (European Region Action Scheme for the Mobility of University Students). This program promotes international exchanges and collaborations, both at the level of the institutional and managing macrostructure and at the level of the teaching practice in the classroom microstructure, with lecturers, students, as well as administrative and decision-making positions being able to benefit from it.

The international dimension of the program is currently backed by the participation of more than 2200 institutions in 33 countries and is managed by different public administrations[1]. Their objectives are the following:

[1]   In this regard, each of the countries involved in the program counts with a coordinating office at the national level. In Spain, this coordination corresponds to the SEPIE (Spanish Service for the Internationalisation of Education), dependent on the Spanish Ministry of Universities.

— To facilitate the university student and faculty mobility within the member states of the European Economic space, in addition to Switzerland, Northern Macedonia, and Turkey;

— To improve the degrees' transparency and ensure the academic recognition of the studies completed in all the EU.[2]

Even if the Erasmus program has traditionally been identified with mobility, this is a program that has incorporated actions related to innovation and the exchange of good practices, the support to accomplish political reforms, the development and the training in European identity, the adoption of healthy lifestyle habits and the conservation of the sport's cultural heritage or the establishment of new models of universities that support the European space of education.

The Erasmus Plus program for the framework 2021-2027 counts with a global budget exceeding 26 million euros. For this period, the program has focused on mobility and cooperation actions that allow for social inclusion, digital and green transitions, and the promotion of the participation of young people in democracy by supporting actions related to the development of the European Area of Education, the action plan for Digital education and the European Agenda for Competencies. In addition, actions have also been promoted concerning the European Foundation for Social Rights, the EU strategy for the youth 2019-2027, as well as the development of the European dimension in sport.

In recent years, the program has been growing by adding new associated countries. Regarding the institutional requirements to benefit from this type of mobility, both institutions need to be in possession of the Erasmus Charter for Higher Education (ECHE) and must have signed an interinstitutional agreement. With regards to the economic aspect, the EU budget that finances this type of international mobilities can be reinforced through other sources of financing, such as the Ministry of Education of each country and, in some cases, the applicant's regional government.

It is important to remember that the number and the destination of the offered posts in each call vary from one institution to another. In this sense, as we have already

---

[2]   The second goal at their initial stages was not an easy task, given the great variety and the idiosyncrasy of the degrees in each country. In this way, in the year 2003, as a transitory measure towards the ultimate and complete implementation of the European credits as a measuring unit of the academic plans, by the Bologna Process, the European Diploma Supplement was created for all the degrees finalised after the academic year 2003-2004, the curricula of which were in effect on 12/09/2003, and only for curricula structured in credits. This was a document that was presented with each of the official university degrees and gave them validity in the whole country, with the information unified and personalised for each graduate student, about the study plan, the results obtained, the acquired professional capacities and their degree level in the national system of higher education (art. 3, RD 1044/2003, from August 1st).

as indicated, at the universities in Castilla y León, the internationalisation process is a crucial element in their policies. As an example, at the University of Valladolid, in the call 2020-2021, 2889 Erasmus spots were offered distributed among 30 countries by means of the 550 foreign institutions with which an agreement had been signed, whereas at the University of León, 3000 mobility spots were offered thanks to the 550 agreements that this institution has signed with institutions in 26 countries that are member countries in the program. It is necessary to point out that in the previous numbers, the mobility offered to countries associated with the program is not included since this one is regulated by presenting competitive projects and under different conditions. In this sense, it is important to emphasise that both the University of León and the University of Valladolid are placed among the top five in Spain regarding the volume of financing received for the development of these mobilities that allow exchange programs with countries in the regions included in the following table.

Zone/Region	Countries
Western Balkans Region 1	Albania, Bosnia and Herzegovina, Kosovo, and Montenegro
Eastern Partnership countries Region 2	Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Territory of Ukraine recognised by international law
Southern Mediterranean countries Region 3	Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, and Tunisia.
Russian Federation Region 4	Territory of Russia recognised under international law
Region 5	Andorra, Monaco, San Marino, and Vatican City State
Asia Region 6	Afghanistan, Bangladesh, Bhutan, Cambodia, China, Democratic People's Republic of Korea, India, Indonesia, Laos, Malaysia, Maldives, Mongolia, Myanmar/Burma, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Vietnam.
Central Asia Region 7	Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan
Latin America Region 8	Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, and Venezuela.
	Iraq, Iran, and Yemen
Region 10	South Africa

Zone/Region	Countries
ACP countries Region 11	Angola, Antigua and Barbuda, Bahamas, Barbados, Belize, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Comoros, Congo, Côte d'Ivoire, Dominica, Eritrea, Ethiopia, Fiji, Gabon, Gambia, Ghana, Cook Islands, Equatorial Guinea, Grenada, Guinea, Guinea-Bissau, Guyana, Haiti, Jamaica, Kenya, Kiribati, Lesotho, Liberia, Madagascar, Malawi, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia, Mozambique, Solomon Islands, Namibia, Nauru, Niger, Nigeria, Niue, Palau, Papua New Guinea, Central African Republic, Democratic Republic of Congo, Dominican Republic, Rwanda, Samoa, St. Kitts and Nevis, St. Vincent and the Grenadines, Saint Lucia, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, South Sudan, Suriname, Tanzania, East Timor, Togo, Tonga, Trinidad and Tobago, Tuvalu, Uganda, Vanuatu, Djibouti, Zambia, and Zimbabwe.
Industrialised countries: Gulf Co-operation Council countries Region 12	Saudi Arabia, Bahrain, Kuwait, Oman, Qatar, United Arab Emirates, and the United Arab Emirates.
Other industrialised countries Region 13.	Australia, Brunei, Canada, Chile, Hong Kong, Japan, Macao, New Zealand, Republic of Korea, Singapore, Taiwan, United States of America, and Uruguay.
Region 14	Faroe Islands, United Kingdom, and Switzerland.

Table 1. Regions and countries associated to the Erasmus program

Mobility can take place from one country to any other country in the program or to one of its associated countries. In this sense, the program requires that, to support a qualitative impact on the activities, these must be related to the professional and personal development of the applicant and be oriented towards addressing the necessities that, in both aspects, have been detected, so that they can be solved thanks to training and learning. Therefore, two types of mobilities are established: staff mobility for teaching purposes and staff mobility for training aims.

Mobility for teaching purposes allows for the development of a teaching period abroad in an associated higher education institution. During this period, the university faculty members, or those coming from a company, teach courses at the host institution. This type of mobility can be developed in any area of study.

On the other hand, mobilities with a training aim can be developed equally in an associated higher education institution, but also in a company or in any other pertinent workplace. During the length of the mobility, the university staff develops a training program

abroad related to their daily work at the higher education institution. This training can be more structured, like a training program in an International Week or in a foreign language learning course, or it could also be based on an assimilation process, by means of learning by observing.

The two previous types of mobilities, with teaching and training aims, can be combined and developed through a system of combined mobility (online and face-to-face).

As a consequence of these mobility programs, and in addition to the elaboration of a final report by the interested part, it is expected that the learning results are disseminated and implemented in an appropriate manner at the sending institution or, if it should happen, at their teaching and research duties. In the said report, special importance is given to the section focusing on the personal and professional development and impact, where various aspects are addressed, such as extending the academic network, understanding how a foreign institution works, the knowledge of the curriculum of the degrees in the same field, the pedagogical enrichment (collaboration/self-assessment of faculty members), the improvement of the communicative competencies in the specific foreign language and the creation of new projects of pedagogical collaboration or of research. These findings, compiled by the departments of International affairs in their annual reports, are, for the most part, very positive and translate into cultural and personal enrichment and in a professional motivation increase.

2.2. Internationalisation at home: Virtual Exchanges and *Co-teaching* programmes

As mentioned in the previous section, international mobility programmes are a helpful tool for internationalisation. These programmes directly benefit the participants and positively impact the institutions involved. However, international mobility is not the only means to develop the required international and intercultural competencies.

In recent years, internationalisation at home has become increasingly relevant. This concept is related to the actions developed by educational institutions to integrate the globally and cross-culturally dimensions in their functioning. In this way, the community members (lecturers, researchers, administrators, managers, and students) are encouraged to develop in a local context rich in international and intercultural experiences.

The concept of "internationalisation at home" has been widely studied since it was coined by Bengt Nilsson of Malmö University in the late 1990s. Nilsson was concerned about the small number of staff participating in international mobility programmes and the need for the community of Malmö University to develop intercultural, international and global competencies. At that moment, Malmö had a high percentage of the population with very different backgrounds from the traditional Swedish student. He believed that both his colleagues would improve in their professional and personal development and the whole community in its interactions, drawing on their particular international background. For these reasons, he sought a way to advance the internationalisation process in the

local environment. The goal was to allow the whole community to develop intercultural/international competencies, and not only those who could participate in international mobility programmes.

Thus, internationalisation at home is a process that encompasses a multitude of actions, programmes and activities related to all aspects of university institutions (research, administration, teaching, innovation, transfer), except for those that require staff to leave the university (international mobility). These intentional actions aim to develop intercultural/international awareness and competencies, which have great value in today's society and labour market (Succi & Canovi, 2020).

In this regard, higher education institutions in Castilla y León promote different actions linked to internationalisation at home. These actions are formal (internationalisation of the curriculum) and informal (international coffees, international dinners, etc.). In this sense and based on the experiences of the universities of Castilla y León, we show two institutional programmes developed by the University of León, which we believe can serve as an example and guide for Algerian universities: the Virtual Exchanges programme; and the Co-teaching programme.

2.2.1. *The Virtual Exchanges programme*

Virtual exchanges are an excellent tool to support the process of internationalisation of subjects. These kinds of actions may also be known as "telecollaboration", "intercultural online exchanges", or "Collaborative Online International Learning (COIL)". Through them, lecturers and students develop a range of international learning experiences and gain competencies (soft skills) without physically leaving the classroom.

The University of León has been developing an institutional programme of virtual exchanges that has allowed lecturers and students of the institution to work, without leaving their environment, with groups of students and lecturers from different countries. Thus, the University of León has been the first European university to recognise this type of activity as relevant teaching activity, with the consequent reduction in the teaching time of the teaching staff who design, develop, and integrate this methodology into their classes. To be recognised, this type of programmes must be included in the syllabus of the subject, and the Vice-rectorate for Internationalisation must be informed about their development.

We can say that a virtual exchange is a pedagogical proposal that requires technological resources to establish communication and interaction between groups of students and lecturers from different countries with a predefined educational purpose. The virtual exchanges are coordinated or guided by the proper lecturers or mentors/facilitators who are experts in this methodology.

These exchanges require the joint planning, by the lecturers' participants, of a learning plan or project included in the syllabus of their subject. In this way, the lecturers establish

the common bases of the actions, the learning outcomes, the methodology to be applied, how the assessment will be carried out, and the information, documentation, and training to be given to participants. Besides, to be official and recognised from an academic point of view, it is required that the subject's syllabus reflects the implementation of this activity and the ponderation that this activity will have in the student's final assessment.

Once the working plan has been designed, the virtual exchange is set in motion, forming working groups with students from different backgrounds. If this is the student's first experience with this type of work, it is advisable to offer them precise guidelines for the development of communication and work dynamics in the groups, to remind them of the objectives to be achieved, and also to carry out periodic reviews and feedback on the performance of the activity. Once the working phase has been completed, the tasks developed by the different groups must be presented and assessed by the lecturers involved. This assessment has a ponderation in the final grade of each participating student, so it must be done with clear and previously established criteria.

In the case of the University of León, at the end of the activity, we collect a series of data through a survey and open questions to find out the participants' perceptions of the experience, their level of satisfaction, and their assessment of the issues that have most attracted their attention, especially about what they have learned and what they had not expected.

It is essential to point out the critical role technology plays in these actions, so it is necessary to plan and check that the required platforms, infrastructure, and resources are in place to develop the designed activities.

2.2.2. *The Co-teaching programme*

The Co-teaching programme is another tool that the University of León has developed to promote its "internationalisation at home" process and encourage the international projection of the teaching staff. The programme is based on a call for applications through which lecturers from the University of León contact colleagues from other universities to carry out a short-term teaching collaboration.

The programme is based on the joint design, between a lecturer from the University of León and a lecturer of the same speciality from another university, of the contents of a specific subject. This joint proposal will be reflected in the subject's syllabus. Subsequently, the lecturer from the foreign university will develop the working plan prepared for this subject for at least one week (a minimum of eight hours) in person at the University of León, together with the lecturer from the University of León and his or her group of students.

During this period, the students at the University of León have a first-hand experience attending classes given by a lecturer from another country and getting to know other approaches, methodologies, or ways of evaluating. All of it without the need to go abroad.

After that, the lecturer from the University of León goes to the foreign university from which his or her colleague had come to develop the working plan established with the group of students. Thus, the students at the visiting university have the same opportunity as the University of León has had, and the University of León's lecturer gains teaching experience in a cross-cultural and international context.

The general conditions of the programme indicate the need for the participating lecturers to reflect this teaching collaboration in the course syllabus. It must include the established working plan, the competencies to be developed, the contents, methodologies, activities, and assessment criteria of the program, as well as the weight of the qualification of this activity in the student's final grade.

It should be noted that the development of these activities requires an economic contribution from the participant institutions. Therefore, the University of León requires signing a specific cooperation agreement that states the conditions, costs and compromises acquired for each part. In the University of León's programme, the visiting lecturer's home institution contributes with a travel allowance to cover the total cost of travel to and from the university and medical insurance for the duration of the teaching period. For its own part, the host institution will provide the visiting lecturer with accommodation and meals or, failing this, a financial grant to cover these expenses for at least one week (the minimum period established in the programme) in the destination city so that he/she can carry out the established programme.

These actions are a sample of the wide range of activities developed in the universities of Castilla y León to support their process of internationalisation at home. This is a highly relevant process, which extends the development of the skills involved and the acquisition of international awareness to a much larger number of people than those traditionally reached through mobility programmes.

Finally, we should not forget that international mobility and internationalisation at home are complementary and should be developed harmoniously within the institutional internationalisation strategy.

3. Lessons learned

The activities held with Algerian universities included theoretical contributions, and various practical cases. From these experiences, we can extract a series of reflections or lessons learned derived from the following areas of interest:

— The implementation of new measures aimed at developing spaces for international exchanges in Algerian higher education institutions based on the exchange of information with the participants on the realities of the Algerian context, and the prospective possibilities to develop exchange programmes.

— The identification, applying the parameters of the SWOT analysis (Strengths, Weaknesses, Opportunities, Threats, and Strengths), of those individual or institutional

aspects, both in the field of research, management and teaching, which is considered necessary to strengthen or, conversely, which deserve to be disseminated, through inter-university teaching collaboration (national or international).

— Case studies on specific internationalisation actions: internationalisation at home (Virtual Exchanges and Co-teaching) and national and international mobility programmes.

— The relevance of institutional collaboration and coordination between the actors involved to improve the internationalisation of training in the Algerian higher education system.

In this sense, the exchanges and reflections developed based on the Algerian context and the experiences shown have allowed us to achieve learning outputs, which can be considered lessons learned and constitute a solid base to build future actions. Of these results, we will highlight the following:

— Internationalisation at home is a strategy of great interest in the Algerian context, as it makes it possible to promote internationalisation without the need for high financial investment.

— Interculturality is recognised as a key piece, a qualitative resource for competence development.

— The close relationship between internationalisation and interculturality is of utmost importance. In this sense, it is necessary to reflect on how to integrate international or intercultural aspects in the subjects' syllabus and the programmes of the degrees.

— The study programme's internationalisation process is recognised as an element of strategic relevance. The key features for internationalising a study programme require updating them to include essential aspects at the international level and the development of intercultural competencies. The need to establish international networks of teaching collaboration to support this process is recognised.

— Similarly, learning outcomes or objectives should be adequately defined to reflect the study programme's international perspective.

— Personal Learning Environment (PLE) could become an excellent tool for identifying the strengths and weaknesses of the staff members. This info would help to design and manage possible inter-institutional agreements, the adoption of face-to-face or virtual programmes that promote internationalisation, and many other activities.

— The participants consider the results of internationalisation experiences of the teaching and research activities (both incoming and outgoing) highly favourable.

— Virtual exchanges are a pedagogical resource for internationalising the programme and teaching. However, to carry them out optimally, it is essential to have a robust technological infrastructure and good training of lecturers. The infrastructure is critical for developing the actions. The training allows the lecturers to know the stages of the programme in order to apply them to the design of the different phases of the project.

— Regarding the linguistic field and considering the mother tongue of the host universities, the participants find the Spanish language a promotional element for internationalisation.

— The study of language accreditation models has been warmly welcomed. Furthermore, the institutionalisation and recognition of these programmes and the fact that they should be accompanied by training programmes, as well as the definition of the languages of interest for the development of training and accreditation actions, were also identified as key points in promoting the accreditation of students, lecturers, and administrative staff.

— The internationalisation at home and the programmes related to it, such as Virtual Exchanges or the Co-teaching programmes, have aroused great interest. Furthermore, the use of ICT in internationalisation actions, as well as the elimination of the barriers that physical mobility entails, has been an element of great relevance and would allow the development of joint activities between Algerian university institutions and the universities of Castilla y León.

— The Blended Intensive Programmes, included in the Erasmus Plus programme, would be a model for the internationalisation of teaching in which many Algerian universities would be comfortable collaborating. However, it remains to be considered whether these modalities will be opened up to partner countries or whether a similar programme could be developed in the Algerian context.

4. New horizons

Within the European Higher Education Area, specifically within Castilla y León, the University of León and the University of Valladolid, are examples and models of how internationalisation is an essential element for developing a solid university system, with identity, within a global context.

These experiences can be helpful for the Algerian university system. The Algerian system, starting from the current context and with its own background, can find reliable partners in the universities of Castilla y León to increase the internationalisation of the system itself, the personnel (students, lecturers, administrative, researchers, and managers), and its programmes. During the project's activities carried out with the Algerian partners, different approaches and possibilities for the internationalisation of Higher Education have been defined, from the microstructure of the classroom - with the teacher and the students as the primary agents - to the higher levels, which would affect the design of the curricula of the degrees and, within them, the configuration of the course's syllabus.

The internationalisation of teaching does not only involve mobility but there are also options to promote it through mixed modalities (face-to-face and online) or virtual. To develop this type of programmes, it is essential to have a solid technology infrastructure that ensures this interaction in space and time.

After the actions carried out and the shared reflections, we consider that an awareness of the qualitative improvement for the Algerian higher education system has been risen with internationalisation. However, this openness to the outside world must bear in mind the characteristics pertaining the Algerian higher education system. In this sense, cooperation and advice between agents and experts from both university systems (Algeria and Castilla y León) is the best way to develop comprehensive internationalisation strategies within a contextualised and thoughtful design of the programmes, as well as with broad objectives that can be evaluated through specific indicators in the short, medium, and long term to safeguard the achievement of the intended goals.

5. BIBLIOGRAPHY

European Commission (2021). *Erasmus+ 2021 Programme Guide*. European Commission. https://ec.europa.eu/programmes/erasmus-plus/sites/default/files/2021-erasmus-plus-programme-guide_v2_fr.pdf

Meric-Net (2019). Système éducatif algérien. Rapport national (p. 25). http://www.meric-net.eu/files/fileusers/National%20Report%20template_MERIC-Net_Algeria.pdf

Ministère de L'Enseignement Supérieur et de la Recherche Scientifique (2019). *The Higher Education system in Algeria* (MERIC-Net - Mediterranean Network of National Information Centres on the Recognition of Qualifications, p. 22) [National Report]. Ministère de l'Enseignement Supérieur et de la Recherche Scientifique. http://www.meric-net.eu/files/fileusers/National_Report_template_MERIC-NET_Algeria_English.pdf

Succi, C., & Canovi, M. (2020). Soft skills to enhance graduate employability: Comparing students and employers' perceptions. *Studies in Higher Education, 45*(9), 1834–1847. https://doi.org/10.1080/03075079.2019.1585420

Resilience of higher education institutions. Feedback from ESI Algiers case during COVID-19

Abdessamed Reda GHOMARI

ESI (Ecole nationale Supérieure d'Informatique), Algiers (Algeria)

Faiçal AZOUAOU

ESTIN (Ecole supérieure en Sciences et Technologies de l'Informatique et du Numérique), Bejaia (Algeria)

1. INTRODUCTION

Any unexpected event, undesirable change or situation can bring about both threats and opportunities for individuals, groups, teams, organisations and states.

Times of crisis subject an organisation, whatever its form (company, administration, association, etc.), to a new situation, leading to an organisational vacuum in which organisational routines are destabilised, and the usual tools are unsuited to the new context. Organisational resilience is the ability of all internal actors to interact with their environment in such a way as to project themselves into the future despite the destabilising, lasting nature of the crisis [Parsons, 2010][Trousselle, 2014].

The COVID-19 pandemic, which has lasted for more than 18 months, has created an unprecedented situation marred by uncertainties and doubts, particularly impacting training and research institutions in the exercise of their numerous and complex missions. The level of resilience of the existing parties (Teachers, teams, departments, Managers, etc.) has certainly been put to the test. The use of digital intermediation has resulted in restructuring of routines, reconsideration of educational content, investment in support software tools and strengthening of training on these tools. The challenge is to carry out the missions of initial training and continuing development, scientific research and relationships with the socio-economic world in optimal conditions.

This article has a two aims:

— First, to share the feedback from the case of an engineering school in Algiers, the ESI (National School of Computer Science), over a year of crisis and the role of digital intermediation practices that were applied to boost organisational resilience;

— Next, to capitalise on the knowledge and expertise resulting from this human experience, in the form of good practices for colleges and other higher education institutions.

This article is organised as follows: First, we will provide an overview of the main concepts used when addressing resilience in higher education institutions (section 2), followed by an outline of the higher education sector, particularly higher education institutions, which is the framework for the analysis (section 3). We will then report the main results from the feedback of one year of ESI Algiers (section 4), and conclude with recommendations for higher education institutions to enhance their organisational resilience (section 5).

2.   BASIC CONCEPTS

According to Boris Cyrulnik, Neuropsychiatrist, "resilience *is the ability of an individual to resume new development after agony/chaos*".

For a company and/or administration, *organisational resilience* is the ability of the existing parties to interact with their environment in such a way as to project themselves into the future despite the destabilising, lasting nature of the crisis [Parsons, 2010] [Trousselle, 2014]. Resilience skills include: emotional regulation, overcoming challenges, empathy, building healthy relationships and constructive conflict management [Durlak *et al.*, 2011][Wear & Nind, 2011].

According to the literature review carried out by [Riz-Martins *et al.*, 2018], a set of factors contribute to strengthening this organisational resilience: building situational awareness, managing organisational vulnerabilities, having resources, ability to improvise, ability to anticipate events, agility, ability to learn, collaboration, and individual resilience.

We focus on the interactions of the learning process, which is how human beings acquire, in a fortuitous or deliberate way, new knowledge, new capacities, and new attitudes, thus creating changes in them that lead to new behaviours. Learning manifests itself in many ways: Practice of a technique, observation, reflection on experiences, reading and meditation, trial and error, conditioning, imitation, real or graphic simulation, feedback, etc.

Crises and their destabilising character subject organisation(s) to a new situation each time, resulting in an organisational vacuum (stagnation of its state of knowledge). This void is revealed by the partial or total inability to implement organisational routines (inadequate, unstructured) (Figure 1).
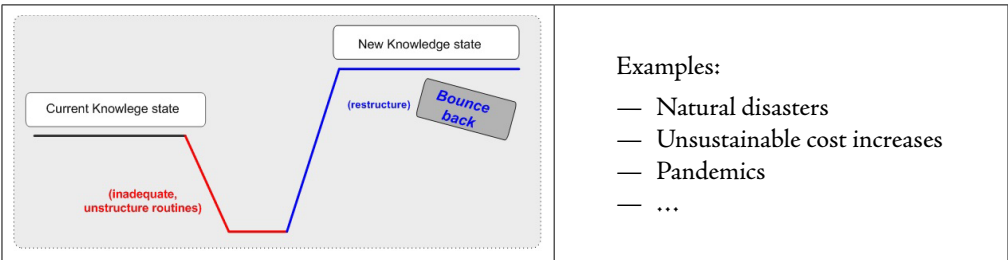

Figure 1. *Disruptive Learning (adapted from [Argyris, 1997])*

How long this situation lasts will depend on the organisations' ability to bounce back (restructure), which will increase the organisation's knowledge capital and consequently transform the organisation, which will become more mature.

3.   HIGHER EDUCATION INSTITUTIONS IN THE CONTEXT OF THE COVID-19 CRISIS

The basic mission of higher education institutions is threefold: First of all, *Teaching (initial training and continuing development):* educating, motivating, assessing learning, etc. Then, *Scientific research and technology transfer:* Contributing to research and scientific production. Finally, *Innovation, entrepreneurship and social commitment:* Stimulating the spirit of innovation and entrepreneurship, developing with the ecosystem (companies/ administrations, universities, laboratories).

The COVID-19 pandemic, which has lasted more than 18 months, has generated an unprecedented situation for education and research establishments (Table 1). The level of resilience of the existing parties (teachers and educational teams, support units, managers, partners, etc.) has certainly been put to the test.

Events that occurred	Impact (vacuum generated)	Challenges to overcome
Decision to close universities	— No more face-to-face lessons/tutorials/workshops — No more intern supervision and follow-up sessions — Research projects frozen or slowed down — Local life stopped (no scientific, cultural, sporting events, closed innovation spaces, etc.)	— Quick and sustainable adaptation of educational resources for remote sharing — Checking and tracking absenteeism rates — Online education platforms to be used — Webinars
Company activity stopped and/or reduced	— No movement of intern students on site — Short-term internships difficult to complete	— Preserving the quality of end-of-cycle internships
Digital divide	— Inequality of access to the Internet for students throughout the nation	— Video recording of course/tutorial sessions
	— Gaps in use of technology (technophobia by some teachers, etc.)	— Education/Support

Table 1. COVID-19 and the organisational vacuum it has created

4. FEEDBACK FROM THE CASE: ESI ALGIERS

4.1. Overview of the School in figures

The ESI (Higher School for Computer Science), located in Algiers, is a major engineering school[1] created in 1969. It has trained more than 6,000 graduates, including 75% of state engineers. It has 1,100 students graduating in 4 specialities (SIQ, SIT, SIL, and SID) and 200 PhD students supervised by 121 permanent teachers. It produces an average of 160 to 180 graduates each year. It has two active research laboratories (LMCS and LCSI), 11 student clubs & associations, around forty academic and professional partners and an active network of Alumni (former students).

The internal culture of the School can be summarised as follows:

— A predominantly tech-savvy population (intensive use of digital tools),
— A technology monitor, an education laboratory (we test a lot),
— A free space for entrepreneurship where initiatives are encouraged, even welcomed
— Finally, it is an eco-citizen school.

4.2. Situational governance

From the start of the COVID-19 crisis in March 2020, the authorities[2] asked all establishments to set up a COVID crisis unit consisting of the School Director, the Director of Pedagogy, Heads of the Scientific and Educational Boards, Web and Network Managers, ICT for Education unit, Teacher representatives and Student club representatives.

The latter had to work in close collaboration with management staff and existing units, including the Quality Assurance Unit and the ICT in Education unit.

Figure 2 summarises the interactions between the upper level (School Management and General Secretariat) and the lower level (Pedagogical structures and support units) in order to successfully serve students, doctoral students, Alumni (former students) and other partner organisations.

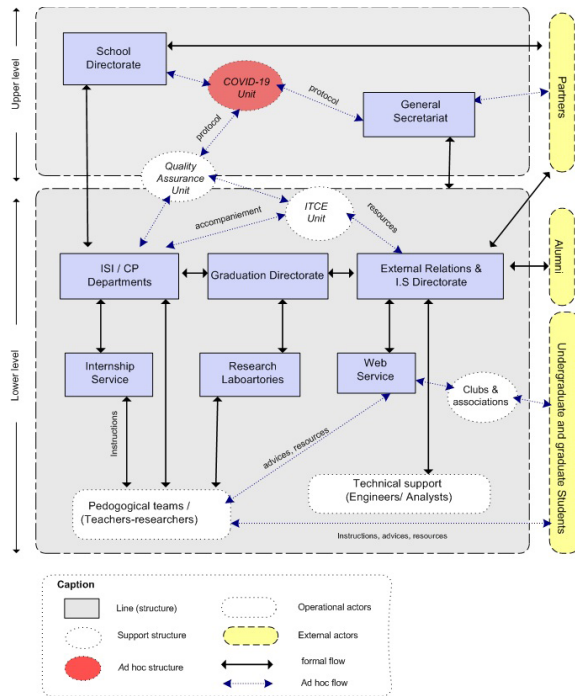
[1]   www.esi.dz
[2]   www.mesrs.dz

Figure 2. Situational governance at ESI

The web service dependent on the External Relations & IS Department was to be a driving force in digital intermediation, in collaboration with the ICT in Education Unit, the teaching teams and the technical staff. Shared awareness is considered the key factor for the success of an organisational resilience process.

4.3.   Continuity of activities through enhanced digital intermediation

ESI Algiers launched a roadmap in April 2020, the main actions of which are:

— Evaluation of the digital preparation of teachers through a survey
— Student survey: These surveys showed:
  + About 75% have a basic 2 Mb ADSL connection.
  + Just over 50% say they have a dedicated work space at home.
  + About 66% say they find it difficult to follow classes in the presence of their relatives.
  + Almost half say they use a 3G or 4G connection.
  + Monthly payments for Internet access vary between DZD 1,500 and 2,100.
  + PCs are the main tool used to access recorded courses/tutorials.

School officials and the entire community signed up for this development project, based in part on enhanced intermediation and carried out according to good practices in change management (Table 2).

Finally, we can conclude that during this period (March 2020–June 2021) the School experienced the three drivers of improvement as defined by Jurgen Appelo [Apelo, 2011], namely: anticipation, adaptation, and exploration.

— With regard to anticipation, ESI's internal community had opted for a paperless strategy well before the crisis (2016), thus increasing the digitisation of information and the use of information sharing tools. The web service also carried out permanent monitoring and encouraged experimentation with open source tools.

— Adaptation was shown by participants in their quick adoption of the new "Talents[3]" software; Validation of remote internship offers via "Talents.esi.dz";

— New possibilities were explored through MOOCS and their integration into teaching practices (in particular the current experience with Coursera[4]), experimenting with Classroom, video production, participation in Webinars, etc.

Section	Before COVID-19	During COVID-19	Roadmap and Change Management
Content production		coursera	— Systematic recording of lectures/ tutorial sessions and sharing them with reading permissions on the shared Drive;
Progress assessment	Face-to-face workshops and tutorials	Google Meet — esi talents	— Project assessment via surveys — Remote assessment of doctoral students (PhDays 2020, etc.) — Postponement of final viva voces to September.
Educational Platforms		Google Classroom — moodle	— Training/Support · The essential Google Classroom · Screen recording with audio
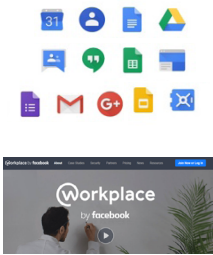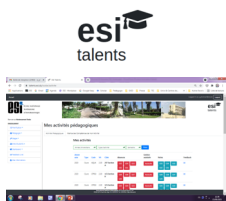
Section	Before COVID-19	During COVID-19	Roadmap and Change Management
Sharing and collaboration platforms			— Standardisation of the use of sharing platforms: Google Meet instead of Zoom or any other synchronous course tool; — Training/Support · Successful MEET Online Meetings · Student assessments · Assigning work to students · Using an online whiteboard · Programming workshops · Remote learning for mathematics — Crisis communication: Use of Workplace to share experiences between teachers, enhance coordination within the pedagogical team, etc.
Dedicated management tools			— Reduction in the hourly volume of sessions (to a max of 45 mins) — Systematic use of the diary for any exchange: Timetables, assessments, monitoring, etc.

Table 2. Digital intermediation for educational governance

5. RECOMMANDATIONS FOR RESILIENT HIGHER EDUCATION INSTITUTIONS

From this modest experience, we offer recommendations (far from comprehensive) for colleges and other educational institutions to become more resilient in the future. They are organised into four categories.

— Human aspects:
  ✦ The human ("the expert") is the agent of change;
  ✦ Leadership in times of crisis drives all initiatives;
  ✦ Shared awareness is a key success factor for organisational resilience (internal agents, facilitators, skill networks and ecosystem).

— No intelligence/performance without memory
  ✦ A library of shared multimedia resources for the community (students, teachers, ecosystem);
  ✦ Intelligent use of knowledge acquisition and learning devices (MOOCs, etc.).

— Reduce inequality/digital divide
  • Identify communication issues;
  • For more performance, pooling of material and financial resources, etc.
— Assessment/Benchmarking
  • Regularly assess the digital maturity of the institution and improve related processes;
  • A secure digital infrastructure is a condition for success;
  • Learn from regional and international initiatives. Digital products and services
are the foundation of resilient organisations.

6. REFERENCES

APPELO, J.: "Management 3.0: leading Agile developers, developing Agile leaders". Pearson Education, 2011.

ARGYRIS, C., & SCHÖN, D. A.: Organizational learning: A theory of action perspective. *Reis*, (77/78), 345-348. 1997

DURLAK, J. A., WEISSBERG, R. P., DYMNICKI, A. B., TAYLOR, R. D., & SCHELLINGER, K. B.: "The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions". *Child development*, 82(1), 405-432, 2011

PARSONS, D.: "Organisational resilience". *Australian Journal of Emergency Management*, 25(2), 18-20, 2010

RUIZ-MARTIN, C., LÓPEZ-PAREDES, A., & WAINER, G.: What we know and do not know about organizational resilience. *International Journal of Production Management and Engineering*, 6(1), 11-28, 2018.

TROUSSELLE Y.: Les mécanismes de la résilience organisationnelle, Thèse de Gestion, Université de Tours, 2014

WEARE, K., & NIND, M.: "Mental health promotion and problem prevention in schools: what does the evidence say?", *Health promotion international*, 26(suppl_1), i29-i69, 2011.

Educational programme and scenario: effect on learning assessment in workshops

Aïcha BENLOUNISSI

"Taoufik Khaznadar" National School of Biotechnology, Constantine (Algeria)
a.benlounissi@gmail.com

1. WHAT IS THE RELATIONSHIP BETWEEN EDUCATIONAL PROGRAMMES AND LEARNING ASSESSMENTS?

Pedagogy is a process based on programmes, pedagogical scenarios and learning assessments. The development of a teaching programme must take into consideration the pedagogical and didactic methods of carrying out the theoretical and practical parts as well as the methods for assessment of the achievements. All these components must be developed over time with great precision in order to successfully create a learning process that develops the learner's know-how. Several pedagogical teams have evaluated the different existing assessment methods, in particular the summative method adopted by university pedagogical scenarios, while neglecting diagnostic and formative assessments. Whatever the teaching method followed, there are no assessments to improve the learning in progress, or to accompany the rhythm of the student. Students can in no case benefit from changes or improvements to the learning situation in the event of difficulty, due to a lack of time and time slots that can help them to catch up.

Regular learning assessment, as reported by (El Moudni & Akefli, 2011), is one of the most important factors in the development of academic performance and represents one of the factors that influence the profitability of the education system. (Bloom, 1979), indicates that teaching can only be effective in the presence, among other things, of a balanced system made up of an adequate teacher, clear mastery criteria and sufficient time for the student to acquire the knowledge. Furthermore, teaching programs based on redundant content leave room for confusion in determining the existing correlations between the innumerable pieces of information that are supposed to guide the learner towards the development of specific know-how. Based on these different notions, engineering students enrolled in the 2nd year of an engineering cycle were guided towards the objectives set during the organization of the pedagogical sequence of a fundamental education following a method for evaluating practical work based on a skills-based

approach. This was gradually adopted for four consecutive years in order to separate students, in the most equitable and objective way possible, by regularly calling on the know-how acquired during the lessons which were spread out over an average period of four months in each first semester of the academic year.

2. WHY THIS STUDY?

This study was carried out for its pedagogical interest in order to help engineering students develop the know-how required for their future careers as engineers and to understand the mechanism by which assessments might or might not contribute to the improvement of learning. To do this, a new method for assessing the achievements of practical work was carried out following the results of questionnaires drawn up and distributed to engineering students in 2017, which showed that 98% of students preferred assessments through practical work reports and/or tests scheduled over time (dates specified and posted). The reporting method was adopted in the same year to test its effectiveness. The unsatisfactory results obtained gave rise to a sequence of methods put in place to improve the learning process while validating what was learnt.

The assessment method developed was tested on an average sample of 123 students and was applied during practical work sessions. The method consisted in introducing tests while retaining report assessments, a method adopted and appreciated by most teachers and students.

The assessment method was carried out as mentioned in Table 1.

Academic year	Number of reports	Number of tests
2017-2018	04	0
2018-2019	01	03
2019-2020	00	06
2020-2021	01	05

N.B.: the number of tests varied according to the number of practical sessions.
Table 1. Number of reports and tests performed.

The data collected were the subject of statistical studies in order to establish the effect of the method adopted on the general averages of the teaching unit.

3. STUDY RESULTS

The assessment, combining tests and/or reports, carried out to evaluate the practical work, made it possible to obtain several pieces of data which were processed using descriptive statistics. The subjective forms of the graphs of the residuals obtained after estimation of the linear model provide information on the validity or otherwise of the method adopted.

If the results obtained do not validate the method, the latter must undergo changes in order to improve it. (Rust, Marini, Mike, & Williams, 2021). The determination coefficients obtained during data processing, being close to 1, show a relationship between the averages obtained and the workshop scores.

The reports (WR) conducted in the first year of the study revealed an average increase of 20% in the general averages calculated with an average standard error equal to 1.67 and a residual average of around 0.016.

For reports in 2017-2018 , the distribution of the residuals as a function of the means obtained, shown in figure 1, shows a graph displaying a homogeneous distribution of the residuals in the interval of the means [15,20]. The probability is clearly lower than 5%, which does not allow us to reject the method, but the grouping of the means in the same interval informs us about the similarities observed during the evaluations.

The variance of observed errors is almost the same for all observations. This operation gave an inverse cumulative probability (critical value) equal to 1.80. The fact that the F statistic is significantly higher than this value allows us to reject the null hypothesis, H_0 at a significance level of 0.05.

In turn, graphs (a) and (b) of the 2018-2019 academic year show a variance of errors varying from one observation to another. As a reminder, graph (a) uses assessment by testing and (b) the same assessment supplemented by a report. The scatter plot spread along the axis reveals continuous and harmonious distributions in the case of the data of graph (b) contrary to graph (a). Both charts show some outliers between 0 and 5, and close to 20.

The increase in the number of test assessments (2019-2020) reveals a good distribution of the means in the interval [10,19], with an autocorrelation of the distribution of the residuals. The latter is also observed in graphs (a) and (b) for the 2020-2021 academic year.
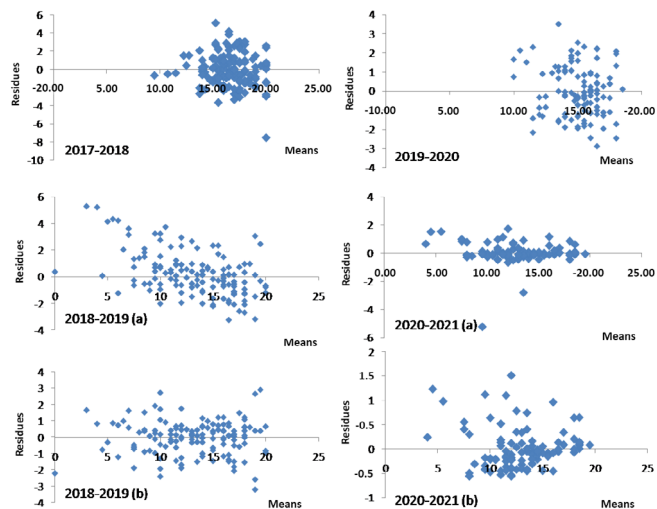

Figure 1: Distribution of residuals according to the means

In Figure 1, the regression line passes through the middle of the points in the case of graphs 2017-2018; 2018-2019 (b); 2019-2020 and 2020-2021 (a), which can be explained by the fact that the points are weighted by the number of tests and reports. On the other hand graph 2018-2019 (a) shows a regression curve which seems to drop downwards on the right side, which can be explained by the presence of an assessment that affects the curve more than the others. Indeed, in this case, the second test increased the average by 35.5% compared to the 3% and 29% observed during the first and third test respectively. This result draws attention to the non-homogeneous degree of complexity of the questions asked during the three tests.

Following the results obtained, the reliability of the method adopted had to be checked in order to verify the normality of the distribution of the data used. To do this, a normal distribution was applied.

Calculating the frequencies made it possible to plot the histograms of the distribution of the means in order to check whether or not the distribution followed a normal distribution (Figure 2). The asymmetry coefficient calculated was close to zero in all cases.
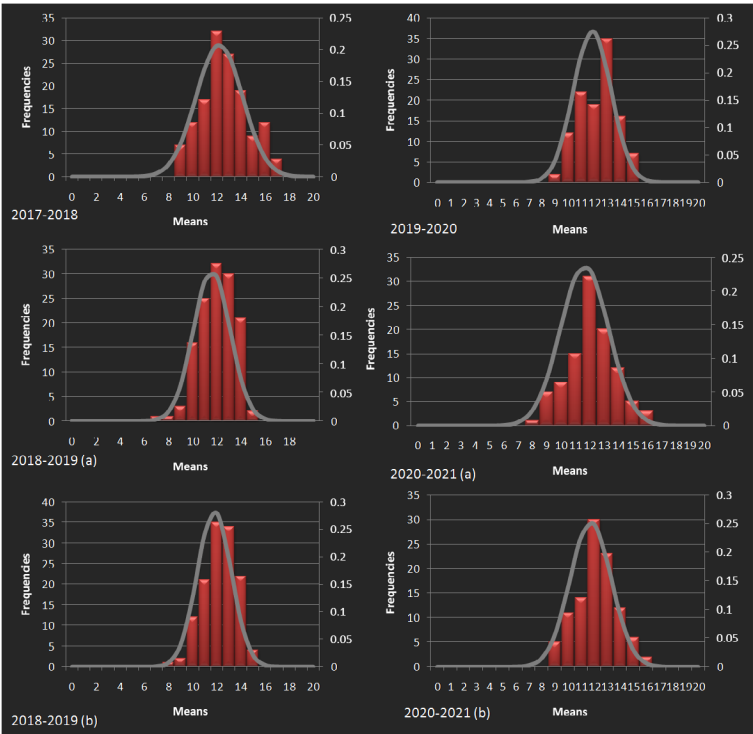

Figure 2: Distribution of frequencies according to the means

The asymmetry and kurtosis coefficients are reported in Table 2 according to the nature and number of assessments.

Academic year	Nature of assessment	Number of assessments	Asymmetry coefficient	Kurtosis coefficient
2017-2018 (year 1)	Report	4	0.23	-0.33
	Test	/	/	/
2018-2019 (year 2)	Test (a)	3	-0.33	0.09
	Report + Test (b)	1 + 3	0.31	2.01
2019-2020 (year 3)	Report	/	/	/
	Test	6	-0.22	-0.5
2020-2021 (year 4)	Test (a)	5	0.07	0.028
	Report + Test (b)	1 + 5	0.13	-0.65

Table 2: Asymmetry and kurtosis coefficients obtained

Figure 2 shows a symmetrical distribution during the assessment by tests during the academic year 2020-2021 (a) with a value equal to 0.07, and a kurtosis coefficient (Fisher) of the order of 0.28, which further concentrates the values around the calculated mean value. Negatively-skewed coefficients indicate a distribution offset to the right of the median, and therefore a left-skewed tail distribution. On the other hand positively-skewed coefficients indicate a distribution offset to the left of the median, and therefore a right-skewed tail distribution.

In order to compare the behaviour of the averages obtained during the different teaching years, a graphical representation of the data was produced by boxplot. The results obtained are shown in Figure 3.
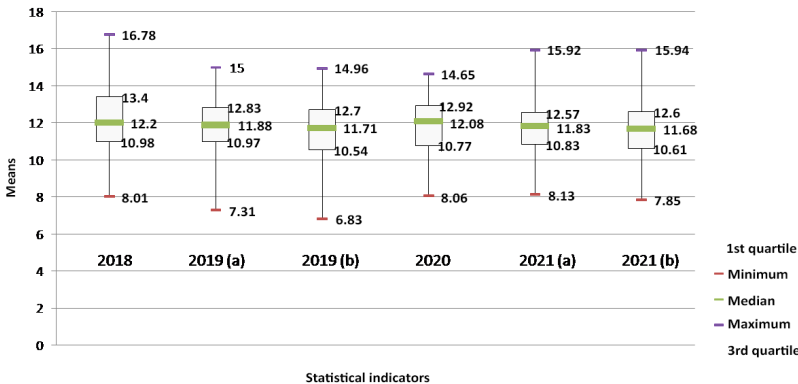

Figure 3: Distribution of the means (Boxplot)

The results show that 25% of engineering students obtained averages between 13.4 and 16.78 during the first year with report-based assessments. When tests and reports are combined, 75% of students achieve averages in the intervals [10.54, 14.96] and [10.61, 15.94] in the second and fourth grade respectively.

Practical work assessment by tests shows averages between 10.97 and 15; 10.77 and 14.65; and 10.83 and 15.92 for 75% of students in the second, third and fourth year respectively.

The calculation of the interquartile range provides information on the homogeneity of the means studied, the lower its value, the more homogeneous the series. The results obtained in this case were of the order of 2.42; 1.86; 2.16, 2.15, 1.74 and 1.99 points, which means that the assessment carried out with five tests over the year 2020-2021 was the most homogeneous, with five tests for ten sessions of practical work.

The interrogative method shows that the lowest results were obtained by the 2018-2019 class (b) and the highest by the 2019-2020 class with an increase of around 1.69%.

This reveals the effect of the number of tests on the calculated average.

By comparing the width of the boxes, it clearly appears that the box of the 2020-2021 class (a) is the narrowest, which means that the interquartile difference is the lowest (1.74), synonymous with homogeneity of the results using this assessment method. The quartiles obtained during the assessment of the method developed provide information on a fairly similar educational level about the students of the four classes.

3. CONCLUSION

The assessment adopted in this study does not provide sufficient information on the effectiveness or otherwise of the method, despite the normal distribution of the averages obtained by the engineering students. Admittedly, the graphs obtained show a clear distinction between students when the evaluation is based on tests, but the evaluation process remains complex and requires more data, namely, continuous evaluations of tutorials and acquired theoretical knowledge in order to better understand the lessons in question. Moreover, one of the limiting factors of proper assessments is time, which could easily serve the evaluators if there were a way to reconstruct the theoretical and practical lessons so as to adapt them to the daily activities that future engineers, in the case of this study, will have to carry out in their work.

4. REFERENCES

BLOOM, B. (1979). *Caractéristiques individuelles et apprentissages scolaires*. Bruxelles: Labor.

CHAMOUX, M. N. (2000). Existe-t-il des formes originelles de transmission du savoir? *Pour, Education, Sociéte,*, 165, 17-24.

DEPOVER, C., & JAROUSSE, J. P. (2016). *Formes et enjeux de l'évaluation dans l'initiative IFADEM*. Bruxelles: Éditions des archives contemporaines.

Depover, C., & Noël, B. (1999). *L'évaluation des compétences et des processus cognitifs. Modèles, pratiques et contextes.* Bruxelles: De Boeck Université.

Eastes, R. E. (2013). Processus d'apprentissage, savoirs complexes et traitement de l'information : un modèle théorique à l'usage des praticiens, entre sciences cognitives, didactique et philosophie des sciences. *Thèse de doctorat.* Paris, Faculté de psychologie, Université Paris 1.

El Moudni, A., & Akefli, H. &. (2011). *Évaluation et apprentissage scolaire. Cahiers de l'éducation et de la formation.* Rabat: Sapress.

Rust, A., Marini, F., Mike, A., & Williams, P. J. (2021). Application of ANOVA-simultaneous component analysis to quantify and characterise effects of age, temperature, syrup adulteration and irradiation on near-infrared (NIR) spectral data. *Spectrochim Acta A Mol Biomol Spectrosc.*

Vishwanatha, J., Hebbale, A., Kumar, N., & Srinath, M. &. (2021). ANOVA studies and control factors effect analysis of cobalt based microwave clad. *Materials Today: Proceedings,* 2409–2413.

CHAPTER XVI

Skills required for skills-based teaching: didactic look

Ali MOUHOUCHE
ENS Kouba, Algiers (Algeria)
Science Education Laboratory

1. INTRODUCTION AND PROBLEM

The evolution of teaching approaches and methods has brought us the historical transmissive approach, then the content-based approach, then the objectives-based approach, to finally arrive at the skills-based approach (or competency-based education, CBE) which seems to have been widely adopted by several education systems around the world. So much so that in almost all Western countries at present curricula and study programs are written, most of the time, in terms of expected skills (Boutin, 2004).

Universities are criticised for training "unusable" graduates; because, for companies, the performance criterion is called "skill". Proponents of skills-based teaching consider that the so-called traditional education does not sufficiently prepare young people to face the job market and its vagaries, and company "head-hunters" (recruiters) willingly adopt, for the profitability of their business, the quote from Wagner (2012) which asserts that "*increasingly in the 21st century, what you know is far less important than what you can do with what you know*". We must therefore find a way to link the world of school to the world of work. The latter has its own criteria for organisation and development, which cannot be subject to the school's own imperatives. It is therefore up to the school to transform itself in order to adapt. The skills-based approach was designed to respond to this problem.

In education, the skills-based approach is now widely advocated and recognised as an approach capable of more effectively training people for change in a complex world, taking into account the transformations and progress of societies and economic systems. What steps does it take and how does it prepare teachers for this objective? More specifically, can we teach a skill without being trained in it? Our hypothesis is that teaching skills requires itself the implementation of skills. So what are these skills?

Starting from the definition of skill, we propose modelling skills-based education and then the pedagogical approach and the characteristics that support it. A questionnaire

submitted to university teachers informs us about their concept of skill and the way in which they take it into account, or fail to, in their teaching.

Recommendations, by way of proposals for remedying this situation, are issued at the end of this document.

2.   FROM THE OBJECTIVE-BASED APPROACH TO THE SKILLS-BASED APPROACH

In order to face reality, human beings need skills that they do not necessarily have at the beginning of their life. The different situations they encounter force them to learn and at the same time to acquire skills to adapt to the world. In the constructivist learning model, intelligence is an adaptation, which itself is a search for balance between an organism and the environment. Piaget (1975) affirms that faced with a problem, human beings first attempt *assimilation*, then, if this is not successful, they shift to *accommodation*. For this author, learning consists of *adaptation* to what is real by one or the other of these two processes (assimilation and accommodation).

When schools taught by behavioural objectives or by operational objectives, care was taken to define, in a very precise and targeted way, the mental activities to be implemented on the well-determined contents following a taxonomy of the objectives in the cognitive field that has been described in various ways, and is originally attributed to Bloom (1956). These objectives were then announced as follows: "at the end of the lesson, the student will be able to [mental activity to be applied to content]".

It is relatively easy to get students to acquire a stereotyped procedure or know-how that they have to perform in response to an instruction. However, most of the time, the difficulty lies not only in the simple implementation of these activities, but rather in "what to implement" and according to which priorities or with which methods. Could the notion of skills provide answers to this problem?

The skill-based approach, at least in its initial version, comes from Taylorism and the organisation of work, in short from the world of industry. This approach first invaded the American school system at the end of the 1960s and was for a time opposed to the person-centred approach led by Maslow and Rogers. Quite quickly, the skills-based approach established itself in the world of education in the rest of the world. However, Jonnaert *et al.*, (2004), and some other researchers who have observed, particularly in Quebec, the formal introduction of skills into the curricula, warn that too often "*the concept of skills simply replaces that of objectives without being supported by real changes, with the multiplication of operational objectives renamed as skills*". This is confirmed by Perrenoud (1999) who writes that: "*The trend towards learning cycles requires the definition of core objectives or end-of-cycle objectives, often conceived in terms of skills.*" (p. 14).

We can only unravel this tangle if we go back to the definitions of skill and try to identify what they have in common.

3.   SKILL: DEFINITIONS AND POINTS OF CONVERGENCE

The objective of presenting the following definitions of competence is twofold: to better define the concept of *skills-based approach* and to identify similarities, if any, between the various definitions.

3.1.   The definitions

Van Lint (2016) states that to be competent is to manage to mobilise one or more mental activities around one or more contents which will make it possible to solve a situational problem (SP) or the task at hand. The mobilisation of mental activities, according to this author, consists in *choosing, combining and implementing* these activities.

Le Boterf (2004) specifies that a skill is not the simple sum of knowledge, know-how and interpersonal skills, it is rather *knowing how to act*, which allows combining and mobilising one's own personal and external resources in order to manage professional situations. As for Jonnaert, *et al.* (2004, op. cit.), they define skill as: *"the implementation by a person in situation, in a given context, of a diversified but coordinated set of resources. This implementation is based on the choice, mobilisation and organisation of these resources and on the relevant actions that they allow for the successful handling of this situation* (p. 674).

In the professional skills framework (Martinet *et al.*, 2001) of the Quebec Ministry of Education (MEQ), skill is presented as an *ability to act* that mobilises personal (e.g. knowledge, know-how, attitudes) and external (e.g. colleagues, specialised literature, etc.) resources to solve problems that are specific to a group of situations. The MEQ considers that skill is a contextualised action, *"successful, effective, efficient and immediate know-how that manifests itself on a recurring basis"* (Martinet *et al.*, op. cit., p. 52).

De Montmollin (1984) suggests defining skill as a *"stabilised set of knowledge and know-how, standard behaviours, standard procedures, types of reasoning that can be implemented without new learning"* (p. 122), following a resolutely cognitive approach.

What do these definitions have in common?

3.2.   Points of convergence

The brief review of the literature above regarding skills allows us to develop a synthetic definition that we will use in our study. Thus, we consider that a skill is *knowing how to act* by mobilising *personal resources* (i.e. knowledge, know-how and attitude) and *external resources* (documentation, professional network, etc.) in order to *solve a problem* in *a group of situations*. Dumouchel (2016), on the one hand, and Gillet (1991, quoted by Allal, 2002, p. 79), on the other, confirm this formulation by saying that the notion of skill refers to an integrated network of knowledge that is likely to be mobilised to accomplish tasks.

To sum up, let us recall from the above the following recurring elements in the definition of skill:

— Skill is often defined in terms of knowing how to act.

— It is characterised by the choice, combination, mobilisation and action (or implementation) of knowledge.

— The individual carries out an activity using resources that may be personal or external (related to the individual's environment, such as documentation or people who would be called resource persons).

4.   WHAT EDUCATIONAL APPROACH SHOULD BE USED FOR SKILLS-BASED TEACHING?

The main pedagogical formula of the objective-based approach is the lecture, inspired by cognitive psychology (Bloom, Gagné, Taba, etc.) and the classical university tradition. This approach transmits a body of knowledge or know-how, solving problems with obvious contents and a known solution that is therefore to be reproduced, with a very small margin of uncertainty and the resolution of which only requires a monodisciplinary approach. Facing a changing and unpredictable reality of the current and future world, that of great changes, sustainable development, energy transition, etc., in which current learners will be called upon to evolve, poses so-called complicated and complex problems the solutions of which are originally unknown,[1] and must therefore be developed, negotiated and perfected through multi-disciplinary and trans-disciplinary approaches (Berrouk, Boushaba, 2021).

Develay (2015, pp. 51–52) justifies the term *being able to act*, which he describes as *reflexive*, linked to competence, by the fact that a competent person gives himself the "power to act", because he has the knowledge and experience of situations in which it is appropriate to act, and that moreover he shows himself capable of judging the relevance of his action, which gives competence a reflexive dimension.

In learning *by problem solving*, *by projects*, and a little less by *case studies*, there is situational awareness and potential acquisition of know-how in context. These are based on constructivism and socioconstructivism models (Jonnaert, 2009). This learning, especially when it is *collaborative*, and deals with reality, promotes the acquisition of skills.

The situational problem is an unstructured situation, which is close to reality and which has several solutions. It requires a choice of mental activities, and combining them if necessary, then their implementation to build a solution: these are elements that are found in the definitions of the skill presented above.

Romainville and Donnay (1999) wrote about this last learning strategy that *"knowledge seems to have a longer lifespan…and problem-solving skills seem to transfer to everyday life".*

---

[1]   Examples of such situations already experienced: the particle cloud from the Eyjafjöll volcano in Iceland in April 2010 with regards to the environment; the subprime crisis in the economy; several pandemics in the health sector, etc.

In the old conception, problem solving was training, reasoning about a known solution, generally given as an example of a current application. The evaluation then presented the same type of questioning by modifying only the numerical data, and sometimes even the wording. Today, we favour unusual problems, that have not been solved in class, are totally new, responding to a concrete reality for the child, therefore functional. This is a break in the *didactic contract* since, in evaluation, the child is asked to do something that they have never done before. Competence is built at the same time as preparation for the unpredictable hazards of social life. It is no longer enough for learners to be able to "apply", they must show themselves to be competent and transform knowledge and know-how into *being able to act* by choosing the approach and implementing it within the framework of the situational problem or the project they have been assigned.

5. CONCLUSION AND PROPOSALS

The skills-based approach, this new paradigm in education systems, cannot be known and applied in the classroom without learning new teaching methods that are specific to it: teaching-learning by SP, by project and by case study. Training is needed in this area. Furthermore, we could bring the skills-based approach to life during schooling. Improvement in the student's *ability to act* and a reduction of duration of study are then expected.

Concerning the level of consideration of the skills-based approach by teachers, the extension of this preliminary prospective work would be the administration of a questionnaire to teachers to try to know their representations of what a skill is and how to teach it. We would then infer information on their knowledge of this approach and on the need for application of the recommendations of the various programs and curricula.

In summary, the following measures could remedy the situation:

— Include skills-based teaching in the pedagogy and didactics modules.
— Skills-based teaching so that the future teacher experiences real situations.
— Designing manuals to facilitate the teacher's skills-based approach.

6. REFERENCES

ALLAL, L. (2002). Acquisition et évaluation des compétences en situation scolaire. Dans: Joaquim Dolz éd., *L'énigme de la compétence en éducation* (p. 75-94). Louvain-la-Neuve, De Boeck Supérieur.

BERROUK, S. et BOUSHABA, R. (2021). *Quelles complémentarités dans la mise en place de dispositifs hybrides de formation d'ingénieurs en Algérie ? Représentations d'enseignants algériens et expériences d'autres pays.* Séminaire didactique, 13 et 14 novembre 2021, MESRS et U.F.C., Alger.

BLOOM, B.S. (1956). Taxonomy of Educationels objectives, Handbook 1: Cognitive Domain.

BOUTIN, G. (2004). L'approche par compétences en éducation: un amalgame paradigmatique. , *Connexions*, vol. n°81, no. 1, 2004, p. 25-41.

Develay, M. (2015). *D'un programme de connaissances à un curriculum de compétences. Louvain-la-Neuve, Belgique: De Boeck Supérieur.*

Dumouchel, G. (2016). Les compétences informationnelles des futurs enseignants québécois sur le Web. Thèse de P.H.D.. Université de Montréal.

Jonnaert, P. (2009). *Compétences et socioconstructivisme : un cadre théorique. Perspective en* éducation *et formation.* De boeck, Bruxelles.

Jonnaert, Ph., Barrette, J., Boufrahi, S. et Masciotra, D. (2004). Contribution critique au développement des programmes d'études: Compétences, constructivisme et interdisciplinarité. *Revue des sciences de l'éducation,* vol. 30, n.º 3, p. 667–696.

Le Bortef, G. (2004). *Construire les compétences individuelles et collectives.* Paris, Éditions d'organisation.

Martinet, M., Raymond, D. et Gauthier, C. (2001). *La formation à l'enseignement:* les orientations, les compétences professionnelles. Québec, Canada : ministère de l'Éducation du Québec.

Montmollin (de), M. (1984), *L'Intelligence de la tâche ; éléments d'ergonomie cognitive,* Berne: Peter Lang.

Perrenoud, P. (1999). Pédagogie collégiale, Vol. 12, n.º 3, Mars 1999, p. 14-17.

Piaget, J. (1975). *L'équilibration des structures cognitives.* Paris, PUF.

Romainville, M., Donnay J. (1999). *L'apprentissage par problème, Namur, Réseau 44, SPU, FUNDP.*

Van Lint, S. (2016). Van Lint S. (2000). Participation à Bosman, Gérard F.-M. et Roegiers X. *Quel avenir pour les competences?* De Boeck.

Wagner, T. (2012). *Creating Innovators: The Making of Young People Who Will Change The World.* Cambridge, ScribnerBookCompany.

Teaching musical knowledge via distance education

FETHI SALAH
ENS Kouba, Algiers (Algeria)
Department of Music and Musicology
fethi.salah@g.ens-kouba.dz

1. HIGHER EDUCATION IN MUSIC IN ALGERIA

A poor relation of the knowledge taught in Algerian universities, music education struggles to find a place of its own in the university curriculum. The teaching of music in higher education is also unique in that it lies at the crossroads of three major domains: the scientific domain, the artistic/cultural domain and the educational domain (cf. Figure 1). Its nature is therefore eminently multi- and inter-disciplinary. Whether in the purely scientific field or in the artistic or educational fields, its multi- and inter-disciplinary nature, which also incorporates a non-negligible dimension of subjectivity (feeling, emotional reactions, aesthetic judgements), poses difficulties and constraints regarding the process of its transmission and teaching.
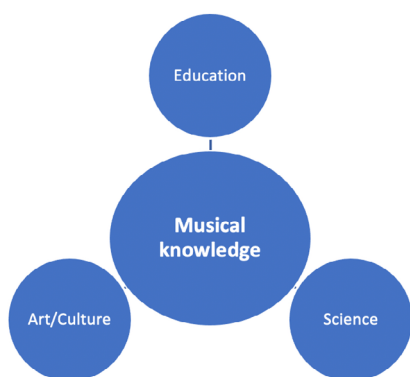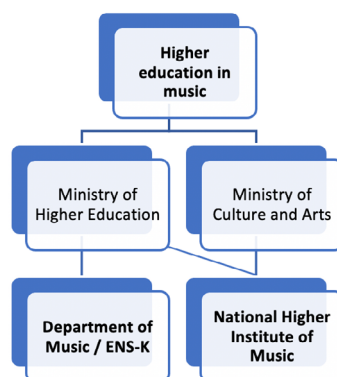

Figure 1

Figure 2

In Algeria, there are two institutions that are responsible for higher education in music (see Figure 2): the first and oldest is the *École Normale Supérieure* in Kouba, where

the music department first opened its doors to students in September/October 1983. Under the supervision of the Ministry of Higher Education and Scientific Research, the music department's mission is to train teachers specialised in music education for colleges and high schools. The second and most recent institution is the National Higher Institute of Music which, under the dual supervision of the Ministry of Culture and Arts and the Ministry of Higher Education and Scientific Research, started training professional musicians in 1992.

These institutions for higher education in music are both located in Algiers, and welcome new high school graduates from all regions of Algeria. It is obvious that for students from regions far from the capital, transport and accommodation represent constraints and difficulties to be resolved, despite the existence of resources provided by the supervisory bodies, which nevertheless remain insufficient.

It is based on this observation that we can imagine solutions that new communication technologies, namely ICT in Education and the Internet, can provide and which can be used in higher education in music in order to develop what is called music *e-learning* or distance teaching of music.

But before analysing the feasibility of distance teaching of music in higher education, it is useful to briefly identify the nature of the musical knowledge that is transmitted and taught.

2.   NATURE OF MUSICAL KNOWLEDGE TAUGHT IN ALGERIA

Broadly speaking, there are two categories of musical knowledge taught in higher education in Algeria: musical knowledge from Algerian popular cultures and traditions, in particular Andalusian music and *chaabi*, and on the other hand the knowledge which was "imported" either during the colonial period with regard to music referred to as "classical" or sometimes "scholarly" and which largely belongs to the European cultural heritage (Bach, Beethoven, Brahms, Saint-Saëns, Debussy, De Falla, etc.); or the Arab-Eastern knowledge belonging to the cultural heritage of the Middle Eastern countries (in particular Egypt, Lebanon, Syria and Iraq). It should be noted that a significant part of the musical cultures of the world, such as Jazz or those often bearing the label "world music" (like the music of India, China or Indonesia), is not taught, at least not in higher education.

From a pedagogical and didactic point of view, music is characterised by three types of knowledge: theoretical, practical and theoretical-practical knowledge.

2.1.   Theoretical knowledge

This is all the knowledge that makes up the scientific disciplines grouped under the name "musicology", some of which come from the human sciences and others from physics and mathematics, namely: music history, music philosophy and aesthetics, music anthropology, ethnomusicology, music sociology, musical acoustics and psychoacoustics, etc.

2.2. Practical knowledge

This is the knowledge which when acquired allows instrumental practice, which is the playing of musical instruments including singing (the voice being considered a natural musical instrument). This knowledge is grouped in the form of instrument playing techniques or vocal techniques.

2.3. Theoretical-practical knowledge

In reality, this is theoretical knowledge that needs to be applied through the practice of musical writing/notation in order to be assimilated. It includes the following disciplines: music theory, harmony, polyphony (counterpoint and fugue) and music composition. This knowledge is traditionally taught in specialised institutions such as music conservatories, which are institutions inherited from the colonial era and which adopted French educational models.

3. Hybrid education: perspectives for higher education in musical knowledge in Algeria

The craze for distance learning existed long before the Covid-19 pandemic. But the pandemic has certainly accelerated its application and development all over the world in such a way that *e-learning* has, in many cases, become the only tool for continued teaching and training.

Not yet officially adopted in Algeria, distance music education is proving to be more and more useful and even necessary, not only under pandemic situations and conditions but also as a beneficial complement to traditional education, i.e. face-to-face: hybrid education in higher education is becoming an inescapable reality. It also allows the possibility of continuing education for all those who, while continuing to exercise their profession, wish to update their knowledge, in particular those who live far from higher education or training centres. It also allows a significant reduction in accommodation and transport costs for learners/students as well as for teachers and supervisors.

Drawing inspiration from what has been achieved in countries where distance music education is well established and highly developed, we can attempt to develop a relevant system for the management of both face-to-face and distance learning of musical knowledge in Algeria. Sylvaine Martin de Guise (2009) carried out a comprehensive study on the distance education of musical knowledge. She made a relatively detailed and critical assessment of experiments carried out in France and Canada. Indeed, Martin de Guise provides detailed explanations of all the possibilities for the distance teaching of music, providing examples from France and Canada. She points out, however, that *e-learning* must in no way exclude traditional or conventional education and in particular the teaching of musical knowledge. The hybrid model of music teaching is well explained in the following words:

"In a general education, *e-learning* is not the only method of teaching recommended, especially in the apprenticeship of the professional musician, whether a composer, performer or musicologist. Indeed, the *e-learning* of music must be added to the conventional and agreed learning tools to constitute together a modern version of the profession of musician. Indeed, experience shows us that specialised training, in music as in other disciplines, still requires following the main lines of traditional education with the rigour that is essential to quality training"[1].

One of the great advantages of *e-learning*, is the renewal of the pedagogical and didactic approach. This new approach allows the revitalisation and development of "self-training" in learners/students.

In general, "*e-learning* develops the idea and the pedagogical approach of "self-training", which calls for the autonomous conduct of students in the different stages and levels of their learning. This attitude in musical training is perfectly viable in many types of lessons, from lectures (history class) to private lessons (lessons for piano or other musical instruments)"[2].

We can also take inspiration from another study whose results corroborate the conclusions of Martin de Guise. Mu'tasem Adileh conducted a well-documented statistical analysis study during the 2010–2011 academic year at Al-Quds University on Palestinian students who took a music course using two methods: first according to the traditional teaching method, i.e. face-to-face (FTF), the second according to the hybrid method, that is to say about half of the teaching in person and the other half remote: the author specifies that "*if online activities comprise between 45% and 80% then the course is considered hybrid*"[3]. The results of the statistical analysis were conclusive:

"*A statistically significant difference was found between the FTF and the blended group. The* analysis *showed that the blended group was more successful than the traditional FTF group in terms of both course achievement and attitudes toward music learning.*"[4].

4. CONCLUSION

The two studies mentioned above, which are representative of many other studies dealing with the same issue, clearly demonstrate that hybrid teaching applied to music is effective. Its application in Algeria can only be promising, not only to alleviate the costs for learners/students who live far from training/education centres, but also to encourage Algerian students/learners to become autonomous in their learning.

---

[1]   Martin de Guise, S. (2009). *Enseignement à distance de la musique ou l'e-learning musical*, pp. 88–89.

[2]   *Op. cit*, p. 103.

[3]   Adileh, M. (2012). "Teaching music as a university elective course through e-learning", p. 71.

[4]   *Op. cit*, p. 71.

We believe that whatever the nature of the musical knowledge taught (theoretical, practical or theoretical-practical), *e-learning* and face-to-face learning complement and reinforce one another. In addition, hybrid education can bring a new vision of music teaching in higher education and it can help to reveal and underline, following the example of teaching in other disciplines, the inconsistencies that dot the current education system in Algeria and sometimes render it obsolete.

5. REFERENCES

ADILEH, M. (2012). «Teaching music as a university elective course through e-learning», in *Australian Journal of Music Education*, pp. 71-79.

MARTIN DE GUISE, S. (2009). «Enseignement à distance de la musique ou l'e-learning musical», in *Intersections (Canadian Journal of Music / Revue Canadienne de Musique)*, 29(2), pp. 84–108. https://doi.org/10.7202/1000041ar (consulté le 07/12/2021).

Remote participation in the pedagogical and didactic training programme for newly recruited teachers at the university of oran 2 – Mohamed Ben Ahmed

Tami BELHADJ

University of Sherbrooke, Québec (Canada)

tami.belhadj@usherbrooke.ca

Sadok CHENNOUF

University Oran-2 (Algeria)

chennouf.sadok@univ-oran2.dz

1. INTRODUCTION

Teaching quality often depends on the contents and the human communication involved, but also of the container and the means and modes of communication. In this 21st century, we must consider content as well as form, and the means and modes of communication. This inevitably brings us to a debate on information and communication technologies (ICT) and their appropriation by students, teachers and institutions.

In order to support the initial training of new trainees and the improvement of methods used by teachers to transmit knowledge, the Cellule d'Accompagnement et de Suivi Pédagogique (CASP) of the University of Oran 2 (UO-2) called on Algerian skills abroad. Thus, we called for a contribution to the seminar on the theme of "*digital engineering*", which was organised remotely (see the timeline of key events in Annex 1).

All synchronous and asynchronous activities were carried out entirely between Canada and Algeria, in collaboration with the CASP of UO-2. Despite the time difference and technical constraints, this webinar series favourably captured the attention of trainee teachers.

2. TRAINING PLANNING

Each of the subjects of the *Pedagogical teacher training* programme of the Algerian Ministry of Higher Education and Scientific Research (MESRS) refers to "e-learning" in their *programme implementation* sections:

4. Setting up a training, teaching and environment programme.

5. Portfolio, internships (practical content, management methods and evaluation grids). Student training programme.

6.   Teaching and training LMD: specific pedagogical and didactic features.
8.   Animation techniques for teaching and tutoring teams.
10.   Roadmap for student projects.
13.   ICT and teaching methods and tools.
17.   Bibliographic research techniques, building a corpus adapted to the training programme.

Subject 13 is explicitly oriented towards use of the Moodle platform, and serves as a guideline in the development of training workshops.

A proposal in the form of a webinar entitled *"Hybrid teaching: Design and implementation"*, which was organised as six two-hour sessions, was quickly approved.

The following subjects were offered:

Session 01 – duration 2 hours	**Session 04 – duration 2 hours**
— First steps · Teaching methods · Asynchronous vs synchronous User management (Moodle) · Authentication vs registration	— How to follow-up on student learning · Tracking progress — Assessment of learning · End of activity report
Session 02 – duration 2 hours	**Session 05 – duration 2 hours**
— Planning a course · Setting up a course · Design — Adding content · Activities (H5P) · Pooling of resources	— Advanced features · Badges, skills and plugins · Digital portfolio · Open Educational Resources (OER) · Open Educational Practices (OPE)
Session 03 – duration 2 hours	**Session 06 – duration 2 hours**
— Planning interactions · Getting learners involved · Evaluation and monitoring	— Recapitulation · Design and implementation · Adaptation of resources · Contextualisation

A schedule of meetings is drawn up in close collaboration with the CASP as well as the team of the Centre for Information Systems and Networks, Communication, Online Education and Distance Education.

The UO-2 Moodle e-learning platform was chosen to simplify webinar access for trainee teachers. After tests were performed to validate the quality of the internet connection, Zoom was chosen as a videoconferencing tool for synchronous meetings. A recording of each webinar was planned to allow students who missed the webinars to catch up.

Awarding digital badges to participants was recommended for motivation and raising participant awareness to Moodle's micro-credentials possibilities (see the badges issued at the end of each webinar in Annex 2).

3.   Implementing distance learning

The first workshop explored teaching methods to highlight the importance of digital learning environments (DLEs). Houssaye's pedagogical triangle was used to highlight the relationship between knowledge, teacher and student.

The second workshop dealt with pedagogical design through the steps taken to implement a course. Gibbs' (1995) instructional alignment was used to describe the importance of instructional coherence.

The ADDIE model, which is the most recognised of pedagogical engineering models, was used. Its acronym refers to five stages: Analysis, Design, Development, Implementation and Evaluation of the online course design process.

Online or hybrid course flow planning provides a good overview of the sequence of teacher and student actions in synchronous or asynchronous mode. It indicates what is presented to students as well as what they must apply afterwards and how to evaluate student performance.

The third workshop deals with planning teaching interactions in synchronous mode. Planning hybrid teaching requires organising online activities, whether creating interactive digital resources or holding sessions in synchronous mode. Four pedagogical models are presented that get learners involved and allow them to interact virtually with the group.

The fourth workshop explains how to monitor learning on the Moodle platform. There are both manual and automatic monitoring functions which keep track of the activities completed by the students while interacting with the activities and resources in asynchronous mode. How to assess learning is also considered, which allows creating evaluation activities such as homework or quizzes on the Moodle platform. For example, quizzes allow teachers to design and manage both formative and summative assessments. Teachers can create a pool of several types of questions, and student answers can be corrected automatically.

Workshops five and six deal with badges for the recognition of learning and/or participation in professional development. The benefit of this is that the credentials are more portable and meaningful to the badge holder, who can post their accomplishments on social media.

Finally, we discuss the notions of open educational resources (OER) that can be used to initiate inter-faculty collaborative practices. We then end with a recap of the topics covered from the beginning of this webinar series and we project ourselves into the future by addressing the subject of "digital enhancement" and trying to predict future developments.

4 CONCLUSION

This experience enabled more than 29 new teachers to obtain digital badges attesting to their participation in online professional development.

Despite the time difference and technical constraints, this webinar series really captured the attention of trainee teachers, as shown by the following survey responses:

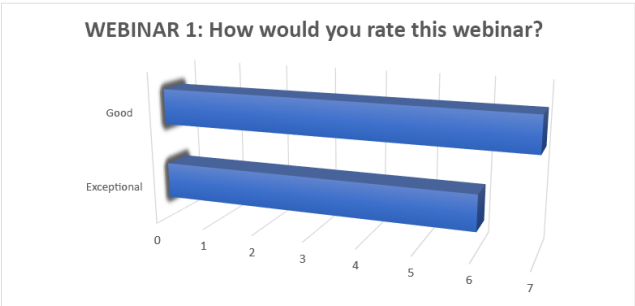**Participant feedback - ردود الفعل المشاركين**

Figure 1. Total of 13 respondents to the question

Figure 2. Total of 21 respondents to the question
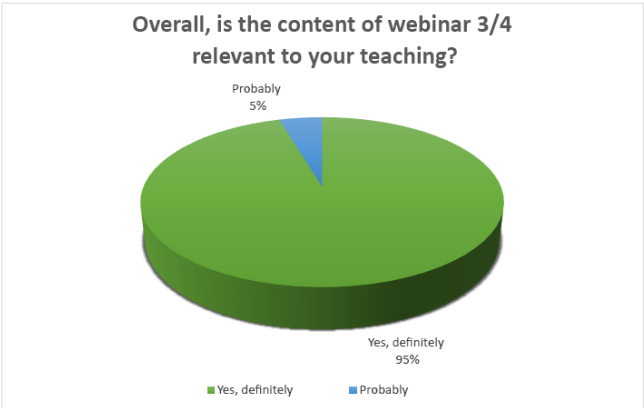
Figure 3. Total of 22 respondents to the question

Figure 4. Total of 18 respondents to the question

It should be noted that webinars 3/4 (see Figure 3) was very relevant to participant learning, with 95% of positive responses. This type of professional development took place in the midst of the pandemic, and seems to have responded to the urgent need for online teaching imposed by the circumstances.

Among the recommendations received in the feedback from all participants following the end of this webinar series, it seems that support for inter-faculty collaboration is an important aspect for development in the future.

5.   REFERENCES

AUDET, L. (2011). Les pratiques et défis de l'évaluation en ligne. Montréal : REFAD. Document télé accessible à l'adresse: http://www.bdaa.ca/biblio/recherche/pratiques_defis/pratiques_defis.pdf

BASQUE, J. (2004). En quoi les TIC changent-elles les pratiques d'ingénierie pédagogique du professeur d'université. Revue internationale des technologies en pédagogie universitaire, 1(3), 7-13.

Bates, A.W. (2015). L'enseignement à l'ère numérique : Des balises pour l'enseignement et l'apprentissage. Document télé accessible à l'adresse: https://teachonline.ca/sites/default/files/pdfs/tony_bates-teaching_in_a_digital_age-fre.pdf

FACiL (2013) L'informatique libre dans l'enseignement supérieur et la recherche. Mémoire présenté dans le cadre du Sommet sur l'enseignement supérieur à Montréal. Document télé accessible à l'adresse: https://www.mcc.gouv.qc.ca/fileadmin/documents/Politique-culturelle/Memoires___Metadonnees/FACIL_memoire.pdf

Annex 1: Timeline of key events

Dates	Events	Organisers
21 February 2021	— Initial contact with the Vice-Rector of External Relations and Cooperation of the University of Oran 2.	Ms Belkhir
08 March 2021	— Invitation by the Coordinator of the Pedagogical Support and Monitoring Unit to participate in the seminar on *"Digital Engineering"*.	Mr Chennouf
11 March 2021	— Approval of the proposal for online workshops and start of logistical planning with the team of the Centre for Information Systems and Networks, Communication, Online Education and Distance Education.	Mr Chennouf Ms Aida Mr Azzar
31 March 2021	— Start of the webinar series entitled: *Hybrid teaching: Design and implementation.* · Webinar 01	Mr Belhadj
28 April 2021	· Webinar 02	Mr Belhadj
16 May 2021	· Webinar 03-04	Mr Belhadj
30 May 2021	— Closing of the webinar series. · Webinar 05-06	Mr Belhadj
02 June 2021	— Feedback on the webinar series.	Mr Belhadj Mr Chennouf Ms Aida

ANNEX 2: BADGES ISSUED AT THE END OF EACH WEBINAR.

CHAPTER XIX

From face-to-face to distance education:
Evaluation of the implementation of hybrid training
at the faculty of medicine of mostaganem during the Covid-19 pandemic

Souad BOUKHRIS

Riad Mokhtar MOHAMMED

Abdelkader MAIZIA

University of Abdlhamid Ibn Badis, Mostaganem (Algeria)

Faculty of Medicine

1. INTRODUCTION

The crisis caused by the Covid-19 pandemic was an opportunity to introduce distance learning at the Faculty of Medicine of Mostaganem. Initially, our learners were trained exclusively face-to-face, with the Moodle platform used only to make course materials available online. The teaching staff was forced to switch to distance learning during the 2nd semester of the 2019/2020 academic year, and the project to introduce hybrid training was an obvious continuation during the 2020/2021 year.

The bimodal or hybrid model, alongside traditional face-to-face teaching, offers complementary distance learning using information and communication technologies (ICT) and e-learning. Transitioning from a traditional pedagogical model to a hybrid model was a difficult task initially. It required finding a compromise between the two types of activity for the year 2020/2021. The principle was to reinforce face-to-face teaching with remote digital processes (concept of lightened face-to-face teaching) (Leblanc, *et al.*, 2001)

The implementation of hybrid training required work teams and coordination and evaluation documents. Two teams were formed: a project team acting as the steering committee and a learning monitoring team. The implementation required three phases: the first one involved designing and implementing the distance training system by studying the technical environment of the project. The Moodle platform had already existed for several years but its use was limited to putting course materials online. Teaching activities were limited since the teaching was performed face-to-face. The integration of the "Big Blue Button" plugin into the platform made it possible to offer students a better learning experience in an interactive distance learning context. Learners could view slides and videos and access forum features through this plugin. The plugin also records all sessions, so that learners can watch them in their own time. This integration has been of great use.

The second phase concerned making the system operative: teacher training was carried out on the platform by videoconference due to lockdown during the pandemic. The objective was to master the technical environment of a Moodle platform and to design and structure an online course.

User guides were designed: a "Big Blue Button" software tutorial for teachers and another for learners. Videos explaining the use of the Moodle platform and of videoconferencing with its various options were made available.

During the third phase, the system was tested and validated and three tests were planned: briefing with learners who were in lockdown; meeting of the first year of medicine teaching committee (CPC) on the platform testing the different options of the videoconferencing software (document sharing, video sharing, whiteboard and surveys). As a final test, an online course was held with students. The three tests were successful and validated, which allowed the use of distance learning at our institution.

Problems and objectives:

The teaching team has opted to use this type of hybrid training through the use of videoconferencing (Big Blue Button open source software integrated into the Moodle platform) in combination with face-to-face teaching.

Would pedagogical engineering with this tool make it possible to ensure effective distance learning? Would support from the teachers and participation by the students in this type of training be satisfactory?

The main objective of this study is to carry out a quantitative evaluation of this training.

Secondary objectives are:

— To motivate teachers and learners to adopt this new type of training.
— To improve teaching practices.
— To ensure the traceability of training.
— To measure the impact of this training in order to possibly extend it to other institutions.

2. POPULATION AND METHODS

This is a descriptive study quantitatively evaluating distance education in learners of the preclinical cycle during the two academic years 2019/2020 and 2020/2021.

The indicators used were: data on the use of the Moodle platform (number and type of educational resources used by module and by level, rate of participation and learner views by type of resource and by level) as well as success rates by year. The data was analysed using SPSS and XLSTAT software.

During the year 2019/2020, teaching was exclusively face-to-face during the first semester and remote during the second semester, following the general and compulsory lockdown during the start of the COVID-19 pandemic.

During the 2020/2021 academic year, use of a hybrid, mixed, mode became necessary or even essential to manage not only the compulsory distancing measures to mitigate the spread of the pandemic, but also the increase in the hospital workload of hospital-university teachers during the pandemic, as well as the lockdowns imposed on the population, which from time to time became obligatory following the worsening of the health situation. The hybrid training was applied to all levels of teaching in the school, although this quantitative evaluation study relates only to learners of the preclinical cycle (the first three levels).

3. RESULTS

3.1. Population studied with respect to level of education

	2019/2020		2020/2021	
Levels	Number of modules	Number of students	Number of modules	Number of students
1 level	6	168	6	109
2 level	6	151	6	150
3 level	7	142	7	131

Table 1: Number of modules and number of students per level of the preclinical cycle.

3.2. Indicators of statistical data from the Moodle platform

3.2.1. *Type and number of educational resources and learning activities*

Levels	Text files		Videoconferences		Learning activities		Forums	
	2019/ 2020	2020/ 2021	2019/ 2020	2020/ 2021	2019/ 2020	2020/ 2021	2019/ 2020	2020/ 2021
1 level	6	6	6	4	1	3	2	3
2 level	6	6	2	4	0	6	0	3
3 level	6	7	7	6	1	3	2	4

Table 2: Number of modules per level that used teaching resources other than learning activities and forums on the Moodle platform.

3.2.2. *Breakdown of the mode of training (face-to-face vs remote) by level of training during the two years of study*

Levels	2019/2020		2020/2021	
	Face-to-face (%)	Online (%)	Face-to-face (%)	Online (%)
1 level	70	30	67	33
2 level	91	9	61	39
3 level	66	34	65	35

Table 3: Percentage hybridisation of training during the two university years (2019/20 and 2020/21)
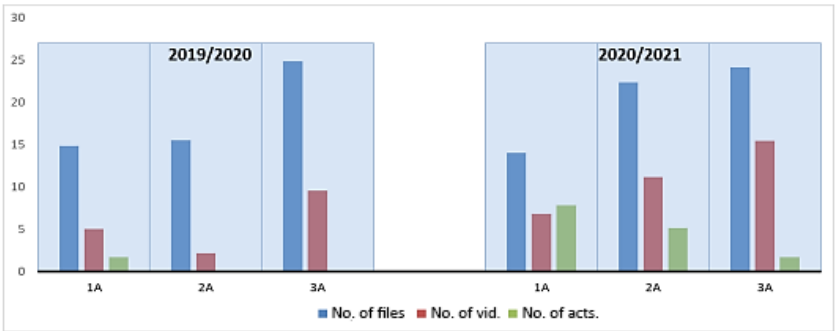
(No. of files: number of files; No. of vid.: number of videoconferences; No. of acts.: number of learning activities 1A: first year; 2A: second year; 3A: third year)
Figure 1: Number of educational resources and learning activities distributed per study level in the preclinical cycle

3.2.3. *Rate of learner participation in the various activities and use of resources on the platform*
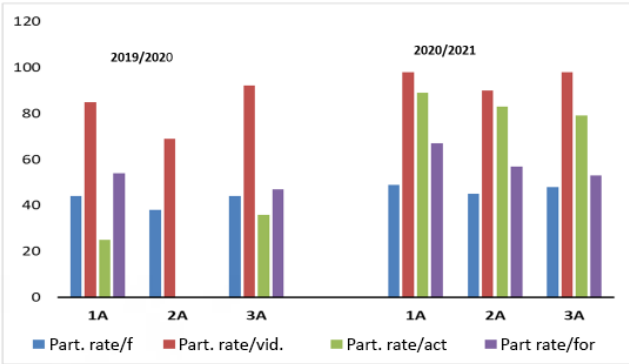
Part. rate/f: rate of participation in the viewing of text files.
Part. rate/Vid.: rate of participation in videoconferences
Part. rate/Act: rate of participation in learning activities (tutorials, exercises, case studies, etc.).
Part. rate/For: rate of participation in communication activities through the forum
Figure 2: Rate of learner participation in the various activities and use of resources on the platform broken down by level during academic years 2019/2020 and 2020/2021.

3.2.4. *Number of views per student of educational resources, learning activities and communication activities*
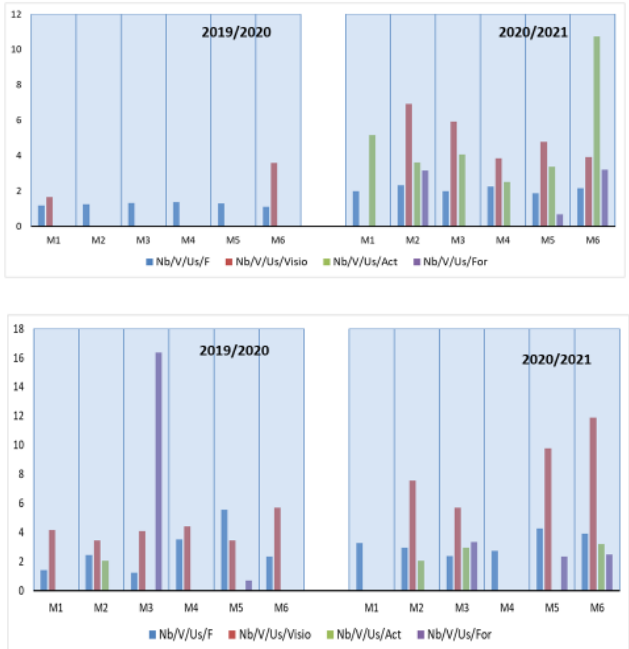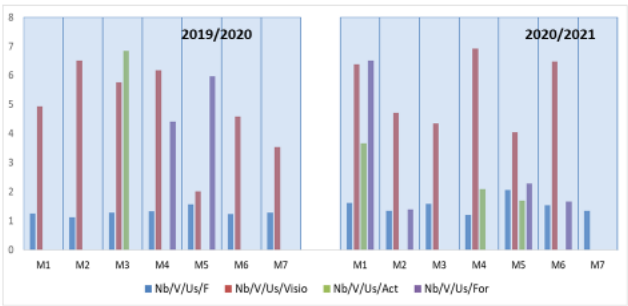
Figure 3: Moyenne des nombres de consultation des différentes ressources pédagogiques et activités par étudiant.

Views/file: average number of views per user of a text file.

Views/vid.: average number of views per user of a videoconference.

Views/act.: average number of views per user of a learning activity

Views/file: average number of views per user of a forum.

Figure 3: Average number of views per student of the various educational resources and activities.
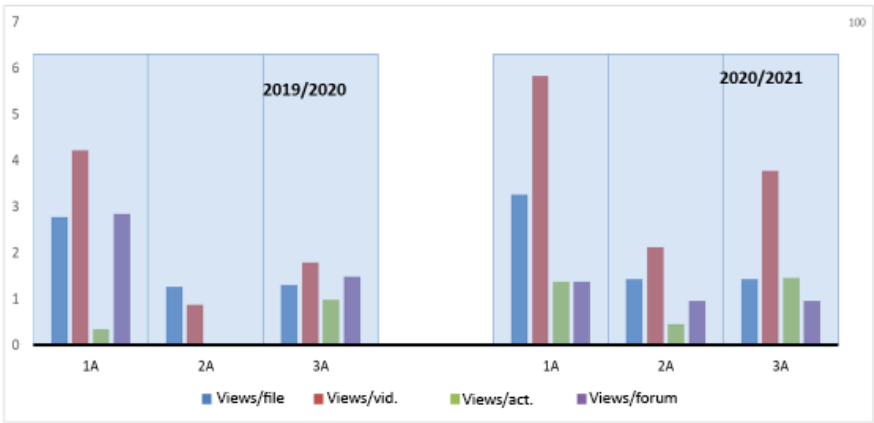
Views/file: average number of views per user of a text file.

Views/vid.: average number of views per user of a videoconference.

Views/act.: average number of views per user of a learning activity

Views/file: average number of views per user of a forum.

Figure 4: Distribution of the number of views per user for the different educational resources and activities by level of study.

3.2.5. *Comparison between the number of different educational resources and learning activities per module between the academic years 2019/2020 and 2020/2021*
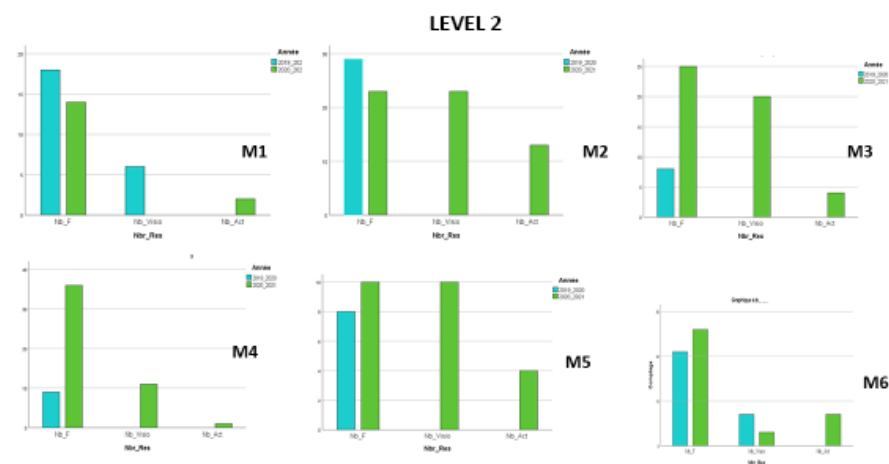
Comparison between the number of different educational resources and learning activities used per module on the platform between the academic years 2019/2020 and 2020/2021

Comparison between the number of different educational resources and learning activities used per module on the platform between the academic years 2019/2020 and 2020/2021

No. of files: number of files; No. of vid.: number of videoconferences; No. of acts.: number of learning activities

Figure 5: Comparison between the number of different educational resources and learning activities per module between the academic years 2019/2020 and 2020/2021

Level 1						
Modules	**M1**	**M2**	**M3**	**M4**	**M5**	**M6**
P value	0.020	0.083	0.382	0.046	0.169	0.001
Level 2						
Modules	**M1**	**M2**	**M3**	**M4**	**M5**	**M6**
P value	0.007	0.000	0.017	0.096	0.004	0.004
Level 3						
Modules	**M1**	**M2**	**M3**	**M4**	**M5**	**M6**	**M7**
P value	0.000	0.385	0.289	0.020	0.009	0.058	0.005

Table 4: Results of a comparison using the *Chi-square* test of the number of resources and activities per module and per level during the 2 years of the study where the difference was significant (level 1: 2/6 modules) (level 2: 4/6 modules) (level 3: 4/7 modules)

3.3. Success rate by level during the academic years 2019/2020 and 2020/2021:

Success rate 2019/2020			Success rate 2020/2021	
Session Levels	Normal session (%)	Catch-up session (%)	Normal session (%)	Catch-up session (%)
1 level	52	88	55	91
2 level	80	91	88	96
3 level	64	95	79	96

% success 2019/2020: Percentage of success during the year 2019/2020
% success 2020/2021: Percentage of success during the year 2020/2021
Table 5: Success rate by level during the academic years 2019/2020 and 2020/2021.
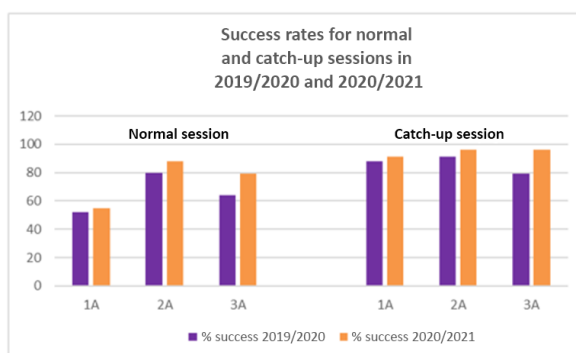
Figure 6: Success rates of the 3 levels of the preclinical cycle for normal and catch-up sessions during the academic years.

4. DISCUSSION

During the Covid-19 pandemic, all universities were forced to implement distance education during the general lockdown (Bonfils, *et al.*, 2020). (Lassassi, *et al.*, 2020)

At the Faculty of Medicine of Mostaganem, our learners were initially trained exclusively face-to-face, with the Moodle platform used only to post course materials online. The implementation of e-learning required integrating the "Big Blue Button" open source software into the Moodle platform (Grimaldo, *et al.*, 2014).

Use of the platform went through 3 phases: a first in exclusive face-to-face mode before the pandemic; a second which was entirely remote; and a third in hybrid form. Our study focused on this change in the mode of training during these three phases during the two academic years 2019/2020 and 2020/2021, related to the three levels of the preclinical cycle (Figure 1). Several modules or teaching units are taught in each level, and they have been renamed and numbered in our study from M1 to M7 (Table 1).

We performed a statistical analysis on data from the Moodle platform (Modular Object-Oriented Dynamic Learning Environment) and indicators defined at the start of the protocol (number and type of educational resources used per module and per level, number of learning and communication activities produced, number of learner views per type of resource and per level, participation rate, and achievement levels per year).

The number of "text file" posts was significant for all modules in all three levels, reflecting the teaching in face-to-face mode during the first semester of 2019/2020 and the year 2020/2021. Videoconference courses were used during the 2nd semester of 2019/2020, reflecting a distance-only teaching mode and then a hybrid mode for most modules during the 2020/2021 academic year (Figure 1). The number of online learning activities was low to almost non-existent during the year 2019/2020, and there was a clear upsurge in this active educational activity during the year 2020/2021 reported at all 3 levels (Table 2).

The concept of teaching and learning is unique to each teacher (Donche & Van Petegem, 2011). In our study, the teachers had different attitudes in relation to their ideas, their methods and their strategies, reflecting their level of adherence to the concept of hybrid training. The transition from a face-to-face course to a hybrid course is a gateway to changing teaching practices towards more learner-centred practices (Deschryver, 2011; Docq, *et al.*, 2010).

Most teachers in this study (84% over all three levels) have changed their approach by developing distance courses, online learning and communication activities, and are therefore playing a more complex role of mentor, guide and tutor in addition to their usual teaching role (Starkey-Perret, *et al.*, 2012). From the year 2019/2020 to 2020/2021, the percentage of learning activities increased from 10% to 63% (all levels combined) and the percentage of asynchronous communication activities (forum) from 21% to 52% (Table 2). Hybridisation has made it possible to introduce active pedagogy, via learner-centred learning and communication activities (Graham, 2006).

In a hybrid mode of teaching, the time spent in the amphitheatre is reduced, but never entirely eliminated. Its organisation includes at least a certain number of distance activities and sessions. (Garrison & Kanuka, 2004). In general, most researchers and universities regard a hybrid course as one that comprises between 20% and 80% of the course sessions offered in distance mode. In this study, the degree of hybridisation for the three levels was respectively 33%, 39% and 35%. Therefore, this training can be classified as hybrid (Table 3).

Regarding learner engagement, this means learner participation and effort in learning activities (Manwaring *et al.*, 2017). This is considered an important variable in learning and is related to performance (Sun and Rueda, 2012).

The engagement dimension relates to objective elements as mentioned in this study: the rate of participation in the various learning activities, interaction with their peers and

the teacher (discussion forum), the number of views by users of the various educational resources and learning activities on the Moodle platform (Huang *et al.*, 2012).

In hybrid or distance learning systems it is possible to measure an observable aspect of learner engagement through learners' participation. This quantitative measurement of participation is considered an indicator of learner engagement in lessons offered online (Baragash and Al-Samarraie, 2018; Hrastinski, 2008).

Following the integration of videoconferencing on the Moodle platform, participation rates increased from one year to the next compared to videoconferencing courses but especially compared to learning and communication activities (Figure 3). Several studies have shown that hybridisation has an effect on student motivation (Docq, *et al.*, 2008 , Ng Ling Ying & Yang, 2017). The hybrid system encourages students to engage more in their learning - the participation rates of our learners in online activities all exceeded 50% up to 90% (Figure 3). Learners are more invested with a more active participation (Starkey-Perret, *et al.*, 2012).

There was an increase in the number of views per student of the various educational resources and learning activities on the platform, which even doubled for certain learning activities between the year 2019/2020 and the year 2020/2021, in particular with respect to videoconferences, learning and interaction activities (Figures 4 and 5). Processing resources (T. Belhadj, *et al.*, 2019) and getting students interested in them is one of the objective elements of engagement (Docq, *et al.*, 2008).

The comparison established by a Chi-square test between the two years of study (compared to the number of educational resources used by teachers, learning and communication activities produced on the Moodle platform by module and by level) found a significant difference (p value) at level 1 (2 modules out of 6) i.e. reaching 33%; at level 2 (4 modules out of 6) i.e. 66%; and at level 3 (4 modules out of 7) i.e. 57%. A significant difference was found in relation to the number of educational resources and productions, which is 52% (all levels combined) (Table 4.6).

The success rate of learners in their training remains an objective indicator of the quality of the training in our faculty during the years 2019/2020 and 2020/2021. The success rates were satisfactory to very satisfactory, with a slight improvement in results that was more pronounced at level 3 of the clinical cycle (Table 5.7).

5. Conclusion

The quantitative evaluation of teaching in the preclinical cycle at the Faculty of Medicine of Mostaganem during the Covid-19 pandemic was carried out on the digital data collected on the Moodle platform after integration of the Big Blue Button software.

Pedagogical engineering made it possible to ensure effective hybrid training, given the positive results of teacher adherence to this mode of training and their pedagogical development, which evolved from the transmissive mode to active pedagogy. The increase

in student participation reflected an improvement in their level of engagement with online courses and activities.

Implementing quality distance and blended learning has been challenging. However, the commitment of learners and the support of teachers has made it possible to overcome the crisis linked to the Covid-19 pandemic and has encouraged its integration into the educational system to to further improve the quality of training.

6.   REFERENCES

A. N. L. YING and I. Yang, "Academics and learners' perceptions on blended learning as a strategic initiative to improve student learning experience," in Proc. MATEC Web Conf., vol. 87, 2017, p. 04005.

Baragash, R. S. et Al-Samarraie, H. (2018). Blended learning: Investigating the influence of engagement in multiple learning delivery modes on students' performance. Telematics and Informatics, 35(7), 20822098. https://doi.org/10.1016/j.tele.2018.07.010

BELHADJ, T. HULSE, N (2019) Moodle et Koantic: un duo pour la mise en œuvre d'une formation hybride. Source: https://cirta2019.sciencesconf.org/

BONFILS, P. (2020). Repenser les dispositifs de formation à l'aune de la pandémie ? *Distances et médiations des savoirs, 31.* Récupéré de https://journals.openedition.org/dms/5583

DESCHRYVER N., LAMEUL G., PERAYA D., *et al.* (2011). « Quel cadre de référence pour l'évaluation des dispositifs de formation hybrides ? », *23ᵉ colloque de l'Adméé-Europe - Evaluation et enseignement supérieur*, Paris.

DOCQ, F., LEBRUN, M. et SMIDTS, D. (2010). Analyse des effets de l'enseignement hybride à l'université : détermination de critères et d'indicateurs de valeurs ajoutées.

Revue internationale des technologies en pédagogie universitaire, 7(3), 48-59.

DOCQ F., LEBRUN M. et SMIDTS D. (2008). «À la recherche des effets d'une plate-forme d'enseignement/apprentissage en ligne sur les pratiques pédagogiques d'une université : premières approches», *Revue internationale des technologies en pédagogie universitaire*, 5(1), p. 45-57. http://www.ritpu.org/IMG/pdf/RITPU_v05n01_45.pdf. DOI : 10.7202/000639ar

DONCHE, V., & VAN PETEGEM, P. (2011). Teacher educator's conceptions of learning to teach and related teaching strategies. Research papers in education, 26(2), 207-22

DUJARDIN, J. M. & MARON, S. (2009). Quelle approche pour évaluer les résultats d'un projet d'enseignement à distance ? *Distances et Savoirs*, 7(1), 39-45.

GARRISON, D. R., & KANUKA, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *Internet and Higher Education, 7(2)*, 95–105.

GRAHAM, C. R. (2006). "Blended learning systems: definition, current trends, and future directions". In Bonk C. J. (dir.). *Handbook of blended learning: global perspectives, local designs*. San Francisco, CA: Pfeiffer Publishing. pp. 3-21.

GRIMALDO, F. *et al.* (2014). BigBlueButton, une alternative Open Source pour la

communication interactive dans les activités éducatives. Procès-verbal du XX JENUI, 75-82 Extrait de : https://www.academia.edu/12690967/BigBlueButton®_una_alternativa_de_c%C3%B3digo_abierto_para_la_comunicaci%C3%B3n_interactiva_en_actividades_educativas

HRASTINSKI, S. (2008). What is online learner participation? A literature review. Computers & Education, 51(4), 17551765. https://doi.org/10.1016/j.compedu.2008.05.00

HUANG, E. Y., LIN, S. W. et HUANG, T. K. (2012). What type of learning style leads to online participation in the mixed-mode e-learning environment? A study of software usage instruction. Computers & Education, 58(1), 338349. https://doi.org/10.1016/j.compedu.2011.08.003

LASSASSI, M, LOUNICI, N, SAMI, L, TIDJANI, C, BENGUERNA, M. Université et enseignants face au COVID 19 : L'épreuve de l'enseignement a distance en Algérie. African journals online. Les cahiers du CREAD . Vol. 36 No. 3 (2020) ,(pp.397-424). https://www.ajol.info/index.php/cread/article/view/202244

LEBLANC, S., SAURY, J., SÈVE, C., DURAND, M., Theureau, J. (2001). An Analysis of a User's Exploration and Learning of a Multimedia Instruction System. Computers & Education, 36, 59-82.

MANWARING, K. C., LARSEN, R., GRAHAM, C. R., HENRIE, C. R., & HALVERSON, L.

R. (2017). Investigating student engagement in blended learning settings using experience sampling and structural equation modeling. The Internet and Higher Education, 35, 21-33 https://doi.org/10.1016/j.iheduc.2017.06.002

PERAYA, D., PELTIER, C., VILLIOT-LECLERCQ, E., NAGELS, M., MORIN, C., BURTON, R., MANCUSO, G. (2012). Typologie des dispositifs de formation hybrides : configurations et métaphores.

SAVARD, I. (2020) Évolution des pratiques en technologie éducative et en formation à distance: comment peut-on adopter des pratiques inclusives, tant pour les enseignants que pour les apprenants ? Distances et Médiations des Savoir, 31.

STARKEY-PERRET, R., J. McALLISTER & M.-F. NARCY-COMBES. 2012. «Représentations des enseignants d'anglais et évaluation d'un dispositif hybride: image de soi, image de l'apprenant et appropriation du dispositif». Recherche et pratiques pédagogiques en langues de spécialité, Volume XXXI N.º 1 | 2012: 74-96. DOI : 10.4000/apliut.2321

SUN, J. C.-Y. et RUEDA, R. (2012). Situational interest, computer self-efficacy and self-regulation: Their impact on student engagement in distance education. British Journal of Educational Technology, 43(2), 191-204. https://doi.org/10.1111/j.1467-8535.2010.01157.x

ORGANISATIONAL STRUCTURE AND GOVERNANCE PLANNING

María Teresa Parra-Santos & Ali Zineddine Boumehira

(eds.)

PAPERS, A PROJECT FOR THE FUTURE. EXPERIENCES AND SHARING

VOL. 4

Organisational Structure and Governance Planning

Granada, 2022

Summary

Introduction to Academic Governance

Maria-Teresa PARRA-SANTOS

University of Valladolid (Spain)

1. **INTRODUCTION**

This contribution is intended as an introduction to the articles presented in the framework of 'Volet 3' dedicated to the "gouvernance pédagogique et management didactique renforcés par l'accompagnement des chefs d'établissements, des gestionnaires, des équipes de formation et des responsables des comités pédagogiques, dans l'élaboration des projets de développement des établissements universitaires et mise en place d'une stratégie d'ajustement" of the project "Appui au Ministère de l'Enseignement Supérieur et de la Recherche Scientifique pour le renforcement des compétences pédagogiques des enseignants chercheurs et des capacités de gouvernance des gestionnaires".

Governance is essential for the efficient and sustainable development of any institution. In the case of a university institution, which is committed to training, innovation and knowledge transfer, it is a great social responsibility. Correct governance also requires resources and regulations. Resources without rules on how to distribute them would not guarantee a balance and would lead to unfair discrimination, or at least accusations of it, between different agents. Conversely regulations without material and human resources do not mean that projects will materialise in tangible results. Thus, governance is the application of rules to carry out academic policies that promote training with guaranteed employability for graduates, as well as research and transfer to improve the living conditions of the entire society.

In the specific case of an academic institution, the principle of equity must be in place so that the individual's situation (economic, social, gender, etc.) does not condition their access to education.

On one occasion, a vice-chancellor asked a counterpart from another university what he considered the key to the success of a certain academic policy, and the answer was "to have a solid legal base". Governance teams are transitory, so the basis to guarantee that an academic project does not die when the people who started it disappear, is that a

regulation is approved that establishes the egalitarian rules for all centres and degrees that will be the framework for the development of the project or academic policy in question. Additionally, resources will be required to apply those rules.

Obviously all regulations are subject to amendment. As part of the quality assurance system, the adaptation of rules is required to adapt to changes that improve the service that universities provide to society. To think that a regulation can be perfectly functional from its implementation is a mere pipe dream. Experience in applying the rules to a wide range of cases reveals the aspects that can be improved. Regulations must evolve over time. A rule will be good when it covers most of the situations that may generate incidents or conflicts. Decision-making in gaps in the regulations implies assuming potential risks of unfair treatment, as well as establishing dangerous antecedents that are perpetuated over time.

— Throughout the Twinning project with the Algerian Universities, the governance of the following services and agencies has been reviewed:
— Quality Agencies in the European Higher Education Area
— Structures of the General Foundation for employability and contact with graduates
— Curricular and extracurricular company internship service for students
— Governance of the Information Technology and Communications Service covering the technological needs of student services, economics, library, academic records, teacher planning programmes, etc.
— Student and postgraduate service covering students' access to undergraduate, master's, doctorate studies, and the University's own degrees.
— International Relations Service providing information on international exchange agreements
— Teaching planning, external internships and international exchange programs in centres
— Management of the Library Service and accreditation through quality labels
— Internship Service, Sports Service, Social Affairs Service supervised by the Vice-Rector's Office for Students
— Transparency in university governance and review of Collegiate Bodies
— Management of teachers
— Management of university accounts.
— Infrastructure management and maintenance.
— Management of Administration and Services Personnel
— Research Service

2. REVIEW OF CONTRIBUTIONS ON UNIVERSITY GOVERNANCE

The contents of the 13 published contributions on governance are reviewed below:
The publication by Fernando Rey-Martínez, former Minister of Education of the Castilla y León Region, presents the challenges of today's universities and the ideal model

to pursue in the medium term. Among the difficulties to overcome is financing. Among the tools to be competitive is research. Improvements to minimise the bureaucratic burden of administrative procedures, leading to a deep digital transformation. Continuous updating of teaching methodologies and the offer of degrees. Commitment to the SDGs. Support for a quality teaching staff.

Alfonso Redondo-Castán, Belén Artuñedo-Guillén and Mariano Rubio-Avi present four works: the first is dedicated to an organisational model of an academic centre with complex management due to the high number of academic degrees. Regulations at the national, regional and university levels determine planning at the level of centres, departments and degrees. All must work in a coordinated way like a perfect gear mechanism. Decisions must be made by collegiate bodies with representatives of the teaching staff, students, administration and services personnel. The second presents the mobility management model in a large faculty. Different European projects are reviewed, as well as the offer of international and national internships. The importance of the agreements and the European Diploma Supplement are indicated as international recognition of the training received by the student. In the third work, the external internship programme in companies is discussed, which helps students in the acquisition of transversal skills that are difficult to acquire in the classroom. The practices must be articulated with the guarantee of a training plan and adequate security measures. The fourth article shows a model of the Teaching Organisation Programme that in a first phase establishes the clusters of theory, classroom, laboratory, seminars necessary for an estimation of enrolment of each subject taught at the University. In the second phase, the departments that have teaching needs are established to teach all the classes in the first phase. The third phase consists of updating the groups when enrolment has been closed.

Paloma Castro, Roberto Baelo and Elena González-Cascos present a contribution on internationalisation in higher education, reviewing the challenges to face and the benefits.

Cristina de la Rosa and Patricia Parrado analyse student practices as a means of acquiring vital skills to improve employability.

Antonio-José Blázquez-Martín presents the importance of physical-sports activity in the university, as well as the structure and operation of the sports service.

Rafael de la Puente-Llorente reports on the management of the support service for people with disabilities. Seeking an inclusive education, places giving access to qualifications are reserved for candidates with a certain degree of disability with reduced academic fees. An adaptation to the evaluation processes is also made to match the conditions with the rest of the students.

María-Cristina Amo-Iglesias, Raúl Casado-del-Pozo, Sandra Marcos-Ortega and María-Elena Pérez-Zabaleta analyse quality mechanisms in higher education from a dual perspective: the internal one of a university and the external one of a regional quality agency.

José-Ángel Domínguez-Pérez and Sandra Marcos-Ortega review the regulations for the evaluation and accreditation of teachers, institutions and programmes.

Finally, there are two contributions directly related to governance during the COVID pandemic:

Darío Álvarez-Álvarez reviews in his work, the elaboration of a Digitized Map of Safe Teaching Spaces. The capacity marked for each classroom in all the University centres was the most successful measure that allowed no outbreak to appear in academic spaces during the 2020-2021 academic year.

María-Teresa Parra-Santos reviews the Plan for the Return to Safe Face-to-Face Teaching Activity in the Context of COVID that was carried out at the University of Valladolid for the 2020-2021 academic year. Schedules were developed to optimise the time of use of the spaces and minimise the flow of people. The teaching guides of the subjects were adapted. The Progress and Permanence Regulation was suspended and the Compensation procedure, defence of End-of-Degree or Master's Projects, Regulation of Credit Recognition and rules for changing and cancelling enrolment were modified. Adaptation for Risk personnel. Reduction of the digital divide in the university community.

3. CONCLUSIONS

This block of publications dedicated to governance aims to highlight the importance of having updated regulations for the scenario of each university and resources in line with the reality of the institution. With a balance between both elements, great progress can be made in academic policies, teaching staff, internationalisation, employability, digitisation, improvement of sustainability (energy, environmental, educational, social health, inclusive, etc.).

Although the foregoing paragraph indicates the medium-long-term objective of any institution, the way to achieve it is though progressive improvement of governance. It is the daily work that bears fruit and therefore, it is necessary to work continuously to make progress in the quality of governance in all sectors of the institution.

What do we mean when we talk about the university today?

Fernando REY MARTÍNEZ

University of Valladolid (Spain)

1. Introduction: contemporary challenges of universities

Universities first came into existence in the late middle ages, that is nearly a thousand years ago. The university is therefore a historical, universal institution, and, as might be supposed, a complex one, whose continuity in time can only be explained by the fulfilment of essential social functions such as the higher education of a country, freedom of creation of thought and science, improvement of the level of training of professionals and the transfer of the knowledge generated to the social, economic and cultural development of a community.

Everyone seems to have an idea, at least intuitively, of what a University is, but this single label encompasses very different realities. Therefore, within the framework of a reflection on the modernisation of any university system, in this case the Algerian one, it may not be inappropriate to offer an analysis of current trends in this field and, ultimately, of what the concept "university" means. Of course, this reflection is made based on the reality of the Spanish university system and does not presume to establish any reform agenda for Spain or any other country, but only seeks to offer a general framework of interpretation, of a theoretical nature, based on concrete experience. University systems differ markedly from one country to another because, ultimately, universities are the product of their own culture, but it is also true that they all share a good number of problems and challenges; hence useful concrete comparisons can be made, but not wholesale mechanical transfers from one system to another.

The COVID-19 pandemic, along with new problems, especially the advance of digitisation and the care of the most vulnerable students, has awakened what Melnyk and Kantowsky[1] have referred to as the "sleeping dogs", that is, "old problems we knew

---

[1] Melnyk, D. and Kantowsky, D.: "Experimentation in higher education must become the norm", *University Word News,* June 2020, p. 6.

we had but could get away with ignoring" [before the pandemic]. From my point of view, a global and contemporary approach to any university system makes it necessary, at the same time, to analyse the following considerations, which are no longer "sleeping dogs": 1) The University as a space "of" and "for" freedom and social progress 2) Financing 3) Research 4) The form of governance 5) Public and private universities 6) Academic offering 7) Social commitment and 8) The teaching staff.

2.   THE UNIVERSITY AS A SPACE "OF" AND "FOR" FREEDOM AND PROGRESS OF THE COMMUNITY

A University worthy of the name is a space *for* freedom (of the entire community) and it is a space *of* freedom (within itself). The University has always been a space of freedom and social progress even when, in history, societies had not yet developed a culture of human rights[2]. Its function is to prevent those who can hold a monopoly of power in a community from also having a monopoly of truth for that very reason. As beautifully stated in Article 27.2 of the Spanish Constitution, the purpose of education, including higher education, is threefold: the full development of the human personality, democratic coexistence and respect for human rights. Obviously, the more educated a person is the freer he or she is and the better the distribution of education among a community's members, the more just that community will be. Several human rights refer specifically to the University, among them: the university's own autonomy with respect to the general administration (in the Spanish Constitution it is recognised in Article 27.10); with respect to students, equity in access (there can be no obstacles for students with a lower income level, or with disabilities or for other reasons); in relation to the teaching staff, academic freedom (which is a specific reinforcement of the general freedom of expression: Article 20.1.c) and of ideological freedom: Article 16.1 of the Constitution[3]) and freedom of literary, artistic, scientific and technical production and creation (Article 20.1b of the Constitution)

University autonomy is not, of course, tantamount to university corporatism. It is not about creating a space, and a public one at that, in which its own actors establish privileges

---

[2]   Pilar Garcés expresses this idea eloquently: "The origin of the university points to an intellectual activity that seeks passionately to ascertain the nature of human beings and their circumstances in order to know the truth and to achieve freedom through wisdom", in "¿Por qué la Universidad?", *Sistemas educativos decentes*, Madrid, 2018, p. 297.

[3]   I will give just one example of its actual application: the Constitutional Court's Ruling 217/1992 in which several teachers from the University of Seville challenged the University Statutes because they established that the agenda for the examinations had to be set by the Faculty and not by the teacher. In their opinion, this violated their academic freedom. The Court ruled that it did not do so because academic freedom does not necessarily include the function of examining. As long as the teacher is assured the priority area of intellectual freedom, academic freedom is not violated.

at will. University autonomy means, firstly, that universities must be entities with their own legal personality and assets, coordinated with but not dependent on the respective Ministry of Education or Universities. Autonomy is established to guarantee academic freedom, that is, "freedom of teaching, study and research vis-à-vis all public powers.[4]". Autonomy means, secondly, the power to dictate the rules of organisation and operation of the university, while respecting the laws. Autonomy requires self-government, that is, the election, appointment and removal of the governing and administrative bodies of each university. Autonomy is also budgetary autonomy and the administration of their own assets, although they cannot decide the amount of funds allocated to them (that is a political decision) nor can they set the public prices that students must pay, because that is a decision that affects the right of access to education. Lastly, autonomy implies self-organisation: approval of study plans, teaching organisation, selection of teaching staff and administrative service personnel, academic discipline, etc.

University autonomy is a two-sided coin because its flip side is the need for maximum transparency and serious accountability.

3. Sufficient financing

Obviously, without sufficient public funding, in addition to whatever funding that might come from private sources, university autonomy will be a chimera. In Spain, it is clear that this funding is insufficient. Total annual spending on higher education per student is clearly below the OECD average and in the years of the Great Recession starting in 2008, the situation worsened. No university has regained the budget level of 2009. The economic effects of the pandemic are expected to exacerbate the funding gap. There is also a great disparity between public universities in terms of budget. In Spain, public universities are not free (on average, what a student pays does not exceed 20% of the real cost of the service) and there is much debate on this point. Each Autonomous Region establishes its public price system within the framework of state guidelines (which are not always strictly adhered to). Obviously, this causes a situation of inequality that is not always justified between students from different regions.[5]

---

[4] Ruling of the Constitutional Court 55/1989, legal basis 2.

[5] In my opinion, university tuition should not be free, but rather those users who have higher levels of income should have to pay more and those who have less, less or nothing (with a fair system of scholarships). The university public service is not free and it is not fair that those who do not use it or those who do but have high levels of income end up paying for it. Spain is not rich enough to afford free tuition; when this objective is achieved, in a context of limited public budgets, it detracts from others that the university must also achieve, such as research. In addition, fair enrolment fees discourage course drop-out, which represents a sum of public money not officially quantified and

Without adequate funding, universities cannot compete with others for students, so there is inevitably a radical polarity between a small number of elite universities and the majority, which will make great efforts to overcome mediocrity. This tendency towards polarisation is universal. A good financing system must establish an incentive scheme to modernise the university system, for example to specialise some campuses with respect to others, but at the same time it must provide stability and security for the future of university activity.

The Spanish university system has not made much progress either in attracting private funds (in the absence of a favourable legal framework for donations and patronage), or in income from university research and transfer to companies. The rigid and outdated regulatory framework for teacher incompatibility and the suspicion directed towards those who would be able not only to invent or create something with economic value, but even to produce and sell it from the university itself, which is precisely what happens in the best university systems in the world, prevent qualitative progress in this area and push universities towards the model of a sophisticated secondary school rather than a centre that is completely permeable to the economic and social development of the community where it is located.

4. RESEARCH IS THE KEY FUNCTION

Of the three main functions of universities, teaching, knowledge transfer and research, this is, in my opinion, the central one, which allows us to define what a university really is. It is not teaching, because training is offered in earlier stages; nor is a university distinguished by being "higher", since at present there are training offers subsequent to the university itself that are sometimes of even higher quality. What distinguishes the University from any other training centre is that there is a critical mass of teaching staff who do research and project that research into their teaching (and it is in that sense that it is really "higher") and also into transfer, which is nothing other than applied research. So research is precisely what unites and gives meaning to both teaching and transfer[6].

Spain is well positioned internationally in scientific production (it is very efficient), being ranked tenth in the world, but it is not so high in its excellence (measured by the

---

never talked about, but which is very high. The demanding of free enrolment is populist. Certainly, some large European countries do have free tuition, but they are richer, access to the University is more demanding and they pay more taxes. Their situation is not comparable to the Spanish case.

[6]   Certainly, there are "universities" in name only that offer professional training, sometimes even of the highest quality, but not research. As everyone knows, in the United States they are not called "universities", but rather "colleges", which seems to me to be very illuminating and, from my point of view, is a distinction that should also be drawn in Spain, especially in relation to many private universities.

global percentage of citations). The "brain drain" of young researchers emigrating to other countries is worrying. This is consistent with insufficient funding. Nor does the university organisation help much. We do not achieve the research objectives we should in view of our economic position. In my opinion, the lack of a powerful strategic public policy in this field, agreed with the scientific community and sustained over time, is one of the most shameful and devastating phenomena that weigh on us as a country because it condemns us to scientific dependence and foreign technology, to economic growth - in the best of cases - always with feet of clay and, ultimately, to being a third-division country.

5. EFFECTIVE GOVERNANCE

By virtue of university autonomy, universities are free to self-organise as they wish, although under the common guidelines of the Organic Law of Universities (2001). It is clear that a proper organisation better serves the purpose of the university than one that is not, and that it is one of the main factors determining quality.

In Spain there is a consensus on the need to reform university governance, which is hyper-bureaucratic, over-elaborate, ineffective and in many cases chaotic. This reform needs to be within a flexible framework, since the situation varies greatly from one university to another. There is a galaxy of inefficient collegiate bodies; the organisation by "faculties" and by "departments" overlaps; the "social councils" have not quite found their role (in general); the bureaucracy is suffocating; teachers assume management and administration functions to the detriment of their teaching and research performance; the Rector and his team often do not have real authority and have to coexist with deans and directors of very different sensitivities; and, in general, the university system is a design of the 1983 University Law: it will soon be 40 years old. As can be imagined, the consensus goes only as far as the need to change the form of governance; it does not extend to how to do so.

A critical issue is the election of the Rector. It is evident that it would not be compatible with the principle of university autonomy for the Rector to be appointed by the political authority, but the method of direct election by the university community, which is the one followed in Spain, has advantages and disadvantages. The ordinary method in the best universities in the world is the appointment of the Rector by a body of "notables" (the majority from the University itself): former rectors, the most prestigious teachers (objectively) of that University, some personalities from outside it (from the cultural or scientific field, patrons, etc.) And they do so after having very clearly established the objectives to be achieved by the University in the following period in terms of teaching, research, transfer and other considerations. So only after identifying the objectives of the institution do they deduce the Rector profile that is required to achieve them. In Spain, the format of a political election is imitated: a political programme is presented (in the most flattering way for the different levels of the university community, whether or not this is

possible), it is won and then the objectives are developed, which may be disregarded by the next rector's team. Obviously, direct election is very divisive of that community. As if the University were invented every four years by the winning group and the one before were not much use. As might be expected, objectives that could imply greater effort, rigour or control for the teaching staff, the support staff or the students are completely omitted. On the other hand, direct election allows the community to participate in making decisions that undoubtedly affect them.

6.   BALANCE BETWEEN PUBLIC AND PRIVATE UNIVERSITIES

The enrolment of undergraduate and master's students in the Spanish university system has stabilised at around 1.6 million students. At present[7], 15% of students at private universities in Spain are undergraduate students and 36% master's. In just 25 years, the number of private universities has increased fivefold: there were 7 in 1994 and now there are 34. There are 50 public universities.

The Constitution recognises the right to create educational centres, including universities, subject to their conforming to the constitutional principles, in Article 27.6[8]. However, it is not an absolute freedom, but subject to limits because it is the State that grants official educational qualifications and that must ensure access to and quality of education for students. At this time, there is already an excessively high number of private universities that require better coordination with the public system and also "a growing role for regulators to ensure the quality of these private universities[9]".

7.   ACADEMIC OFFERING ADAPTED TO SOCIAL NEEDS

This is another major question. Arthur D. Little[10] has drawn attention to such crucial challenges as the need to adapt the training offered to the changing demand of the occupants; the growth in the demand for continuous training; the competition between

---

[7]   Conference of Rectors of Spain: *The socioeconomic contribution of the Spanish university system*, 2020, p. 18.

[8]   This freedom of creation is connected with other fundamental rights set out in the Constitution: ideological and religious freedom (Article 16.1), freedom of expression (Article 20.1), ideological and political pluralism, which is a higher rule of law (Article 1.1) and a requirement of the democratic principle (Article 1.1), freedom of enterprise (Article 38.1) and private property (Article 33)

[9]   Report of the Growth and Development Foundation (2020), p. 18. A special case is that of private online universities, which should be controlled in a specific way and above all by the central government, since although they are legally located in an autonomous region, they actually operate throughout Spain.

[10]   *The future of higher education. Transforming the students of tomorrow*, 2016.

universities to attract the best students, whether from their own country or from abroad; the growing presence of digitised learning environments and the growing role of blended learning.

In Spain, the current offering of qualifications causes many imbalances[11]: there is an excessive offer of degrees and masters (in academic year 19-20: 8,782); some degrees have very few students; the official degree authorisation processes (verification/accreditation) are slow, rigid, diverse across regions and insecure; there is insufficient regulation of online teaching; the differences in the academic offer between universities make it very difficult to move between them (just the opposite of what the Bologna reform was pursuing), etc. Often, the offer of degrees and postgraduate courses responds more to the corporate interests of the teaching staff (justifying teaching, creating new places, etc.) than to those of the students or the community in general. Another very worrying problem is the supply imbalance, with a surplus in the social sciences and a deficit in scientific and technical subjects. This does not adequately prepare us for the 4.0 society. To this must be added a persistent gender gap: in health sciences, 70% of students are women; in architecture and engineering, only 25%. We must welcome some innovative actions such as "dual" degrees and postgraduate degrees set up jointly with companies, but, for the moment, they are few and far between.

8. Recognition and promotion of universities' social commitment and socio-economic impact

There is a growing consensus on social responsibility as a new function of universities. The University of Valladolid has long been an excellent example of social commitment, from environmental and architectural sustainability policies (use of non-polluting energy, recycling, zero-polluting buildings, etc.) through excellent work with people with disabilities, intergenerational programmes to development cooperation, etc. All Spanish universities, especially public ones, demonstrate a brilliant record in this field, although it is hardly valued in the current rankings. All of them are trying to take advantage of the magnificent opportunity offered by the 2030 Agenda with the SDGs to promote their social responsibility programme and their long humanist tradition.

Special mention should be made of the struggle to overcome the significant gender gaps: there are fewer women than men in positions of governance and responsibility and in the higher professional categories; there is the gap, mentioned above, in the academic offering; there are fewer women studying abroad, in R&D activities and in transfer; there is gender-based and sexual harassment that it is urgent to prevent and suppress. Spanish universities are a good laboratory for gender equality policies.

---

[11]   Report of the Growth and Development Foundation (2020), p. 31.

Apart from this, we must not forget the crucial impact of universities on society and the economy[12]: the total expenditure of universities (universities themselves, students, visitors and congresses) amounts to €15,991 million, with an impact of €49,671.2 million on national production, €24,707.1 million on income (2.12% of Spain's GDP) and 519,860 jobs (2.56 of the employment of the whole country). Universities increase human capital[13], technological capital (universities account for 27% of all R&D spending in the country), some social values since they continue to be a "social elevator", university students participate more actively in politics and vote more, they have greater altruism (donations to third sector entities, blood donations, etc.), they have healthier lifestyles, they are more committed to the environment and culture.

9. THE BEST TEACHERS

In Spain there are 125,471 university teachers, 63,281 support professionals and 19,879 researchers in charge of projects[14]. A significant volume of people. The ideal university must have the best teachers: those who know "what" to teach and "how". Of course, a large percentage of Spanish teachers, who also carry out their work full time and with a system of evaluations of teaching, research and transfer performance, have an excellent professional level. However, there is also consensus that the access and career system for teachers can clearly be improved[15]. The teacher incentive scheme could improve; also external evaluation processes; the workforce is very old and a correct generational replacement is not ensured; there is still much to be done to move from a system based on rote knowledge to a true system of education by skills.

10. BY WAY OF BRIEF CONCLUSION: THE IDEAL CONTEMPORARY UNIVERSITY MODEL

In short, the ideal model of the contemporary university system points to universities with autonomy, sufficiently financed with public funds (without renouncing private funds), significantly connected with the business fabric and the public development objectives of the economy, with intelligent systems and strategies for the provision of funds

---

[12]   CRUE Report, 2020, pp. 23ff.

[13]   The improvement in educational qualification means that university graduates (who make up 38.6% of the Spanish population aged 25 to 64, a figure higher than the OECD average) have higher activity and employment rates; they are more productive and have higher added value; they have higher salaries (58.9% on average); they pay more taxes, contributing to the national wealth.

[14]   Report of the Growth and Development Foundation (2020), p. 82.

[15]   Pilar Garcés, for example, maintains: "We still have nineteenth-century processes (for the selection of teachers) that do not guarantee good work teams, that require excessive bureaucracy and that, in reality, are intended to make it appear that something changes so that nothing changes", *op. cit.*, p. 311.

for research and transfer, with effective forms of government that serve the purposes of the university and that do not obstruct them, with a balance between public and private, with an academic offer that serves the interests of the community more than those of the administration or its faculty, with a strong social responsibility criterion, since the universities receive funds from the community, but they contribute much more than they receive (that is why they are always investment rather than expense), and with the best professionals.

The closer reality comes to this ideal model, the better universities and, ultimately, societies we will have.

CHAPTER II
Organisation model of an academic centre

Alfonso REDONDO CASTÁN
Belén ARTUÑEDO GUILLÉN
Mariano RUBIA AVI
Teresa PARRA SANTOS
University of Valladolid

1. INTRODUCTION TO COMPLEX CENTRE MANAGEMENT

"University Management", that is, carrying out the tasks of: planning (needs and resources), organising (in the sense of structuring the available resources), directing (in the sense of making decisions) and monitoring (what is planned versus what actually happens), is basically carried out at three hierarchical levels: Rectorate, Centres and Departments. Levels that need to be synchronised, but with sufficient degrees of freedom and flexibility to be able to integrate very different (not better or worse) areas of knowledge. From Arts and Humanities studies, to Health Sciences studies, through Social and Legal Sciences and/or Experimental Sciences and their application in Engineering and Architecture.

We present a description of general aspects relating to the "Management of complex university centres" and how to align the University guidelines with the agents who have to carry out these tasks (the members of the Departments).

What is understood by "complex centre"? A large number of students (more than 2,000 per centre), a parameter that might not be critical if it were not combined with others such as fragmentation of qualifications (approximately 20 degrees, diplomas, etc. per centre), having to coordinate a significant number of departments (between 15 and 20), the limited and scattered nature of the resources and the question as to what constitutes success. Having a differentiating element, in one case external work placements, in another studies abroad, both of which allow almost permanent contact with companies and/or institutions that enrich students' training and strengthen stable collaboration between teachers and those other agents. In addition to this common element, each of our Centres has a differentiating element: the Faculty of Philosophy and Letters stands out for its large number of socio-cultural activities, and the School of Industrial Engineering for its model of continuous improvement through quality.

2.   THE IMPACT OF THE EUROPEAN HIGHER EDUCATION AREA

The first question to be reflected on is how management has been changed by inclusion in the EHEA. And the answer, which is perhaps somewhat surprising: "*It continues to be a standard "Professional Organisation" model, with a very marked flow of formal (theoretical) authority: Rector's Office, Centres, Departments, Support Services, and other structures such as: Institutes, Recognised Research Groups and Excellence Research Groups, Chairs, Spin-Offs, Technology Centres, etc.* Model characterised by its high degrees of freedom, with significant informal relationships with the organisation. And although that was the case before and after Bologna, *now everything is very oriented towards Skills and Learning Results (obviously through knowledge), with a high implication of teaching methodologies (Workshops, Case Method, Management by project, etc.), and all this measured in ECTS*"[1].

The second question is: how long it has taken to adapt the University to the EHEA. The answer, which again we find interesting, is about 10 years. A whole decade of hard work, with limited resources, from the time Spain signed its accession to the EHEA until the first degree course was launched under these regulations. During this period the development of the studies in force at that time had to be combined with the design of the new ones, which involved:

— starting with the preparation, and approval by ANECA (National Agency for Quality Assessment and Accreditation), of the "white papers" on each and every one of the degrees or qualifications that were to be proposed under the EHEA Framework. These papers were designed by talking with all the agents involved in the "employability" of graduates: Employers, Professional Associations, Institutions and Public Administrations, etc., containing the skills that they should acquire and/or their level. All the white papers are available at http://www.aneca.es/Documentos-y-publicaciones/Libros-Blancos.

— The next step consisted of fitting the acquisition of these skills into one and/or two of the approved training levels: Bachelor's and Master's. If the acquisition and level of skills could be assured in four years, the course was designed as a Bachelor's degree; if on the other hand this was not long enough, then the corresponding Master's degree was defined.

— Finally, although almost simultaneously with the above stage, it was necessary to define the ECTS, that is, the load in student hours, for each subject. This circumstance has a high degree of correlation with the teaching methodology used at any given time.

---

[1]   The spirit of the EHEA is to consider students as workers, and as such, their working day should be adjusted to the average of any collective agreement, e.g. 1,800 hours of work per year. In our case, 1 ECTS = 30 hours, and since a course is 60 ECTS, the total load of the student is 1,800 hours. In addition, like any worker, the student's workday must be as continuous as possible, e.g. 5 hours a day, morning or afternoon.

Everything was carried out under a nationally approved regulation: Royal Decree 1125/2003 (Establishment of the ECTS System) and Royal Decree 1393/2007 (Organisation of University Education). Very open regulations that gave rise to a catalogue of approximately 700 different degrees, which multiplied by the 82 Universities in the country (50 public and 32 private), has generated a national offer of about 8,700 degrees (3,200 bachelor's and 5,500 master's degrees). According to the CRUE (Conference of Rectors of Spanish Universities) this mega offer, and its duplication in many Universities, has led to resource inefficiency of several billion euros a year (https://www.crue.org/wp-content/uploads/2020/02/UEC_2010.pdf).

The total number of students enrolled in the Spanish University System in the 2019-2020 academic year is 1,633,358. Undergraduate students represent 80.2% of enrolled students, Master's students 14.3% and PhD students 5.5% (https://www.ciencia.gob.es/stfls/MICINN/Universidades/Ficheros/Estadisticas/Informe_Datos_Cifras_Sistema_Universitario_Espanol_2019-2020.pdf).

All this means that the centres have to manage a significant number of degrees, with very uneven numbers of students, with very tight resources and with a complex class structure, due to the rules of Academic Organisation, into groups T (Theory); A (Classroom Practicals), L (Laboratories), seminars, Practicum, field classes, depending on the teaching methodologies used. In addition to having to fit with the teacher availability, managed by the Departments, and not by the centres.

3.   Regulatory Framework of the Academic Centre

How is a University centre organised, and what are its powers and functions? There is a very blunt answer to this: *"What a university centre can and must do is "totally" limited by national, regional and university regulations"*, which, to summarise, in the case of the University of Valladolid (UVa) are:

— National Regulations (Organic Law of Universities of 2001 as amended in 2007 (LOMLOU), adapted in December 2018, and there is currently a draft of a new Law. Royal Decree 1393/2007 (Planning and Structure of Teaching in the EHEA, amended by RD420/2015)),

— Autonomous Regional Regulations (Budgetary Stabilisation Law and Personnel Replacement Rate), and the wide-ranging

— Regulations of the University of Valladolid (Uva) (http://www.uva.es/export/sites/uva/1.lauva/1.19.normativa/1.19.01.organizacion/index.html),which frame absolutely everything, and among which we highlight: Statutes of the UVa; Regulation of Academic Organisation; Internal Quality Assurance System for Bachelor's and Master's degrees; Regulations on Theses and Internal Regulations of each centre.

Like any complete organisation, all this type of regulation is necessary, but without amounting to "bureaucratisation" and always following the recommendations of the ILO

(International Labour Organisation): the level of responsibility must be accompanied by the corresponding level of authority.

To specify a little more, in the UVa the powers and functions of its Faculties and Schools are detailed in Article 16 of its Statutes:

a.   Prepare their Study Plans, following the Governing Council directives and coordinating the initiative with the Vice-Rector's Office competent in academic planning.

b.   Organise the teaching and the academic, administrative and management processes of the teaching services and means that allow the development of the Study Plans leading to the obtaining of academic degrees.

c.   Propose the creation or teaching of new degrees, both those official and valid throughout the national territory, and their own.

d.   Report on the creation, modification and elimination of Faculties and Schools, and the introduction or elimination of training leading to the obtaining of official qualifications valid throughout the national territory.

e.   Coordinate the other teaching activities carried out by the Departments or their sections.

f.   Organise the undergraduate, postgraduate, where appropriate, and permanent training activities that are developed in their field.

g.   Organise complementary activities aimed at the training of students and collaborate with those that the members of the Faculty or School may propose for the same purpose.

h.   Organise university extension activities.

i.   Monitor fulfilment of their teaching obligations by the teaching staff.

j.   Collaborate and participate in the internal or institutional evaluation of the teaching activity of the teaching staff.

k.   Approve the regulations for the recognition of free configuration credits in accordance with the Regulations that regulate said matter approved by the Governing Council.

l.   Issue academic certificates and process file transfers and proposals for validation, assimilation or recognition of courses taken and other similar functions, within the framework of the general regulations of the University of Valladolid.

m. Manage the means and resources available.

n.   Manage the use of its premises within the framework of the general criteria of the University, propose the reform works that have to be carried out and be informed of the corresponding projects.

o.   Collaborate with University Departments and Institutes in the creation and maintenance of specific structures that act as a support for teaching and research.

p.   Any others indicated by these Statutes or established by regulation.

4. Management Bodies of an Academic Centre

We comment on the most significant aspects: It is the centre that proposes the introduction of new qualifications (although it must be in accordance with a higher rank agreement) and/or the elimination of existing ones; Manage spaces (classrooms, computer rooms, allocation of spaces to departments,…) Approve the schedules of all classes and courses; Control the performance of all scheduled activities,…

Obviously, the management of all these tasks, that is, their planning, organisation, decision-making and control, is carried out by people. How many and who perform these functions? Although the UVa has Support Personnel, both for Administration and for Services (ICT, Maintenance, Library, etc.), all management responsibilities fall to the Management Team, proposed by the Director chosen according to the established regulations, and subject to prior approval, in most cases, by the Centre's Board, which is also chosen from among all the groups that make up the Centre.

Brief description of the process for choosing the management bodies of a University Centre.

— In the first place, the representatives of all the groups are chosen for the Centre's Board, which is the highest body in charge of approving and/or ratifying most of the agreements and/or decision-making. The functions of a Centre Board are contained in Article 51 of the Statutes and its composition, number of elected members, is 60, distributed as follows: 51% civil servant teachers, 10% contracted teachers and researchers, 30% students and 9% administration and services personnel (in these last two groups the vote is not by universal suffrage, but by closed lists). In addition to these 60 elected members, the Centre Board consists of a number of *ex officio* members: Director, Deputy Directors (their number varies depending on the size and particularities of the Centre) and the Academic Secretary.

— Once the Centre's Board is constituted, it is in charge of electing the Dean/Director of the Centre from among the candidates who put themselves forward.

— After the Dean/Director takes office, he/she will be the one to propose the Management Team to the Rector for its appointment: Academic Secretary and Deputy Directors. And later, in the first University Meeting to be held, the renewal and/or ratification of all the members of the different Commissions and/or Committees to which, based on the Internal Regulations of the University, certain management tasks are delegated.

The powers of the Dean/Director of a Faculty or School, set forth in Article 57 of the UVa Statutes, are: a) To represent the University; b) Summon and preside over the Centre Board and execute its agreements; c) Propose the appointment and removal of Vice-Deans or Deputy Directors, and Secretary among the members of the University community of the centre; d) Convene and preside the Commissions set up in the University; e) Prepare proposals for the Centre's action policy; f) Organise, direct and

coordinate the ordinary activity of the University; g) Resolve the first and second cycle validations dictated by the corresponding Commission, and h) Exercise whatever powers have not been expressly attributed in these Statutes to the Faculty or School Board and correspond to the University.

As already indicated, in order to carry out all the management tasks assigned to a University, the Dean/Director will have the help and/or control of a set of Commissions and Committees:

— The Commissions that a University must have can be classified into:

    ♦ Statutory, which as its own statutes indicate are set forth in the Statutes of the UVa, indicating their composition, functions, periodicity of meetings, etc. In this section are: the *Economic Commission* (responsible for supervising what the specific budget of a University is spent on and/or invested in, part contributed by the Institution, and another part may be income from activities carried out by University staff (Articles 83)); the *Permanent Commission of Departments* (in it there are representatives of each and every one of the departments and/or sections of the departments that teach at the University, regardless of whether or not they have representatives on the University's Board, thus, it can be very useful for tackling strategic issues, and thus smoothing out the work in the rest of the Committees); Guarantees Commission, Electoral Commission, Academic Organisation Commission, Student Activities Commission, etc.

    ♦ Regulatory, that is, commissions included in lower-level regulations, some of a transversal nature for all universities, such as the Libraries Commission and the Quality Control Commission, and others specific to each university: Commission of External Practices, Commission of External Relations, Commission of Acknowledgements, etc.

— In addition to the Commissions, for more specific issues in the field of teaching, such as for planning and controlling each of the degrees, the University must propose a Degree Committee[2], which in the case of the EII (School of Industrial Engineering) is made up of: a Coordinator, a professor responsible for each course, two students, a graduate, an external professional and a member of the Management Team. This committee

---

[2]   According to the Internal Quality Assurance System for Official Degree Titles of the UVa (mandatory according to RD1393/2007), approved by the Governing Council of the UVa in July 2008, the composition of a Degree Committee must be composed, at least, of: a Coordinator of the degree; an adequate number of teachers that reflects the characteristics of the degree; a student with at least 50% of the core and compulsory credits, and a representation of departments with teaching in the degree whose number and structure will be determined by the university.

must be approved by the Board of the University, and its competencies, which are significant, especially for the monitoring and continuous improvement of the degree, are:

- Know the results of the Reports generated by the Quality Assurance System.
- Monitor compliance with the annual degree improvement plans.
- Review compliance with the Internal Quality Assurance System regarding the degree.
- Evaluate the results of the Internal Quality Assurance System regarding the degree.
- Propose improvements to the training programme and services provided.
- Propose improvements to the Internal Quality Assurance System.
- Submit proposals to the Centre in matters of academic organisation on the title and on the teaching assignment.
- Manage and maintain the specific documentary file for the degree.
- Coordinate and plan the teaching methodology, activity programmes and student evaluation of the degree course.
- Define, review and update the entry/exit requirements of the degree course.
- Carry out the analysis of the causes and seek solutions to the incidents, claims and suggestions that arise with respect to the degree course.
- Any other quality issue not covered by other bodies.

5. DETAILS OF A SPECIFIC CASE

At the University of Valladolid, there are 25 academic centres spread over 4 provinces in the region. UVa's teaching offer is made up of 72 Bachelor's degrees, 8 International Semesters, 14 Simultaneous Double Degree Programmes and 62 Master's degrees. The total number of places offered for new admission is 7,513 for the 2021/2022 academic year. In the 2020-21 academic year there were a total of 18,556 undergraduate students and 1,954 Master's students. The total offer of subjects amounts to 4,230, with a total of 16,324 teaching groups (Theory, Classroom, Seminars, Laboratories, Practicum).

Based on all the above, a centre such as the School of Industrial Engineering of the University of Valladolid has to manage some 2,500 students distributed in: 48 theory groups, 84 classroom practice groups and 109 laboratory groups. By having 47 classrooms, 8 computer rooms and 34 laboratories (specific to departments).

And for its management, a team of 9 people is authorised, which on average has about 60 meetings per course, in addition to the Administration and Support Service staff.

6.   BIBLIOGRAPHY

ANECA http://www.aneca.es/Documentos-y-publicaciones/Libros-Blancos .

CRUE https://www.crue.org/wp-content/uploads/2020/02/UEC_2010.pdf).

MINISTRY OF UNIVERSITIES https://www.ciencia.gob.es/stfls/MICINN/Universidades/Ficheros/Estadisticas/Informe_Datos_Cifras_Sistema_Universitario_Espanol_2019-2020.pdf .

UVA http://www.uva.es/export/sites/uva/1.lauva/1.19.normativa/1.19.01.organizacion/index.html

Model for management of exchange studies in the faculty of philosophy and arts of the uva

Belén ARTUÑEDO GUILLÉN
Alfonso REDONDO CASTÁN
Mariano RUBIA AVI
University of Valladolid

1. Introduction: Managing exchange studies in the Faculty of Philosophy and Arts of the University of Valladolid

One of the objectives of the mission carried out has focused on presenting the Erasmus+ and international exchange studies management model followed in the Faculty of Philosophy and Arts and that represents approximately 25% of all UVa student exchanges. It is one of its strengths due to its ability to promote training opportunities at partner universities, and is associated with the learning of foreign languages. The management of national exchanges within the framework of the SICUE programme also represents a training commitment promoted by the university, with the close collaboration of the Degree Committees and the coordinated search for agreements with other Spanish universities.

All exchanges represent an effort by the student to enrich his or her training, which is included in the European Diploma Supplement. The presentation of this document and the explanation of its value as certification of training and exchanges is necessary due to the academic and professional acknowledgement it provides and the international transparency it guarantees.

2. ERASMUS+ and International exchanges

Exchanges at the Faculty of Philosophy and Arts are very significant due to the high number of agreements signed, the involvement of teachers as exchange co-ordinators, the synergies shared with the UVa International Relations Service (RELINT) and the dissemination and motivation strategies developed at the centre. As a result the Faculty of Philosophy and Arts is the leader of exchanges at the UVa.

2.1. The Erasmus KA103 programme

With an approximate number of 320 Erasmus agreements, 46 international agreements and more than one hundred teachers involved as exchange co-ordinators, the faculty offers around 780 scholarships each year distributed among all the Degrees, with European universities (www.fyl.uva.es/movilidad/). These characteristics determine that all correctly drawn up applications are processed and that all students can benefit from their chosen study exchanges.

The International Relations Coordinator monitors all incoming and outgoing Erasmus and international exchanges and coordinates with the departments and degree committees in their promotion, appointment of exchange co-ordinators and exploration of new agreements based on international relations established by the teaching staff in their research activity or in the exchanges of their own teaching and research staff. The signing of agreements responds both to internal proposals made by the faculty and external proposals received through RELINT (www.relint.uva.es). The terms of the agreements (area of knowledge, ISCED code, number of scholarships, level of language certification, course, etc.) are agreed between the International Relations Coordinator and the department or the person responsible for exchanges within the degree committee. The keys to the management in the centre are the appropriate assumption of their competencies by the exchange co-ordinator and the International Relations Coordinator that guarantee the rigour of the Learning Agreement (LA), its follow-up, communication with the partner university, the academic supervision of the documentation and the conversion of grades, as well as the processing of the incorporation of academic recognition in the student's record. It is also worth highlighting the effective management of the person in charge of exchanges in the administrative secretariat of the centre, in permanent coordination with the International Relations Coordinator. This coordination determines the success of the programme, which is developed with all the guarantees of recognition and protection of the documentation.

Another key is the informing of students, which is carried out prior to the invitation for applications and jointly by RELINT and the centre. We stress that students consult with the exchange co-ordinator of the agreements that interest them about all the academic conditions of the subjects that can be taken at destination and the best way to match the programmes of both universities in order to acquire the skills established in the Degree course, as well as the linguistic certification requirements. Once the exchange has been approved, the student establishes their LA in the Sigma application under the supervision of the exchange co-ordinator, who must approve it on the platform for its subsequent signing by the parties committed to the contract: the student, their exchange co-ordinator, the International Relations Coordinator and RELINT, in addition to obtaining the agreement of the host University. In its internal regulations, the faculty requires that, at the time of submitting the application for an exchange, the student must

have passed 60 ECTS; this is to make sure they have completed the basic training credits and a good part of the compulsory ones before going abroad. As the elective subjects are chosen in the last two years, this allows for flexibility in the choice of optional subjects, always depending on the skills acquired and the expected results of the student.

One of the aspects that concerns the students and the university is the linguistic certification regarding the CEFR level required in the agreements. In the Faculty of Philosophy and Arts, two degrees in foreign languages are provided (English Studies and Modern Languages and their literatures). The majority of students of these courses apply for exchanges, and can generally justify this on the basis of their own courses. In the rest of the Degrees, students must accredit their knowledge of the language in an official way through one of the certifications recognised by the Linguistic Panels of the Conference of Rectors of Spanish Universities (CRUE) (www.acreditacion.crue.org/ Paginas/Mesas/Mesas Linguisticas.aspx). The fact that in 8 of the 10 degree courses taught in the Faculty of Philosophy and Arts, students take foreign language subjects in the first year reinforces their linguistic preparation and supports the student in their personal responsibility to obtain certification. The strategy followed in the Faculty of Philosophy and Arts is based on initial information on linguistic requirements and on the involvement of foreign language teachers at the Faculty in motivating learning and certification; but also in transmitting to the students a vision that integrates all the exchange programmes from which they can benefit and their academic recognition, so that, from the time they enter the Degree courses, they see their training in a European and international perspective, which means openness to other cultures and societies and to the training of European and world citizens.

The participants in the mission appreciated the need to review exchanges with respect to the involvement of the teaching staff, the use of synergies between the participating institutions, greater knowledge and communication with the partner universities and strategies for the dissemination of information and support to the student body, as well as the need to make the LAs taking into account the skills that students must acquire. Finally, they expressed their interest in having a tool such as the equivalence tables for qualifications among the various countries to facilitate the conversion of grades so as to better assure their academic recognition.

2.2. The Erasmus KA107 programme

This is a programme of the European Union that promotes exchanges and cooperation between Europe and partner countries. Applications are invited annually, and the UVa has participated since its inception in 2015. From the beginning, the Faculty of Philosophy and Arts has also been a reception centre for scholarship students and teachers who have mainly joined the Degree in Spanish, language and literature, the Degree in English Studies and the Degree in modern languages and their literatures.

This programme is managed at the UVa through the online platform https://uva-mobplus.uva.es/ . This platform for the registration of applications and their processing is also the tool for the assessment that the university's exchange coordinator must carry out. In the academic year 2019-20, 27 students and 3 teachers joined the faculty within the framework of this programme.

During the preparation of the mission in the first agreed calendar, the faculty approached the International Relations Service of the UVa to promote the request for a KA107 call that would include Algeria as a partner country to strengthen collaboration and begin an exchange of teachers and students. The Service responded to the proposal, processed it and it was approved. The first step to start working on the project was the signing of a bilateral agreement with the University of Algiers 2, already carried out by both parties, so that in the 2021-2022 academic year the exchange between both universities will begin.

Aware of this programme's attraction for the Algerian participants in the mission, the presentation of the KA107 programme and the application processing platform established the necessary lines of work to argue and defend a KA107 exchanges project with the UVa: based on the internationalisation strategy of each Algerian university and its relevance, the exchange objectives, the added value of the training, and the type of cooperation between the institutions and their complementarity.

In conclusion, the KA107 programme allows us to deepen the channels of collaboration and bilateral cooperation to develop the exchanges of students and teachers between the UVa and Algerian universities, starting from existing projects, deepening mutual knowledge to establish new links and enrich the Twinning project.

2.3. The Erasmus+ Internship and International Internships programme

One of the fundamental objectives of our management is to promote the Internship programme, so that students, once their Erasmus+ study programme has finished, continue their training through an Internship scholarship, completing the maximum of 12 months of exchanges that the programme allows and obtaining the Global Erasmus Student mention, which is included in the Diploma Supplement.

The first determining factor is the information about the programme that the students receive, guaranteed both by the International Relations Service, as well as by the degree committees themselves and the International Relations Coordinator. Joint information on both programmes is provided. The objective is that students who do not find a company or institution of their interest among those that have signed an agreement with the UVa and that are offered in the closed mode, can carry out a search during their exchanges, with a better knowledge of the type of training and skills that can be obtained, the tasks that will be carried out and the follow-up method.

Another important factor is to build loyalty to these companies and institutions, a responsibility that is shared between the students who carry out the programme and the

International Relations Coordinator. To do this, it is necessary that both the company mentor and the International Relations Coordinator monitor the student's learning results and evaluate them jointly, that is, that there is close collaboration between the mentors that results in mutual knowledge and favours loyalty.

Given that the ten Degrees taught at the Faculty of Philosophy and Arts have an optional or compulsory external internship course, we promote the chance for students to take this course in the exchange programme during the summer. A very significant percentage benefit from exchanges in the third year and the external internship course is in the fourth year, so the continuity of training in the two exchanges programmes contributes not only to strengthening the CEFR level in the foreign language but also to equipping students with professional skills and to improving their CV.

The dissemination of the possibilities offered by the three kinds of Internships, curricular, extracurricular and graduate, is carried out in a coordinated manner. Every year the number of students applying for them increases and the Faculty of Philosophy and Arts is the UVa faculty that has the biggest response in this exchange programme.

3.   NATIONAL EXCHANGES: THE SICUE PROGRAMME

The student exchange programme between Spanish universities (SICUE) answers to CRUE (www.crue.org/sicue/) and has existed since 2000. It is based on mutual trust between institutions through the signing of bilateral agreements promoted by the different degree committees under the coordination of the centre responsible for exchanges. In its management, the centre's commitment lies in the transparency of information regarding study programmes, calendars, monitoring of students' academic agreements and transmission of course certificates by the administrative secretariats. The purpose of the programme is to enrich and personalise students' academic profiles and broaden their socio-cultural experience.

SICUE administrative management answers to the Vice-Rector's Office for Students, the Student Service, responsible for the selection of the students who present their applications. This is different from the Erasmus+ and international programme in which exchanges are granted by the university. However, SICUE academic management is carried out by the International Relations Coordinator, which takes care of all the university's exchanges. Regarding the enrolment of students and their academic certificates, it is the administrative secretary who, upon presentation of the academic agreement, signed by the university's exchange coordinators and the deans of both institutions, carries out this management, as well as issuing and sending the grades certificate.

The only requirements that a student must meet to apply for this exchange is to have 45 ECTS approved at their home university and be enrolled in 30 ECTS. The reality in a faculty like the Faculty of Philosophy and Arts is that students apply for this exchange in 3rd or 4th year and mainly opt for annual exchanges, since most of the signed

agreements are of this duration. Given that options are concentrated in these courses, what motivates students to study at other universities is often the possibility of taking optional subjects of their interest that their university does not offer. Guidance to students regarding the offer of destinations and programmes from which to choose is essential: the comparison between the degree programmes at both universities is necessary before the student submits their application. Indeed, within the framework of flexibility that underlies the programme, correspondence must be found between the student's results in their compulsory undergraduate training, while, in the optional subjects, there is the opportunity for a freer choice.

The academic agreement is the basis of the exchanges since it supposes a commitment between the three parties (student and both institutions) for the full recognition of all the student's training at the destination. Thus, the personalised support provided to the student, the agreement on the skills that they must acquire and the flexibility in their personal preferences, guarantee an academic commitment, which is the basis for the success of the training. The International Relations Coordinator sends this document to their counterpart at destination, essential for the enrolment of the student at destination. As in the case of Erasmus+ exchanges, the student registers and pays the fees at their home university. In the event that the student needs to change subject due to lack of places or interference in the schedule, they have a period of one month to do so and send the new agreement to the two universities.

The participants in the mission expressed their interest in this programme, non-existent in Algeria, due to the added value of this academic, cultural and social experience in the integral formation of the student, in the cohesion of the territory and in greater inter-university cooperation; the relative simplicity of the implementation of the programme and the administrative procedure was also highlighted.

The Faculty of Philosophy and Arts promotes the SICUE programme among its students with the conviction that betting on the exchange strategy results in excellence in training, in cohesion between universities, but also in opening future graduates up to other cultures and social characteristics that will strengthen their skills and abilities.

4. THE EUROPEAN DIPLOMA SUPPLEMENT

The European Supplement to the degree, established in Royal Decree 1044/2003 (www.boe.es/buscar/act.php?id=BOE-A-2003-17310), is a document that accompanies all official university degrees in the whole of the Spanish territory and aims to fully integrate the Spanish university system in the European Higher Education Area. The requirements for its issuance are established in Royal Decree 22/2015, of 23 January and published in the BOE of 7 February 2015 (www.boe.es/boe/dias/2015/02/07/pdfs/BOE- A-2015-1158.pdf). It responds to the model proposed by the European Commission, the Council of Europe and UNESCO-CEPES. Its purpose is to improve

international transparency and academic and professional recognition of learning outcomes. This diploma, issued in Spanish and English, gathers in a unified way all the information about the degree taken by the student, the results obtained, the professional skills acquired and the category of their training in the national higher education system.

The objective of the Diploma Supplement is twofold: on the one hand, to facilitate the recognition of academic training by national and international companies and institutions; on the other, promoting greater exchanges of Spanish students and graduates in the EHEA. However, we find that a large number of students are unaware of this supplement and its value in certifying all the national and international training experiences with a view to their labour insertion.

Within the promotion of exchanges, we include as a strategy the presentation of this document in the informative meetings that are scheduled with 1st and 2nd year students, which we consider a good practice. In other words, globally, we present all national, European and international exchanges and their certification in the Diploma Supplement. Our goal is to show all the possibilities of personalising training with academic and professional experiences that will broaden the work horizon. We stress the importance of the Diploma Supplement as a document that unifies all the information and that is characterised by its transparency vis-à-vis international companies and institutions. It is important that, from the first year, students begin to plan their exchanges and, in this regard, the faculty offers all the advice provided by the exchange co-ordinator teachers and by the International Relations Coordinator.

5.   CONCLUSIONS

The debate on good practices carried out in the Faculty of Philosophy and Arts in exchange management attracted the interest of Algerian universities in updating their internationalisation strategies. The strengths of this management were valued with respect to the actions and tools that the participants considered necessary to implement in the search for their own strategies. Both the guarantees of the procedures and the coordination between the various managers and their high degree of involvement in all phases of the exchanges were considered the key points, in addition to the need to find an official linguistic certification system within the university, essential for exchanges.

In the framework of the debate, the Algerian participants were critical of the excessive orientation of the UVa and in particular of the Faculty of Philosophy and Arts to European exchanges, noting the almost zero existence of agreements with African and Maghreb countries and the scarce student exchanges in both directions. In this regard, the Twinning project is an excellent opportunity to strengthen ties with Algerian universities so that, as partners, they are a bridge to the international exchanges of the UVa with the African continent.

External academic internships management model in the university of valladolid (UVA): the example of the school of industrial engineering (EII)

Alfonso Redondo Castán,
Belén Artuñedo Guilén y Mariano Rubia Avi
University of Valladolid

1.   Why should there be internships in the curricula?

In a generic way, the "Mission" of any Public University could be said to be: "The *comprehensive training* of its students, research and dissemination of knowledge *in order to lead the* scientific and cultural *development of society*."

Taking into account that the Centres (Schools and/or Faculties) do not have competence in "Research", our contribution to said "Mission" focuses on giving students a comprehensive training, not just knowledge, so that they contribute to the development of society. And what better way to achieve this than by integrating the social agents (potential employers) into the final stage of the training process? They already have the basic knowledge, but as the saying goes, it is easier said than done. We can explain how to design a "system", but in the company they will see how it is implemented and how the theoretical one is only the basis, since there are other parameters that condition it: people, environment, resources, etc. This requires the acquisition of other transversal competences, as important as knowledge: communication skills, decision-making, autonomy, etc.

Internships (work experience/placement or practice), along with exchanges (international and/or national), are two fundamental pillars to contribute to the comprehensive training of our students, since they acquire transversal skills, which are increasingly demanded by employers (Randstad, 2018). Since 2020 the School of Industrial Engineering decided, despite the global crisis, to introduce a mandatory work placement requirement in all its degrees. Perhaps that is why, in line with the popular saying "you reap what you sow", of the nearly 4,000 internships per course carried out by UVA students, approximately 25% correspond to EII students. For this reason, we have been chosen to explain and give examples of how we manage them.

Although colloquially they are referred to as "internships" or "work experience", in reality they are "external professional practical attachments", which can be carried out in companies, institutions, entities, etc.

At the University of Valladolid, we distinguish three types of internships:

— Internships for students: Curricular and/or extracurricular.
— Internships for graduates (Master's Students)
— Practicals in international exchanges: ERASMUS+, etc.

In some degrees, due to the characteristics and compulsory nature of their internships, they are called "practicum": Education, Medicine, etc. Although, they are included in the first section, "Internships for students: Curricular and/or extracurricular", which are the ones that we will describe below.

Before addressing its description, let us make clear what is and what is not an "internship":

"Internship" means a period of learning in a company, institution or entity, intended to put into practice the theoretical knowledge of students. These "internships" require a company mentor (who provides and guides learning) and an academic tutor (who supervises learning). An internship is NOT a job, nor can it be used to cover sick leave, vacations, etc. It has a limited duration, special conditions, and does not involve a contractual relationship with the company.

2. REGULATORY ASPECTS OF PROFESSIONAL PRACTICES

In order to make sure that internships are really training periods, and not used for the improper coverage of jobs and/or the performance of improper tasks, etc., it is necessary to have regulations that govern them.

In the case of Spain, the first national regulations on this matter dates from 1981, although those currently in force, since they had to be adapted to the EHEA, dated on July 2014 (Royal Decree 592/2014 - BOE No. 184). As a consequence of this update, the specific Regulations of the UVA also had to be updated (Regulations of the University of Valladolid on External Academic Practices - Feb-2015).

— What are the most important points of these Regulations?:
— Where can the internships be done? (Articles 2, 7 and 8)
— What are the objectives of the internships? (Article 3)
— Types of internship (Article 4), Duration and hours (Article 5)
— Rights and obligations:
    ‣ Of the students (Article 10)
    ‣ Of the internship coordinators (Article11)
    ‣ Of the tutors of the collaborating entities (Article 14)
    ‣ Of the academic tutor of the university (Article 15)

2.1.   Where can internships be done and what are their objectives?

The practice normally takes place outside the University, but it could also take place inside the University. For example, could our Communication students do an internship consisting of designing a whole "Communication Plan" to publicise everything that another University Centre does: Offer, professional opportunities, etc.? Of course yes, but in this case, an authorisation would be required from the Director/Head of the University Practice Area (attached to the Vice-Rector's Office for Students).

When we say that it is normal for internships to take place outside the University, we are referring to any Institution and/or Entity:

— An institution is a form of social organisation, whether private or public, that fulfils a specific function in society, and that obeys rules and a structure of roles that its members must respect in order to fulfil its mission. This allows, for example, a Law student to do an internship in the Courts, or Education students to do an internship in public schools, etc.

— An entity is an association of people of any kind, especially one that engages in a work activity (commercial companies, cooperatives, self-employed, etc.).

1. Within the University itself	It is necessary to have the prior authorisation of the Director of the Internships Area, attached to the Vice-Rector's Office competent in the matter.	It is compulsory to present an "Internship Project"
2. In collaborating entities: — National and/or foreign companies — Institutions and/or public or private, national or foreign entities	Through an Educational Cooperation Agreement: — Framework or General Agreement. — Specific Agreement or Technical Annex.	
For all students under 28 years of age, the University of Valladolid will have an accident and civil liability insurance policy taken out.		

With these internships, what is really sought from the Universities is for the student to:

— Round out his or her comprehensive training, not only with technical and methodological skills (complementing theoretical/practical learning), but also complementing certain transversal skills (soft skills) such as communication (including other languages), personal relationships, decision-making, teamwork, attitudes and behaviour, etc.

— Acquire practical experience that will facilitate the student's insertion into the labour market and/or improve his/her future employability.

— They also seek to promote values such as innovation, creativity and entrepreneurship and to bring about a "win-win" collaboration, since many companies, especially

SMEs spend much of their time putting out fires and do not have time to analyse and plan, whereas the trainees, after a period of training, and with a little motivation, are able to activate and apply their skills of innovation, creativity and entrepreneurship in the service of the collaborating company/entity.

2.2. Types, duration and timetables of the practices

According to Articles 4 and 5 of the Internship Regulations, these can be "curricular", that is, forming part of the study plan, as a compulsory subject and/or as an optional subject. But they can also be "extra-curricular" in the sense of not forming part of the curriculum but reflected in the student's Diploma Supplement.

Curricular Internships: Those that are part of the Study Plan, as a compulsory and/or optional subject.	1 ECTS = 25 hours. Max. 60 ECTS if they are compulsory. Max. 12 ECTS if they are optional.
Extracurricular Internships: They are not part of the Study Plan, as a didactic unit, but are recorded in the Diploma Supplement.	Max. 750 hours.
Spanish regulations establish that a student can do a maximum of 900 hours of internship during an academic year. It is recommended that internships be for a maximum of 5 hours a day, and compatible with the rest of the academic activities.	

2.3. Rights and obligations of all the agents involved

Although this section may seem unduly bureaucratic or prescriptive, we believe that it is very important, because although they are exceptions, there are bad students, bad employers, and bad tutors. For this reason, aspects such as the following should be made clear:

— Must students bring a laptop or have to use their mobile phone to do the internship?… the answer is NO.

— Must students be paid for doing an internship? … the answer is NO, but it should not involve any cost to the student either. For example, there are companies that initially only "cover expenses", but pay a bonus at the end of the internship, depending on "attitude". Other companies, by default and/or as a function of supply and demand, directly offer scholarships of €600-€900 a month, and do not always find students to take them.

— Should an employer allow a student to fall behind, behave inappropriately, etc.?… the answer is NO. The employer must report it and the student will have the internship cancelled and the subject suspended.

Would it make sense, for example, under the umbrella of "comprehensive training": for a student of the history of art to do an internship in the family pharmacy? - or for

an employer to ask a statistics graduate to do a systematic and repetitive task such as recording data or working as a telephone operator for five hours a day? Obviously, the answer to these questions is, no, and it is the Academic Internship Coordinators that are responsible for making sure the offer of the internship is in line with the skills and/ or basic aspects of the comprehensive training of the student, respecting the most basic ethical aspects.

3. How is the internship procedure structured and who manages it?

The activation of an internship can be at the initiative of the company, in which case it is offered publicly, or of a student, in which case it is assigned directly to him or her.

Figure 1 shows two alternative routings for processing an internship. together with all the necessary documents (right hand column).

If there are "compulsory internships" in the study plan, it is the Centre, and therefore the University, that has the obligation to arrange them. This is the case for all EII degrees (with approximately 900 internships/courses), but there are other centres that have only "optional" internships, for which the Centre/University has no obligation. This is the case of the Faculty of Economic and Business Sciences, with approx. 670 internships/ course. In other words, not everything has to be the same for all degrees; each market has its particularities.

Most of the documentation, as well as its filing and management, is facilitated by using the computer application of the UVA Internship Service (Vice Rector for Students - https://practicas.sigma.uva.es/es).

The first time the company accesses the application, it must enter all its identifying details, which will allow the system to draw up the Educational Cooperation Agreement or General Agreement. In addition, in this section, the company will be able to define the roles of the users that it wishes to authorise: Main manager, Manager or Tutor by department, etc. The next step, also from the main screen of the UVA Internship Portal, will consist of selecting the option Internship Offers. In this way the system will initiate the publication of the offer on the web, and part of the content of the offer will be entered in the Technical Annex or Specific Agreement. Those responsible for the internships in the companies, and/or authorised users, may consult at any time the set of actions and the status of all their internships published, evaluated and/or awarded.

Request for internship/collaboration (UVa/company)

Internship sought by the student

New company

Formalise framework agreement (Vice Rector for Students /company)

Include in listing (COIE)

Framework agreement F01/PC_AE-01

Educational cooperation agreement F0x/PC_AE-01

Company listing F02/PC_AE-01

Creation of internship

Centre's approval

List of open days F03/PC_AE-01

Appointment of company mentor (company)

Open days (company)

List of company mentors F03/PC_AE-01

Call for applications (Traineeship Service - COIE)

Invitation to apply for internship F03/PC_AE-01

Publication of invitation to apply (Centres/COIE)

Registration COIE F04/PC_AE-01

Registration (student)

Internship application F05/PC_AE-01

Candidate selection and communication (company)

Candidate selection F06/PC_AE-01

Resignation (student)

Resignation of candidate F07/PC_AE-01

Enrolment (student)

Assign academic tutor (centre)

Issue of report (academic tutor)

Signing of the contract (student)

Contract signing F08/PC_AE-01

Send copy to interested parties (COIE)

Final report F09/PC_AE-01

EXECUTION of the internship (student)

Incidents

Preparation of report (student)

Final evaluation F10/PC_AE-01

Issuance of supporting documents (company)

Issue of report (academic tutor)

Final evaluation F11/PC_AE-01

Certificate of completion of work placement

To the company mentor/academic tutor F12/PC_AE-01

Offers are published and/or updated once a week, and students wishing to apply must select the offer and provide their CV. They may register for a maximum of three internships. The selection is then made by the company, usually within 5 days. In addition to this procedure, the centres may organise, upon agreement with the company, a specific selection process once a year (e.g. Michelin, Renault Experience Programme, Carrefour, etc.)

The Internship Service has a qualified team of technicians, and with tutorials for companies, teachers and students, in its "information" section (https://practicas.sigma.uva.es/es/information). But can a department with six people manage more than 4,000 internships per course? The answer is YES, but with the help of the centres and the teachers. As an example, in the School of Industrial Engineering (Figure 2) there are 178 people who collaborate in internship management and/or tutoring: 1 deputy director, 11 internship coordinators (one per degree with compulsory internships) and 166 academic tutors (teachers) who supervise their performance.
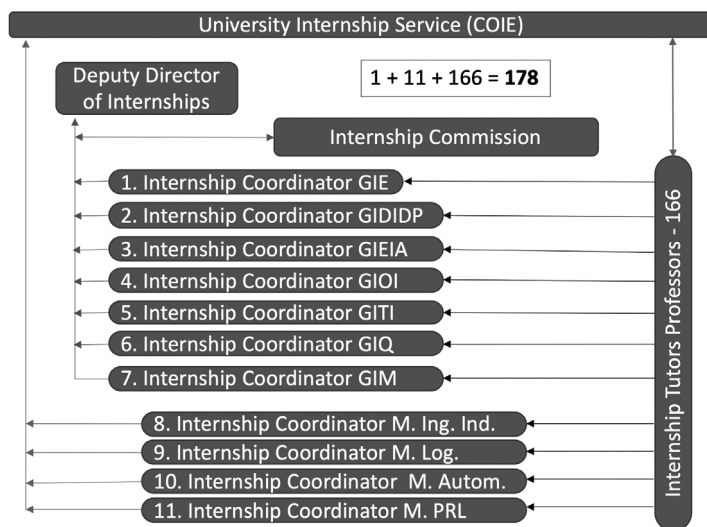
The external internships, in addition to the added value for the students, allow the centres to forge stable relationships between teachers and professionals of the companies/institutions in order to carry out other types of actions, such as:

Visits to companies.

Specific collaborations in research (R&D+i projects - "Collaboration Challenges" Programme - Ministry of Science & Innovation (MICINN)).

Stable collaborations in Teaching/Research through the creation of Business Chairs (e.g. Michelin Chair, Renault-Consulting Chair, Renewable Energies Chair, etc.)

Not forgetting the Student Associations, which directly or indirectly establish permanent links with companies for their activities: BEST, AMUVA, etc.

The teaching organisation plan as backbone and integrator of teachers' loads and capacities

Mariano Rubia Avi, Alfonso Redondo Castán and Belén Artuñedo Guillén

University of Valladolid

1. Introduction

The University of Valladolid has two key documents to quantify and adjust its Teaching and Research Staff[1]:

— The *"University of Valladolid Teaching and Research Staff Workforce Model"*, whereby the Effective Teaching Load (CDE) = Teaching Capacity (CD) minus Discounts (with limits and truncations), in other words the number of actual class hours that the teaching and research staff must teach in an academic year (https://secretariageneral.uva.es/_documentos/IV.20.-Documento-de-Plantilla-de-la-Universidad-de-Valladolid.pdf).

‣ Teaching Capacity (CD) being the number of theoretical hours that the Teaching and Research Staff (PDI) must work in the course of a whole academic year. Which is conditioned by the regime and/or category and type of contract.

‣ Discounts are all those activities that are recognised as complementary to the training, but that are not class hours, such as: tutoring of internships, tutoring of end-of-degree projects, international exchange coordination, degree coordination, holding university management positions (Rector, Vice-Rector, Dean/Director, Vice-Dean/Deputy Director,…), Research six-year period, etc.

— And the "Instructions for the preparation of the Course Teaching Organisation Plan", a document approved annually, the purpose of which is to quantify the needs of the teaching and research staff based on the teaching methodologies and/or particularities of each subject (Instructions POD Course 21-22.pdf).

In this paper we focus on describing and highlighting the Teaching Organisation Plan (POD), bearing in mind that the UVA is a generalist Public University covering

---

[1] In addition to the budgetary regulations and/or the Workforce Replacement Rates. Well, you can have a rate but no money, or vice versa, you can have money but no rate.

a range of subjects from pure Philosophy, to Health Sciences, through Basic Sciences, Education, Engineering (Industrial, ICT, Agro, etc.), Social and Legal Sciences, not a polytechnic university with a high degree of homogeneity among its degrees.

Due to this generalist nature of our University, what the Teaching Organisation Plan does is to set general guidelines, some of them mandatory, and others for guidance. This provides a flexible framework that allows for the great diversity of teaching at the University of Valladolid.

The Teaching Organisation Plan exclusively addresses issues of academic and teaching organisation, with two aspects in particular standing out:

— On the one hand, that of the "planning of teaching" carried out based on the types and sizes of the reference groups. Giving rise to a document called "Teaching Order for Bachelor's and Master's degrees", in which the entire workload, subject by subject of each of the University's degrees is detailed. This document is made by Phases, involving all levels of the University: Rectorate, Centres and Departments.

— Other aspects such as: learning objectives, teaching methods, work plans, evaluation systems, resources, etc., are included in the Teaching Organisation Plan Instructions, although they will also be included in their corresponding "Student Teaching Guides". One per subject, this being a binding document which must be published each academic year, before the student enrols.

2.   Characteristics of the Teaching Organisation Plan: Basic Criteria and Standards

The criteria or instructions for making the Teaching Organisation Plan are based on three concepts:

— Activity groups (8 groups).
— Type of subject, depending on the proportion of the different types of activity (10 types).
— Tables with reference sizes and calculation of the number of groups.

2.1.   Activity groups

What the Teaching Organisation Plan does is establish, depending on the scenarios (places) and the way in which the teaching activity is going to be implemented, without assessing whether the contents worked on are theoretical or practical, eight different types of organise/impart teaching activity[2]:

---

[2]   These groups reflect the reality observed through the experience of the last courses and the proposals of the verification reports of the degrees.

— *T Groups* The activity to be carried out consists fundamentally in the presentation of content with the purpose of introducing, explaining or demonstrating, and such presentation can be carried out by the teacher, a student or a group of students ("master classes").

— *S Groups* These are groups of seminars or workshops, periods of instruction based on oral or written contributions from students and guided by the teacher, or supervised sessions where students work on scheduled tasks and receive assistance and guidance when necessary. (For example: Let's assume that we are going to divide the 30 students of a subject into 5 groups, assigning to each group a different "concrete" practical which involves using the "only equipment existing", and that first of all we give them some theoretical notions …, or that each group will be given a "Project" which must be explained to them, …).

— *A Groups* Any type of classroom practical (case study, diagnostic analysis, problems, etc.).

— *L Groups* Activities carried out in special spaces with specialised equipment (laboratories, computer rooms, etc.). N.B. A very broad range can be covered: Chemistry laboratories, Computer rooms, Model Workshop, etc.

— Field Practical Groups. These are activities that take place outside the centre with the presence of the teacher: field practicals, programme visits to companies and/ or facilities, etc.

— *C Groups* This type corresponds to the clinical practicals (internships) done in hospital centres. Exclusively for study plans and areas of knowledge covering healthcare practicals.

— *TG Groups*. Small group teaching mentoring relationships, especially significant in the case of the subjects corresponding to the Practicum in Education degrees.

— *V Groups*. Virtual teaching groups. These groups will count toward the teaching assignment, in the proportion determined in the template document.

2.2. Types of subjects.

Based on the proportion of the different teaching activities: T-A-S-L, etc. that are used for the teaching of a subject, this will be of one type or another, from among the ten established by the university:

Type	Description	Classes in groups T/V	Classes in groups A/L/C/PC	Classes in groups S/TG
T0	Subjects of a markedly theoretical nature, essentially instrumental or introducing basic content.	70-100 %	0%-30%	0%-15%
T1	Theoretical-practical subjects. These subjects present a balanced distribution between theoretical and practical load.	40%-60%	60%-40%	0%-15%
T2.1	Theoretical-practical subjects with intensive work in specific laboratories, but without the need for small groups.	35%	50%-65%	0%-15%
T2.2	Subjects with a balance between theoretical and practical load, but with the need to work in small groups.	40%-60%	60%-40%	0%-15%
T2.3	Subjects that combine the characteristics of the above two types.	35%	50%-65%	0%-15%
T3.1	Subjects that only cover the realisation of highly experimental practicals and in which products that require special attention from the teaching staff are handled.	0%-15%	70%-100%	0%-15%
T3.2	Subjects that only cover the realisation of highly experimental practicals and in which products that require special attention from the teaching staff are NOT handled.	0%-15%	70%-100%	0%-15%
T4.1	Clinical practicals in Medicine	0%	100%	0%
T4.2	Clinical practicals in Nursing and Physiotherapy	0%	100%	0%
T5	External internships and Practicum	0%-10%	0%	0%-100%

Table 1: Types of subjects

Agreeing on which type corresponds to each subject is an accountable act, and must be agreed by all the agents involved (Departments, Centres and Rectorate), since the ideal is far removed from reality or available resources.

2.3. Reference sizes and number of groups

Once the activity groups and the types of subjects have been defined, the number of necessary groups is quantified for each activity group, for which the university has established the following reference values:

Kind of	Size of	Kind of	Size of
T	80 (SL)	PC	SL
S	40	C	2-15 [2]
A	40	TG	15
L	30 [1]	V	SL

[1] Subjects type 2.2 and 2.3: 20. Subjects type 3.1: 10.
[2] Established specifically for each degree course in particular, depending on the availability of PRAS-CSAL (general and health science associate) teachers.
Table 2. Reference sizes of Activity Groups

The calculation of the number of groups is carried out as shown in Table 3, taking into account the reference sizes (Table 2) and the Type of subjects (Table 1) based on Table 2 and the type (Table 1):

	R = REFERENCE GROUP SIZE						
	10	15	20	30	40	60	80
1	13	20	27	40	53	80	107
2	24	36	48	72	96	144	192
3	34	51	69	103	137	206	274
4	44	67	89	133	178	267	356
5	55	82	109	164	218	327	
6	65	97	129	194	258	388	
7	75	112	149	224	299		
8	85	127	169	254	339		
9	95	142	189	284	379		
10	105	157	210	314			
11	115	172	230	344			
12	125	187	250	374			
13	135	202	270				
14	145	217	290				
15	155	232	310				
16	165	247	330				

n = NUMBER OF GROUPS

Table 3. Determination of the number of groups

For each size "R", reference group in Table 2, the number of groups will be that corresponding to that of row "n" of the corresponding column that contains the smallest number greater than the number of students enrolled.

For example: Let's assume a type 2.3 subject with 136 enrolled, which has planned 30 hours of theory (T), 20 hours of classroom practice (A) and 10 hours of laboratory (L).

— To calculate the number of Theory groups ("T"), taking into account that the reference size is 80 (see table 2), we go to the column whose R=80 in table 3 and we go down until the first value greater than our real size (136) appears, that is, 192, or in other words n=2. Thus, this subject will have 2 theory groups.

— To calculate the number of A groups, we will proceed in a similar way to "T", but now the reference size according to table 2 is 40 (R = 40). We go to Table 3, to the column whose R=40, and we go down until the first value greater than our real size (136) appears, that is, 137, in other words n=3. Thus, this subject will have 3 classroom (A) groups.

— To calculate the number of groups L, we will proceed in a similar way, but now the reference size according to table 2, for type 2.3, is 20 (R=20). We go to Table 3, to the column whose R=20, and we go down until the first value greater than our real size (136) appears, that is, 149, in other words n=7. Thus, this subject will have 7 laboratory (L) groups.

Thus, based on the instructions for preparing the Teaching Organisation Plan, this 60-hour course of teaching load for the student will involve a workload of 190 hours (30* 2+20* 3+10* 7) for the teacher or teachers who have to teach it.

3. SEQUENCE, IMPLEMENTATION CALENDAR AND AGENTS INVOLVED

Next, we are going to present in a table the phases of the development of the Teaching Organisation Plan for the 2021-2022 academic year, as an example. We will determine who are the agents that prepare, approve and execute the aforementioned phases of the Teaching Organisation Plan that are used to plan the next course that is designed one calendar year in advance and that is used by the Vice-Rector's Office for Teaching Staff to make an estimate of hiring and spending in chapter 1, devoted to the payment of payroll and the hiring of teaching staff, both integrated and contracted staff in each of the figures that are approved by the Council of Universities, the Ministry and the Autonomous Regions, and in addition to detect the teaching needs for the new academic year.

Phase I. Based on the initial proposal sent by the Office of the Vice Rector for Academic Planning and the Teaching Planning Unit to the Centres. Said proposal has been prepared in accordance with the guidelines described, with the information from previous courses, with the enrolment forecasts, and with the necessary and timely contacts with the Planning Unit. The centres must send, before the indicated date, the Teaching Organisation Plan Phase I proposal approved by its Board, which must contain:

a.   The teaching offer made up of the subjects to be taught, grouped by study plans and justifying, in the computer application itself for the preparation of the Teaching Organisation Plan, its proposals on:
- Introduction or cancellation of subjects.
- Number of teaching groups that change with respect to the current year.
- Number of students expected.
- Maintenance of optional subjects with few students.
- In the case of new study plans, the data related to the subjects (number of ECTS, hours of theory and practice, areas of knowledge responsible for teaching, number of groups, etc.) will be entered into the computer application.

b.   Requests to change the assignment of subjects to teaching units, approved by the Degree Committee, following a report from the departments involved.

c.   The limits of admission of new students for each of the degrees for which they are responsible, as well as the expected number of students for each of the modes of continuity of studies, including the courses authorised for graduates under previous regimes to obtain degrees in accordance with the provisions of the corresponding regulations.

All the proposals received from the centres are analysed by the Academic Organisation Commission and sent to the Governing Council for approval. In this way, the University has quantified the necessary Teaching Load, and will proceed to analyse its teaching staff needs.

Step II. The development of this phase corresponds to the University Departments, which are responsible for teaching, in terms of: design of subjects, development of teaching guides, request for new staffing in the face of effective teaching needs and assignment of their teaching staff to the teaching of their corresponding subjects within the different degrees in which they have teaching responsibility, both in Bachelor's and Master's degrees.

Step III. It ends with the student body enrolment period, once the self-enrolment process is completed, and the different groups are constituted in the degrees, all the necessary adjustments are made, both in the distribution of groups, shifts and ultimately teaching staff.

To finalise the entire planning and design process of the Teaching Organisation Plan, it is ultimately the University which, through its Governing Council, gives the go-ahead to the entire activation process for the following course.

4.   CONCLUSIONS

The Teaching Organisation Plan is a key tool for the management of curricula, the organisation of Faculties and Higher Schools, and for the University Departments responsible for teaching in the different Bachelor's and Master's degrees. It is a tool for calculating and determining the character of the different subjects in the Curricula.

The Governing Team of the University of Valladolid, through its Vice-Rectors for Academic Planning and Teaching Staff, helps to determine the number of teaching staff that is necessary for teaching the courses, both face-to-face and online for the next academic year. The Teaching Organisation Plan constitutes the tangible planning of the entire teaching responsibility of an institution and its structure is as wide as its educational and social uptake.

Plan for returning to safe face-to-face teaching activity in the context of Covid

María-Teresa PARRA-SANTOS

University of Valladolid

1. Introduction

This contribution is developed within the framework of governance. The metaphor of governance as an arch resting on the twin pillars of resources and regulations is a common one. Both pillars must be correctly dimensioned for the arch to be stable.

The COVID pandemic endangered the proper functioning of all levels of the Universities since none of them had planned a contingency plan of such dimensions. The regulations and the resources were if anything more important than ever to successfully overcome the adaptation to non-face-to-face teaching and assessment at the end of the 2019-2020 academic year and the safe face-to-face teaching activity of the 2020-2021 academic year. Most of the Universities are not online and the face-to-face methodology is difficult to apply in a remote environment.

The guidelines received from the CRUE (Conference of Rectors of Spanish Universities) and its various working groups were very useful for most Universities to make relatively homogeneous adaptations while respecting individual Universities' autonomy. The CRUE was able to act as a direct interlocutor with the Ministry of Universities. At the level of the Castilla y León region, as in the rest of the autonomous regions, there were periodic meetings of the Universities with the General Directorate of Universities of the Ministry of Education of Castilla y León. Both the Ministry of Universities at the national level and the Ministry of Education at the regional level published the recommendation documents that supported face-to-face teaching, indicating the possible adaptations that required interpersonal separation conditioned by the available infrastructures and teacher resources. These measures were the result of debate with representatives of the Autonomous Regions, the Spanish Network of University Quality Agencies (REACU) and the CRUE. The public universities of the Castilla y León region tried to make consensual decisions so that the position of all of them was as strong as possible.

Despite the recommendations indicated, there was no previous experience and the entire process of adaptation was new. Thus flexibility, adaptability and the collaboration of all parties were essential, as was a great deal of resilience to overcome difficulties. The message it was sought to convey was that uncertainty is fought with planning. At the beginning of the 2020-2021 academic year, given the uncertainty of the second and successive waves of the pandemic, two scenarios had to be anticipated: the so-called "New Normal" and the Contingency. The first scenario referred to resuming face-to-face or hybrid teaching, guaranteeing the safety of all parties: teachers, students, researchers, and administration and services personnel. The second scenario established the conditions for tackling remote teaching and evaluation if the health authorities were to decree a new comprehensive lockdown. Both scenarios had to be known to the students before the enrolment period. The information in the teaching guide and the addendum allowed students to enrol by accepting a clause acknowledging the two scenarios, thus making the teaching contract possible. The clause said: "While the health crisis produced by Covid-19 lasts, considering the resolutions, provisions and recommendations of the competent authorities, issued or to be issued to tackle it, including those agreed or to be agreed by the governing bodies of the University of Valladolid (UVa), the teaching of the subjects in which the student has enrolled for the 2020/21 academic year may be taught in the following modes, which will entail full provision by the UVa of the academic service: Face-to-face teaching; bimodal teaching, incorporating significant aspects with virtual teaching; fully virtual teaching"

1.1. Actions implemented

Different tasks were undertaken against the clock to deal with the new academic year. Within the framework of teaching planning:

— The University tackled the elaboration of a *Digitised Map of Safe Teaching Spaces*, which will be covered in a separate contribution.

— Drawing up of schedules that optimise the time of use of the spaces and minimise the flow of people in the entrances, avoiding crowding.

— Adaptation of the teaching guides to prioritise the presence of students over online teaching in each subject, allowing the size of the classroom groups to be reduced with the same assignment of teacher hours.

This implied making coordinated decisions between centres (responsible for the timetables), departments (responsible for assigning teaching and custodians of the realisation of the teaching guides of the subjects) and Degree Committees, responsible for ensuring that deviations did not affect students' results.

The temporary changes to some regulations included:

— Temporary suspension of Progress and Continuity Rules for students of the University of Valladolid by the Social Council.

— Temporary adaptation of the Regulation of Academic Organisation of the University regarding the Compensation procedure and the possibility to defend of end of course projects theses pending external placements.

— Adaptation of the Regulations for the Recognition of Credits for other activities.

— Modification and cancellation of enrolment

— Regarding the Digitisation and Transformation of the University:

  ◆ Implementation of the procedure for processing and defending theses by electronic means.

  ◆ Promotion of the electronic services of the University Library

  ◆ Training in digital skills for the entire University community (Teachers, Administration and Services Personnel, Students).

  ◆ Regarding equipment and infrastructures:

  ◆ Procedure to adapt the working conditions of Staff at Risk and measures to reduce the digital divide in the university community.

  ◆ Promotion of the Virtual Campus of the University of Valladolid to assume purely telematic teaching, hybrid teaching, mirror classrooms or telematic evaluation.

2. REGULATORY FRAMEWORK AND ITS CHARACTERISTICS

2.1. Temporary amendment of some regulations

Above all, the faculties, departments, Degree Committees and teaching staff sought legal protection to carry out all the adaptations that the adaptation of the training programme entailed. Therefore, the University's contingency plan was approved by the Governing Council and applied in each faculty based on their different types of teaching.

The Social Council, based on its sensitivity to the pandemic situation, approved the suspension of the rules of progress and continuity during the 2020-2021 academic year, which establish the minimum and maximum of the credits for which a student must enrol in each year, the minimum number of credits that must be passed annually, the maximum period to pass a degree, among other things.

Regarding the adaptation of the Regulation of Academic Organisation, the defending of end-of-course projects and theses was allowed to take place prior to the completion of the compulsory curricular placements, the academic year was extended to carry out external placements and defend theses and the course compensation in the absence of external placement was permitted. For students in quarantine, the deadlines for ordinary and extraordinary documents was made more flexible so that they could take advantage of both calls for applications.

2.2.   Digitisation and Transformation of the University

The University of Valladolid, aware of the importance of promoting the digital skills of its students, was the first in the region to support obtaining certification in digital skills with the recognition of ECTS credits: 1 credit for the basic level digital skills certification, and 3 credits for the intermediate level digital skills certification. This certification is offered free of charge by the Regional Government of Castilla y León, through the tuCertiCyL programme (www.tu c erticyl.es). The certification of digital skills is an initiative financed with European Regional Development Funds (ERDF), and that complements the free advice and training service in new technologies of the CyL Digital Programme. This certification is in accordance with the European Digital Competence Framework (DigComp), a reference framework that defines the competencies that a citizen must have to handle new technologies at user level today.

VirtUVa reinforced its training courses in digital skills. Instead of offering weekly telematic courses for groups of 40 people, it created a course called "Guide to virtual teaching support tools" which grew dynamically with infographics, recorded webinars and collaborative forums that gave unlimited service to a total of 2,382 participants, training them on: Basic Use of the UVa Virtual Campus, UVa Cloud Tools, Creation and Publication of video knowledge pills, live video-classes with students, Assessment tools,…

Another service that saw its use increase was the University library service. Information providers opened most of their libraries (books, magazines, etc.) to the university community. The electronic resources of the UVa Library allow access to: more than 26,000 electronic books, more than 26,000 electronic journals, 103 databases, more than 32,000 own electronic resources in the UVaDoc Institutional Repository, 21,000 Wiley books. wiley.com, all Elsevier books published in the years 2018 and 2019 through the Science Direct platform, more than 10,000 e-books from Springer link.springer.com, and a complete collection of books from Cambridge University Press cambridge.org.

The needs of the University were analysed based on different axes: infrastructures, qualified technical personnel, equipment teaching and research staff, service staff, students, and training.

3.   EQUIPMENT AND INFRASTRUCTURE ENDOWMENTS

3.1   Digital Gap of the Student Body

The CRUE promoted a nationwide survey to determine the digital gap of the student body of each University during the comprehensive lockdown of April 2020. At the University of Valladolid, of the 19,540 students enrolled, 5,599 participated in the survey.

1. Computer equipment for following non-face-to-face classes	
Desktop PC	1,112 (19.86%)
Laptop PC	4940 (88.23%)
Tablet	1047 (18.70%)
Personal mobile phone	4013 (71.67%)
Wired Internet connection	754 (13.47%)
Wi-Fi Internet connection	4372 (78.09%)
2. Camera and microphone availability	
I have a webcam and microphone on my PC or tablet	4229 (75.53%)
I have a camera and microphone on my mobile phone	3197 (57.10%)
I don't have a webcam	748 (13.36%)
I don't have a microphone	473 (8.45%)
3. Internet connection type	
Optical fibre	3051 (54.49%)
ADSL	1732 (30.93%)
High speed mobile data connection (4G)	472 (8.43%)
Low speed mobile data connection	323 (5.77%)
No connection	21 (0.38%)
4. Internet coverage available	
Internet connection works well in general	2027 (36.20%)
The connection is lost from time to time	2581 (46.10%)
The connection is often lost	991 (17.70%)

The results of this survey justified two actions:

1. The call for loans of computers or data cards made by the Vice-Rector for Students.

2. A decision of the rector by which it was allowed to cancel or modify the enrolment of students if any of the following conditions were met: Not having adequate computer equipment or having poor connectivity to the network and/or not having been able to take advantage of the computer or data card loan plan. Having an employment contract related to COVID-19, which prevented them from continuing their educational activity. Being subject to personal circumstances arising from the COVID-19 pandemic due to illness of the student or an immediate family member. Being enrolled and carrying out an end of course project or thesis requiring experimental activities.

3.2. Personnel at Risk or Teacher in Isolation

A procedure was established for requesting changes in working conditions for teachers at risk. Once the interested party received the report from the University Occupational Risk Prevention Service, they had to inform the Director of the Department, the Director of the faculty and the corresponding Vice-Rectors.

The university was responsible for providing the classroom equipment so that the teacher could give the theoretical classes and set their problems electronically. Laboratories, seminars, and face-to-face assessments by the teacher were kept. The department was responsible for training students for the first few days so that the classroom computer could be connected to the teacher's videoconference and for them to be aware of possible incidents to coordinate actions that would enable teaching to be carried out normally. The department or departmental section had to supply the equipment that the teacher needed to broadcast his or her classes. The equipment in the classrooms was similar to that used for hybrid shift teaching or mirror classroom teaching.

The same procedure was also followed with teachers who were in quarantine pending the results of tests.

The requirement was imposed that teachers at risk or in isolation should respect the timetable approved by the university to ensure that students had compact time slots, made efficient use of time and did not increase the flow of people through the centre. A demand of the teachers was the need to be able to have a double sense of communication with the classroom.

4. CONCLUSIONS

COVID has marked a before and after in all areas. The management adaptations could no doubt have been made differently: the premise was that decisions were made to guarantee the best conditions for the entire university community based on limited resources. Students are to be congratulated for their resilience in coping with learning in far-from-ideal conditions. A mention for the teachers who, committed to the training of their students, have reinvented themselves to be able to teach with methodologies with which they were not familiar. The management teams worked to minimise the impact on teaching and research. The administration and services staff fulfilled the task of keeping the centres and services operational.

Thanks to the commitment of all parties, there was no contagion in the classrooms of the University. Obviously, there has been an increase in digital skills and progress is being made towards more reliable telematic infrastructures.

5. BIBLIOGRAPHY

Governing Council of the University of Valladolid approves in a session of 04/21/2020, the document of adaptation of the UVa to non-face-to-face training in the 2019-2020 academic year.

General Conference on University Policy publishes on 4.4.2020 the Recommendations on general criteria for the adaptation of the Spanish university system to the Covid-19 pandemic, during the 2019-2020 academic year

Governing Council of the University of Valladolid approves in a session of 24.7.2020 Guidelines for teaching in the academic year 2020-21.

The Ministry of Universities publishes on 10.6.2020 and updates on 31.8.2020 the Recommendations of the Ministry of Universities to the university community to adapt the university course 2020-2021 to a hybrid format

Regional Government of Castilla y León www.tucerticyl.es

The management of internationalisation in higher education

Paloma CASTRO

University of Valladolid

Roberto BAELO

Universidad de León

Elena GONZÁLEZ-CASCOS

University of Valladolid

1. Internationalisation in higher education

Higher education plays an essential role in building an open and global society. Through policies that favour internationalisation processes, universities address this challenge with clear and defined actions that allow their development. Internationalisation becomes the instrument that provides universities with opportunities to improve the quality of learning, teaching, research, transfer and innovation activities.

The management of internationalisation requires a reflection on why, for what and how strategies favouring an opening towards the international are approached.

1.1. The concept of internationalisation

In recent years, there has been a growth in universities' interest in internationalisation, which has given rise to various definitions that seek to cover a wide spectrum of dimensions, components, approaches and activities. We adopt the perspective provided by De Wit *et al.* (2015), who define internationalisation as

> "an intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, in order to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society" (p. 29).

Underlying this concept is the relationship between nations, people, cultures, institutions and educational systems. It is conceived as a process of change that aims to respond to the needs and interests of each university. We understand that there is no single internationalisation model and that the best model is one that adapts to the context and circumstances of a university.

1.2. Trends, challenges and perspectives in internationalisation

There are several motivations that drive universities to propose their internationalisation strategy. Knight & de Wit (2018) identify four main motivations: political, economic, social/cultural and academic.

When internationalisation is justified from a political perspective, aspects such as national security, stability, as well as ideological influences derived from internationalisation efforts are considered.

From an economic perspective, the aim is to develop the human and capital resources that a nation needs to be competitive. It also considers that by attracting foreign students the income of an institution will increase and this aspect is considered a priority.

From a social and cultural perspective, particular emphasis is placed on foreign languages and their cultures as a means of communication and diversity is considered a source of wealth.

And finally, from an academic perspective, the objective is to achieve international standards for both teaching and research. Expressing this in a more general way, it is considered that, if a greater internationalisation in teaching, research and service activities is promoted, a higher quality of higher education will be achieved.

While political, cultural and academic motivations are based primarily on cooperation, economic motivation is based more on competition.

Recent studies on internationalisation in higher education (Lungdren, Castro, Woodin, 2020; Knight & de Wit, 2018; Leask, 2015; Hudzik, 2011) advocate the orientation of internationalisation towards training or educational dimensions that contribute to transforming mentalities with a global vision and a commitment to the immediate environment, which implies social, cultural and academic motivations.

In this sense, the internationalisation of the curriculum and internationalisation initiatives at home that seek to offer opportunities to learn in an international environment through the interaction between local and international students is increasingly gaining in strength. To this end, three essential elements are incorporated that add an international dimension to teaching: the promotion of foreign languages as a vehicle of communication and a means of teaching instruction, the use of technologies to promote virtual exchanges through collaborative projects with students from other foreign universities, and the promotion of double degrees to favour international learning environments.

The presence of foreign languages is becoming increasingly important in the internationalisation strategy of universities. Actions are promoted to increase knowledge of languages for the development of multilingual and intercultural competences.

The increase in the use of technologies in the educational field has driven a significant change in internationalisation actions, offering opportunities for virtual exchanges or blended learning.

Likewise, there is a trend towards an increase in double international degrees and internships in international companies. To do this, we will no doubt make progress in the mutual recognition of credits, which has often proven an obstacle to double degrees.

2. CONVERGENCE SPACES IN TRAINING FOR THE MANAGEMENT OF THE INTERNATIONALISATION OF HIGHER EDUCATION

The promotion and optimisation of the management of the internationalisation of higher education is presented within the framework of the European Twinning Project "Support for the Ministry of higher education and Scientific Research of Algeria", whose objective is to offer quality training to contribute to the development of the Algerian economy and to favour the creation of a competitive knowledge space.

In this context, a space for convergence and exchange is created in which the development of knowledge transfer actions is proposed with the following specific objectives:

Provide a vision on higher education's internationalisation policy: concept, trends and challenges.

Show examples of internationalisation management in higher education.

Advise on possible actions for the internationalisation of universities.

Collaborate in joint actions within the framework of the internationalisation of universities.

2.1. Starting contexts

2.1.1. *European context*

The European Commission, through different programmes and proposals, seeks the development of a new university model, more intercultural and global, that contributes to achieving the Sustainable Development Goals proposed by the United Nations. In this regard, it has opted for the development of collaboration and cooperation actions between higher education institutions with the intention of generating an increase in the critical mass and efficiency of the university system and being able to compete, and lead, in training and development at the scientific, humanistic and technological levels in a highly competitive world context.

This European context significantly marks the development of the national policies of the member countries. Spain stands out for its positioning in terms of projects financed by the European Union within the Erasmus+ Programme.

The public university system of Castilla y León, following the guidelines from Europe, has opted for a comprehensive internationalisation model, a proposal that goes beyond traditional student exchange actions or the signing of agreements with other international institutions. The universities that make up the higher education system of Castilla y León have made significant progress in their internationalisation in recent years. Proof of this

are the results that the institutions themselves have achieved in exchange programmes such as Erasmus+KA107, their presence in the main international university networks, as well as their leadership or participation in an increasing number of consortia and actions that promote geostrategic and cross-border collaboration in the fields of research, innovation and cooperation.

In order to promote the institutional development of joint internationalisation actions, which reinforces the good position of the university system of Castilla y León at the international level, an agreement was signed in March 2019 between the four public universities of Castilla y León (Burgos, León, Salamanca and Valladolid) and the Ministry of Education. In the signing of this agreement, collaborative arrangements with higher education institutions in North African countries, the United States and Latin America are indicated as strategic areas.

2.1.2. *Algerian context*

Algeria is, therefore, a preferred partner for Castilla y León in the field of higher education. The existing synergies and the solid work developed through the *Programme d'Appui à la Pédagogie de l'Enseignement Supérieur et la Recherche Scientifique* contribute to this position.

According to the report prepared by the Algerian Ministry of higher education and Scientific Research (2019) for the European project "MERIC-Net-Mediterranean Network of National Information Centres on the Recognition of Qualifications" the internationalisation of higher education is something of great importance to it. Thus, a central element in this policy is the increase in students and academic staff trained abroad, and the attraction of an increasing number of students and academic staff to Algerian higher education institutions, with the aim of having these practices contribute to an increase in the quality of teaching and of the system itself.

In this way, cooperation between both higher education systems will clearly benefit the internationalisation of the university system in both Algeria and Castilla y León. To this end, it is proposed to develop joint actions aimed at facilitating access to the university system of Castilla y León for students and academic and research staff of Algeria, promoting the development of exchange programmes within the framework of the Erasmus+ programme, such as action KA107 and the Capacity Building in higher education, the PRIMA initiative (Partnership on Research and Innovation in the Mediterranean Area) and the "Horizon" research programmes.

2.2.   Results of the action

The actions carried out have resulted in the creation of a space for convergence where two key actions have been identified that can be developed within the framework of the internationalisation strategies of the participating universities.

2.2.1. *Internationalisation of the curriculum and internationalisation at home*

The internationalisation of the curriculum is an emerging concept in internationalisation processes that consists of incorporating global, international and intercultural perspectives in a study programme, both in content and in methodology, with the aim of training citizens of the world (Leask, 2015). The main contribution of this approach is that it allows all students in the study programme to develop global and intercultural competencies that, until now, had only been developed through exchange, affecting a small number of students.

In this sense, the internationalisation of the curriculum contributes to the quality of the academic offer of the universities and becomes an element of the internationalisation process at home. Through internationalisation at home, the institutions promote the development of learning contexts or international experiences to their entire community, without the need for any physical movement of the beneficiaries.

The development of internationalisation at home has played and is playing an essential role within the higher education institutions of Castilla y León, which are playing a leading role in this area and whose experience can contribute substantially and qualitatively to the development of internationalisation policies in other institutions.

2.2.2. *Exchange programmes and cooperation projects*

Given the enormous success and impact of the initial Erasmus+ programme, the European Parliament has tripled the allocation of the programme for the Erasmus+ period 2021-2027, enabling more exchange opportunities for young people, based on the principles of inclusion and equity.

Among the actions of the Erasmus+ programme, we highlight those in which partner countries participate. On the one hand, the Erasmus+KA-107 exchange programme for students, teachers and administrative and service personnel between European universities and universities outside the European higher education Area. On the other hand, the Capacity-Building in higher education programme, which encourages the development of transnational projects. These projects are intended to transfer knowledge that favours the modernisation and internationalisation of higher education systems, as well as facilitating access to them, addressing social challenges, increasing cooperation with the EU and converging towards a European model of higher education, as well as fostering people-to-people contacts, intercultural awareness and understanding.

4. Conclusions

In this chapter we have proposed elements of management of internationalisation in higher education that can be used in the universities participating in the project. They reflect the motivations of our universities to undertake internationalisation processes, in collaboration with universities such as those in Algeria.

Higher education institutions assume the social responsibility of preparing their graduates to live and work as responsible national and global citizens. That is why institutional cooperation is necessary for mutual enrichment and to generate international and intercultural knowledge that is key for the formation of citizens in a world that is increasingly connected at the local, national and global levels.

5.   Bibliographical references

De Wit, H., Hunter, F., Howard, L., Egron-Polak, E. (2015). *Internationalisation of higher education*. Brussels: European Parliament.

Hudzik, J. K. (2011). *Comprehensive Internationalisation: From Concept to Action.* Washington, DC: NAFSA.

Knight, J. & de Wit, H. (2018). Internationalisation of higher education: where have we come from and where are we going? In D. Proctor & L. Rumbley (eds.), *The Future Agenda for Internationalisation in higher education: Next Generation Insights into Research and Practice* (pp. xix-xxiv). London: Routledge.

Leask, B. (2015). *Internationalising the Curriculum*. New York: Routledge.

Lungdren, U., Castro, P., Woodin, J. (2020). *Educational Approaches to Internationalisation through Intercultural Dialogue.*

Reflections on Theory and Practice. New York: Routledge.

Meric-Net. (2019). Système éducatif algérien. Rapport national (p. 25). http://www.meric-net.eu/files/fileusers/National%20Report%20template_MERIC-Net_Algeria.pdf

Ministère de l'Enseignement Supérieur et de la Recherche Scientifique. (2019). *The higher education system in Algeria* (MERIC-Net - Mediterranean Network of National Information Centres on the Recognition of Qualifications, p. 22) [National Report]. Ministère de l'Enseignement Supérieur et de la Recherche Scientifique. http://www.meric-net.eu/files/fileusers/National_Report_template_MERIC-NET_Algeria_English.pdf

Student internships and training in skills for employability at the university of Valladolid

Cristina DE LA ROSA
Patricia PARRADO
University of Valladolid

1. INTRODUCTION

In the design of university degrees, one of the fundamental points, which guarantee their viability, is the employability of graduates. Ensuring insertion in the labour market is a key objective promoted by different organisations, which means that university institutions promote initiatives aimed at achieving it.

In this paper, we will take a tour of the mechanisms designed by the University of Valladolid, through the Office of the Vice Rectorate for Students and Employability, to help students face their passage into working life with an assurance of success

2. THE VICE-RECTORATE FOR STUDENTS AND EMPLOYABILITY

2.1. Mission

Teaching, research and knowledge transfer make up the three missions attributed to universities. It should be taken into account that one of the main routes of knowledge transfer is precisely the insertion of university graduates into the labour market, ensuring that the best use is made of acquired knowledge and skills.

Faced with a changing macroeconomic and work environment, promoting employability is not only the responsibility of the individual, but becomes a commitment shared by educational institutions, companies and governments.

2.2. Priority lines of action

The insertion of university graduates into the labour market constitutes one of the most important challenges of the University of Valladolid, which has among its priority lines of action:

— Promotion of labour insertion, support for entrepreneurship and development of the employability plan.

— Promotion of meeting forums and fairs between entrepreneurs and students, with a specific focus on local businesses.

— Development of the secondary teachers' pool (curricular information) in relation to the students of the corresponding qualifying master's degree, and offered to private centres, aimed at meeting their needs.

— Institutional support for student entrepreneurship in coordination with the Vice-Rector's Office for Research, driving and promoting training workshops, business initiatives, meeting forums for entrepreneurs, etc. Promotion and dissemination of training activities and orientation programmes for students and graduates (UvaOrienta).

— Launch of the "Employment Observatory" that allows the monitoring of graduates and their job trajectories (study periods), with the support of the Studies and Evaluation Office, to specify demand profiles and adjustments to supply.

— Establish close, fluid and permanent collaboration with the employment departments of public institutions, the City Council, the Provincial Council and the Autonomous Region of Castilla y León.

1.3.　Training in employability skills: building bridges between University and Business

In recent years, universities have given increasing importance to actions aimed at improving the employability of students, reflecting their awareness of the changes taking place in the labour market as a result of globalisation and the digitisation of the economy.

Given this scenario, it is clear that training and the adaptation of skills and abilities to the new needs of the labour market are a basic requirement to improve the employability of young people. Not only is the short-term vision of the labour insertion process of university graduates significant, but the term employability is gaining more and more relevance, adopting a broader vision, closely related to learning and the acquisition of the necessary skills to adapt to a changing economic and labour environment.

In general, the various studies on the labour insertion of university graduates indicate a high degree of satisfaction on the part of employers. There is broad agreement that the level of theoretical knowledge acquired by graduates is satisfactory. On the other hand, weaknesses are detected in some transversal competences, such as the ability to make decisions, the ability to analyse and solve problems, the ability to carry out work independently, knowledge of languages and communication skills. These are precisely the skills that employers consider to be the most significant for future employability.

Identifying the skills and abilities requirements of companies and moving towards a better adaptation of the training offered by the university system has to be a priority. The mismatch that exists between the skills and abilities of university graduates and the requirements of companies is even more significant in a scenario of accelerated technological change such as the current one.

In view of this, improving and expanding the forms of collaboration between universities and the business fabric is an unavoidable task.

Carrying out curricular or extracurricular internships is one of the most valued routes taken both by students and by companies and also one of the most widespread forms of university-business collaboration. Carrying out internships in companies can contribute to improving the skills and abilities of graduates, especially transversal skills, where a greater deficit in acquired training has been found, and be a positive signal for a future employer. Likewise, most companies participating in these programmes consider that this substantially improves those skills of students that are significant for the job market.

But, in addition, it is essential to put students in contact with local businesses through events aimed at:

— expanding networking between businesses and students, essential for the search for candidates and seeking employment;

— retaining graduate talent;

— publicising job/internship opportunities in our city;

— knowing first-hand what companies are looking for when selecting candidates for a job;

— improving the "Valladolid" and "UVa" brands as institutions committed to society and employment.

1.4. Actions to improve employability

— The initiatives and actions taken by UVa to improve the employability of its graduates are diverse:

- Measures aimed at the orientation of pre-university students,
- Information and awareness measures on aspects of employability and professional careers,
- Training activities on transversal skills, knowledge and useful abilities for seeking employment and professional development,
- UVa-Business Employability Events
- Labour insertion studies of university graduates
- Carrying out internships (curricular or extracurricular) in companies and institutions,
- Job offer management services (job boards, job fairs),
- Support for entrepreneurship and business creation.

2. THE STUDENT INFORMATION AND INTERNSHIP SERVICE

2.1 Mission

Make university information of interest available to future and current students and postgraduates, through its compilation, organisation and dissemination. Develop actions for the recruitment of students for Bachelor's, Master's and Own Degree courses and in general for the entire educational offering of the University of Valladolid.

Management and processing of all internships in companies and institutions of the University of Valladolid (Campus of Palencia, Soria, Segovia and Valladolid), as well as contributing to the approach to the labour market.

2.2. Specific Competencies of the Service

The organisation and implementation of different information dissemination actions, dissemination of information related to university courses, dissemination of information on the approach of users to administrative units, contacts with information services of other Spanish universities; administrative management of student internships; coordinators with university centres, tutors and coordinators of internships and students in internships; contacts with employment services of other Spanish universities; contacts with multiple companies and institutions for the management of external work placements.

2.3. Action guidelines

2.3.1. *Information: the main functions being:*

— Establish guidelines so that the Service can provide information on the entire educational offer of the University of Valladolid.

— Define and specify actions to act as an information reference centre, providing information to potential undergraduate students, to secondary and high school education and vocational training centres and to parents.

— Execution of different types of actions to channel and provide sufficiently in advance and as widely as possible all information necessary to facilitate access to undergraduate studies at the University. These actions, for whose dissemination we collaborate with the Communication Office of the UVa, include:

- Information days to inform future students about the different UVa degrees, in terms of their skills and career opportunities.
- Open days in university centres, whose actions are the dissemination to and supporting of the UVa centres.
- Sending information, generated by the University and mainly intended for pre-university students.
- Participation, together with the UVa Student Service, in the various "live" Student Fairs and Shows such as UNITOUR.

⬧ Participation in the virtual fair UNIFERIA, together with 55 public universities from all over Spain. Uploading of the entire educational offering of the UVa. Dissemination of the fair to all secondary, high school and vocational training centres and responding to the chat during the days of the fair. Continuous updating of information throughout the year up to the new edition.

— Providing information in an agile and efficient way, to students and graduates of UVa about the administrative units they can contact for the procedures they need to carry out.

— Coordination with the UVa Student Service, whose information feeds the Service in relation to undergraduate studies and access to them.

— Coordination with the Postgraduate and Degrees Service and with the UVa Doctoral School (ESDUVa) in any actions and consultations that may be related to said units.

— Reception and channelling of other types of inquiries or information requirements related to the University, either in person, by telephone or online.

— Participation in the network of University Information and Guidance Services (SIOU) of all Spanish Universities, which brings together technicians from these services that are part of the Spanish Universities CRUE. Participating in its annual "Technical Conference", aimed at carrying out joint projects aimed at attracting pre-university students and also at improving the provision of information services to the educational community.

Participation, as members of the SIOU network, in other meetings and activities, aimed at training in topics of interest to the information and orientation functions of the Service and in the dissemination of the main conclusions and projects of the working group. The projects are carried out throughout the year and are presented in the conclusions of the events, along with new proposals for ongoing work and future actions.

2.3.2. *Internsnips in companies and institutions:*

— Centralised management of all internships for University students, both in Bachelor's and Master's degrees. Internships in Education and the health branch are not included here because they have their own regulations through the Regional Government of Castilla y León, nor are internships of students abroad, which are managed by the International Relations Service through the ERASMUS scholarships.

— Relations with companies and institutions throughout Spain, to facilitate the procedures for signing the collaboration agreement necessary for students to carry out internships and also the various documents of each student's internship.

— Relations with business or external tutors, to provide them with the necessary reports for the evaluation of the students' practices and also for the issue of documents showing that they have supervised internships.

— -Relations with students, to facilitate their internship search and access procedure and their monitoring through to their completion and evaluation.

— Relations with university tutors, to provide them with all the information and support necessary for the evaluation and rating of the internships.

— Relations with the coordinators of internships of each Degree and Master's Course, providing them with all the general information, reports, manuals, etc.

— Use of the SIGMA computer program, for all management related to internships.

— Preparation and subsequent updates of the corresponding Manuals relating to internships, to facilitate the task of the different people involved in them.

— Updating of information on internships on the University website and on the internship portal for companies.

— Informing companies, coordinators and tutors about the internship management procedure. Organising information sessions on the matter.

Information sessions have been held for students and coordinators at the four campuses of the University, together with the International Relations Service and the FUNGE Employment Department, on information on student internships in Spain and abroad regarding the ERASMUS internship and graduate scholarships from FUNGE.

— Participation in the network of Employment Services of Spanish Universities answerable to the CRUE, and more specifically, in its external internship working group.

As well as attendance at technical conferences, courses and execution of the joint projects proposed by said group.

3.   CONCLUSIONS

The implementation of the European Higher Education Area recognises the relevance of universities in their contribution to the employability of their graduates, as well as the mismatches that exist between the training of graduates and the requirements of the business fabric. Likewise, employability has come to be considered a quality indicator for university institutions.

The last few years have been characterised by the growing importance that Spanish universities have been giving to the concept of employability, an orientation consistent with the fact that most of their students hope to obtain training that will equip them for employment and the development of their careers. However, the first thing that should be specified is what knowledge and skills a graduate must achieve to ensure success in terms of employability and, in general, as citizens

At the Vice-Rectorate for Students and Employability, we have the mission of generating reliable and timely information for the design of measures that improve the employability and employment of our students. To do this, our priority objectivesinclude:

Produce information that is homogeneous and comparable between courses and autonomous regions.

Encourage collaboration and the exchange of information between public administrations, employment and education agencies, and institutes and centres that provide information on employability and labour insertion.

Encourage research activity; and support with information the decision-making of future students, current students and university graduates, as well as employers, politicians and university managers with responsibilities in education and employment.

4.   RELEVANT LEGISLATION

1.   Royal Decree 592/2014 of 11 July regulating the academic internships of University students.

2.   Royal Decree 1791/2010 of 30 December approving the University Student Statute.

3.   Regulation on academic internships of the University of Valladolid (approved by the Governing Council, session of 26 June 2012, BOCyL No. 232 of 11 July, amended by the Permanent Commission, session of 5 February 2015, BOCyL No. 29 of 12 February 2015).

Sports service. Physical/sports activity at the university of Valladolid

Antonio José BLÁZQUEZ MARTÍN

University of Valladolid (Spain)

1. INTRODUCTION

Article 90.1 of Organic Law 4/2007 of 12 April on Universities establishes that *the* practice of sports in universities *is part of students' training and* is considered to be of general interest *to all members of the university community*.

Each Spanish university is responsible for *the management, organisation and promotion of sports activities* within its scope.

The University of Valladolid, in accordance with Article 6.2.h) of its Statutes, establishes among its purposes *the promotion of physical activity and healthy physical exercise among the university community*, improving and expanding the facilities and facilitating access to all members of the university community.

Thus, it is the responsibility *of the Sports Service* to promote sports activity in the University Community as an element to improve well-being and quality of life, as well as to offer healthy leisure options that facilitate social relations among its members.

Sport is considered an essential aspect in the comprehensive training of students.

2. THE SPORTS SERVICE

2.1. Historical background

The sporting activity of our University *began in 1940* with lightweight boat races on the River Pisuerga between the various University Faculties and Schools.

It was in 1963 that the *Physical Education Service of the University,* responsible for teaching this subject, began its journey in team sports competitions and sports courses for its students.

Thus the 1968-69 season saw the start of the *University of Valladolid Rector's Trophy,* the University's top competition, and in 1970 the *Spanish Federation of University Sports (FEDU)* was created, with the mission of organising sport through staggered competitions.

In 1977 Physical Education was removed as a compulsory subject at the University by Royal Decree 7346/1977, but it remained as an optional one. From this moment on, it was decided to create the *Sports Commission of the Faculties*, which coexists with the Physical Education Service, so it seemed appropriate to draft a Regulation to *merge* both bodies. On 5 June 1978, it was approved by the Governing Board, *thus creating the Sports Service as we know it today.*

In 1998 the current Regulations of the Sports Service were approved, and in 2018 the Sports Service was subjected to an external evaluation process following the EFQM model of excellence, in which a diagnosis was established of the current situation and this started a process of adaptation and improvement which is still ongoing.

2.2. Mission of the University of Valladolid Sports Service

The Sports Service's fundamental mission is to *"lead the physical-sports practice within the University of Valladolid, generating healthy lifestyle habits and opportunities for the integral development of people, improving their well-being, their quality of life, their leisure options and their social relationships, through management based on excellence and the creation of strategic alliances with the social agents in its environment".*

The Sports Service is intended to be *the benchmark* for everything related to physical and sports activity at the University.

As a Public Administration, the University orients its current policy towards the fight against *pathologies related to the sedentary lifestyle* of the population as a whole, seeking to *generate healthy lifestyle habits,* and as a consequence of the above, the University of Valladolid joined the *Spanish Network of Healthy Universities (REUS)* on 14 December 2016, on approval by its Governing Council.

2.3. Vision and Values

The Sports Service seeks in its management *"to be innovative and inclusive, a benchmark for the University Community and the rest of society, directing its management towards meeting the needs of its users, continuous improvement and the promotion of healthy physical activity, with quality facilities and equipment and with a team of qualified professionals, guarantors of good practices and excellence in management".*

Among the values on which its operation is based, we can highlight:

— Creativity, innovation and modernity.
— Customer focus, quality and professional management.
— Human team and suitable work environment.
— Feeling of belonging, shared goals, co-responsibility in decision-making.
— Social commitment to gender equality, diversity, the environment and social openness of the university.
— Fulfilment of the objectives optimising the resources and meeting the social demand.
— Corporate social responsibility.

2.4. Organic Structure

The Sports Service of the University of Valladolid is present in all the campuses of the university district, and answers to the Vice-Rector's Office competent in sports matters, in this case the Vice-Rector's Office for Students. It is organised as follows:

a. *The director:* He is responsible for directing, coordinating, supervising and evaluating the operation of the Sports Service. He is appointed by the Rector and is responsible for informing the Vice-Rector of everything related to the planning and programming of university sports.

In collaboration with the University Management, he organises the staff under his charge. He is responsible for authorising expenses charged to the different budget items, applying the best management of available resources.

He designates the technical staff who will be in charge of the different areas of operation.

b. *Head of the competition area:* At its head will be a sports technician on the staff of the University of Valladolid. He is in charge of designing, organising, planning, controlling, supervising and evaluating university sports competitions. His mission is to carry out the necessary procedures, inform the participants and coordinate the development of the different sports competitions.

c. *Head of the federated sports area:* The University of Valladolid has a Sports Club, which includes the federated teams of the University that participate in official competitions at the national level in different categories. We currently have the following sports disciplines: a badminton team, men's and women's basketball, handball, football, men's and women's indoor football, men's and women's volleyball and paddle tennis.

d. *Head of the sports facilities area:* In charge of planning the use of the University's sports facilities so that maximum performance is obtained from these. Responsible for ensuring that the facilities are equipped with the sports equipment necessary for the proper functioning of the facilities.

e. *Head of the activities and events area:* The Sports Service has a wide range of directed activities and sporting events to meet the needs and interests of the University community. Leisure and health activities, in the natural environment, aquatic, martial arts, body-building, agreements with sports centres, and specific sporting events such as ski courses, popular races, and other tournaments. They are headed up by a sports technician belonging to the staff of the University of Valladolid. This person must prepare an annual report of all activities to guide the sports policy of the university.

f. *Sports council:* In order to establish a communication channel between the Sports Service and the University Community, the Sports Council is created, made up of the Vice-Rector with responsibilities in University Sports, the Director of the Sports Service,

and a representation of the different strata that make up the University, staff, professors, students and the Social Council. The Sports Council is in charge of proposing the criteria of the university sports policy. It must advise the Sports Service on the issues that arise.

3.   GOOD PRACTICES

3.1.   What are good Practices?

García-Marzá (2005) defines them as: "set of principles, values, behaviours and habits, as well as organisational processes and structures that allow the proposed social end or good to be achieved" (p.17).

Good practices in an organisation lead to quality management and the search for excellence, through a continuous evaluation of all the processes involved, which will favour decision-making in the future.

3.2.   Sports Service of the UVa

From a sports point of view, the *fundamental objective* of the University is the promotion of healthy and educational physical-sports activities among its university community.

The Sports Service puts *the user at the epicentre of its management*, seeking to meet the needs and interests of its stakeholders, seeking their personal enhancement through its different sports programmes, all of which is closely linked to the comprehensive training of its students.

The programmes developed by the Sports Service focus on three main axes:

— *Physical activity and exercise courses for the University Community*: The design of the activities offered varies each academic year due to the demands of the University Community but normally the offer includes activities of musical and rhythmic support, high, medium or low intensity physical conditioning, water activities, sports learning, corrective exercise and mind-body activities as well as activities in nature.

— *Competitions*: the competitive programme of the Sports Service is aimed mainly at students with the aim of developing the values that permeate university competition reflected in the University Student Statute (Royal Decree 1791/2010, of 30 December), in Article 62.3 *"Values such as the spirit of healthy competition and fair play, respect for your opponent, integration and commitment to group work and solidarity, as well as respect for the rules of the game and those who apply them"*

The competition axis is developed through different formats: from participation through the sports club of the University of Valladolid in federated leagues in the more institutionalised competition, such as the participation of University of Valladolid students in the Spanish University Championships organised by the Sports Council, as well as in the Universities of Castilla y León Rector's Trophy.

— *Sports and cultural events of interest to society*: the Sports Service organises, in the different cities where the University Campuses are located, sporting events with high social impact with the aim of favouring the integration of the University in the cities where it is located.

Another feature of the Sports Service is the speed of its response to contingencies, especially of the programme developed during the Academic year 20-21, which was adapted to the limitations and risks of sports practice during the COVID-19 epidemic. This innovative programme combined physical activity and exercise programmes with virtual activity, adapting daily to the country's health situation.

The Sports Service is characterised by the *transparency of its management* through periodic communication and the necessary advertising of its sports offer and the economic control of its budget, all within the ethical code established by the University itself.

4. Conclusions

The University of Valladolid considers physical activity a fundamental part of its aims, and promotes sports practice within the university community as *a strategic line of the current Rector's management team.*

It places leadership in the hands of the Sports Service, with the purpose of generating permanent healthy lifestyle habits, and fighting the increase in the sedentary lifestyle that characterises modern societies.

To ensure high standards of excellence in management, the Sports Service submits all its processes and agents to *continuous evaluation*, and has a team of *qualified professionals with a high degree of involvement and motivation*, focusing its *policies on meeting its users' requirements.*

The *continuous training* of its members allows the organisation to keep up to date with all matters relating to sports and *the working environment* in the Service allows collaborative work to be done through innovative and modern joint projects.

5. References

Organic Law 4/2007 of 12 April amending Organic Law 6/2001 of 21 December on Universities.

Agreement 111/2020 of 30 December of the Regional Government of Castilla y León approving the Statutes of the University of Valladolid

Regulation of the sports service (Approved by the Permanent Commission of the Governing Board on 6 May 1998)

García-Marzá, D. (2005). Trust and dialogue: Theoretical Approaches to Ethics Auditing. Journal of Business Ethics. 57, 209-219.

Management of the support service for persons with disabilities at the university of Valladolid

Rafael DE LA PUENTE LLORENTE

University of Valladolid (Spain)

Social Affairs Secretariat

The University of Valladolid (UVa) has a *support plan for people with disabilities* in its university district (Palencia, Segovia, Soria and Valladolid campuses). The main axes, measures and actions of this plan, based on the principle of equal opportunities, are described below.

1. TOWARDS AN INCLUSIVE EDUCATION IN UNIVERSITY STUDIES

The *Convention on the Rights of Persons with Disabilities* (CRPD, 2006) establishes in its article 24 that "*States shall ensure an* inclusive education system *at all levels for persons with disabilities*", as a *fundamental right* that requires guaranteeing a quality education system *shared by students with and without disabilities*. And in this same sense, *Article 24.5 of* the CRPD provides that *States have the duty to* ensure that persons with disabilities are able to access general tertiary education, *vocational training, adult education and lifelong learning without discrimination and on an equal basis with others*, ensuring that reasonable accommodation of the individual's requirements is provided. Regarding the establishment of an adequate *university reception plan*, the need for this is supported by *empirical* studies that confirm the existence of *critical moments in the course of the first year of university*, with the interaction of personal and institutional factors (Figuera and Torrado, 2013: p.37). In the case of students with disabilities, there is still work to be done in improving curricular dynamics (Figuera *et al.*, 2010: p. 135).

University legislation includes the precepts of the Convention. Thus, *Organic Law 4/2007 of 12 April amending Organic Law 6/2001 of 21 December on Universities* (LOM-LOU) lays the foundations for support for people with disabilities in accessing and carrying out university courses. In this same regard, the Statutes of the University of Valladolid approved by *Agreement 111/2020 of 30 December of the Regional Government of Castilla y León*, include among the rights of students the following of their courses without discrimination and in equal conditions when there is a disability, with the necessary

accommodation of the individual's requirements, particularly in tests and examinations, without prejudice to the academic requirements (Article 181. g).

Similarly, the UVa is committed to promoting the labour integration of people with physical, mental or sensory disabilities. For these purposes, "it *may establish quotas for different disabilities in job reservations that are made in accordance with current legislation and taking into account the functions attributed to the different positions. It will also adopt the necessary measures both in the adaptation of times and means in the selection processes and in the adaptation of the job position to the specificities*" (*UVa Statutes, Article 194. 6 Selective systems*). *Likewise, the UVa will adopt the positive action measures necessary to guarantee equal opportunities for members of the university community with disabilities, which prevent any form of discrimination* (*Seventh Additio*nal Provision of the UVa Statutes on *Inclusion of people with disabilities*). The *Academic Regulation* itself, in Article 39, established that "*evaluation tests must be adapted to the needs of students with disabilities, with the centres and Departments proceeding to make the necessary methodological, temporal and spatial adaptations under the supervision of the service or Unit of the University of Valladolid responsible for support for students with disabilities*". (Regulations of the UVa, Article 39. Students with disabilities).

Therefore, the University of Valladolid, within the scope of its competence and within the framework of current legislation, promotes mandatory measures to support its students and workers with disabilities. And this is achieved, to a large extent thanks to the approval of its *Support Plan for People with Disabilities* with measures related to the academic and daily situations experienced by university students with disabilities[1]. This Support Plan is established with a transversal approach that offers a service coordinated between the different university services. Although the actions are promoted by the Rector's Delegation for University Social Responsibility, their integral consideration affects all the Vice-Rectors of the University of Valladolid with involvement and competencies in areas that affect the academic and daily lives of people with disabilities.

2   GOOD PRACTICES IN SUPPORTING PEOPLE WITH DISABILITIES AT THE UVA. MEASURES AND ACTION PROTOCOL

The Secretariat for Social Affairs of the Rector's Delegation for University Social Responsibility promotes support and participation actions and has been providing support services to university students with disabilities since 1997, being the first to go into operation in Castilla y León. The UVa is thus a benchmark for structuring measures to favour the inclusion of people with disabilities in higher education, both in access to and

---

[1]   Resolution of 8 July 2013, of the Rectorate of the University of Valladolid, which assented to the publication of the Regulation for the development of a Support Plan for People with Disabilities, approved by the Governing Council of the Uva in its session of 28 June 2013 (BOCyL No. 137 of 18 July 2013).

the carrying out of university courses, based on the principle of equal opportunities, and for the scientific production related to the improvement in their quality of life.

Last academic year 2019/2020, more than 200 university students with disabilities enrolled at UVa. The Secretariat for Social Affairs, in coordination with other university services, addresses requests from students with disabilities and reports on existing resources and services in terms of accessibility, guidance and scholarships, academic adaptations, paid internships, support products, training courses, volunteering, and other resources of university life that must be accessible to everyone. In addition, requests for academic support from students with specific accredited educational needs related to disabilities are also addressed (e.g., attention, learning, language and communication disorders, ASD, etc.), which increases the figure to more than 240 people enrolled and eligible to receive support. The main actions included in the Support Plan aimed at students with disabilities at the University of Valladolid are described below.

2. 1. Access to the University

The Access Tests section of the UVa processes requests for adaptation of the university entrance tests for those students who, at the time they enrol, duly justify any special educational or other duly justified needs related to disability which prevent them from carrying out such tests in the ordinary way. Applications are evaluated by the Organising Committee and the Sixth-form University Access Tribunal (EBAU)2. The Secretariat for Social Affairs monitors students with disabilities during the tests, making its reports and the technical means it provides in adapting the tests available to the Committee and the Tribunal. Therefore, the student admission procedures will contain the necessary measures to adapt them to the special needs of people with disabilities.

2.2. Admission and places in academic centres

Currently, the University of Valladolid reserves 5% of its places for students who have a recognised degree of disability equal to or greater than 33%, as well as for those students with permanent special educational needs associated with disability who during their previous schooling have required resources and support in order to receive a normal education[3]. The disability must be accredited by the competent body of the corresponding

---

[2]   Following the channels dictated in the Resolution of 8 April 2014 of the Rectorate of the University of Valladolid approving publication of the procedure for requesting adaptations in the entrance examinations to official university degree courses in the Public Universities of Castilla y León for Baccalaureate students or students in Higher Level Training Cycles who have special educational needs or other duly justified needs.

[3]   In accordance with Royal Decree 412/2014 of 6 June establishing the basic regulations for admission procedures to official university degree courses (BOE No. 138, of 7 June 2014), Article 26. Places reserved for students with disabilities.

Autonomous Region. The Student and Academic Management Service manages the admission of students with disabilities who fill the reserved places and the Secretariat for Social Affairs adapts the information on pre-registration, access and university enrolment in the most appropriate way, according to the special needs in each case.

2. 3. Academic enrolment

Each academic year a regional decree sets the prices for the provision of university academic services, and regulates their collection. According to this legal precept, students who have a recognised degree of disability equal to or greater than 33% are exempt from paying the prices for academic services at the universities of Castilla y León.

2.4. Accessibility in buildings and on the Web

The Technical Architecture UNIT of the UVa develops the accessibility measures that it applies to university buildings in compliance with current regulations. The Secretariat for Social Affairs collaborates with procedures and direct requests to said Unit, incorporating the suggestions and contributions of students with disabilities. Also, in accordance with Royal Decree 1112/2018 on accessibility of websites and applications for mobile devices in the public sector, the UVa has the Unit Responsible for Digital Accessibility which includes members of the Secretariat.

2.5. Onboarding and reception at the University

The Secretariat for Social Affairs plans and coordinates the necessary resources to provide comprehensive support to students with disabilities, who have educational needs or any other needs associated with their personal and social circumstances. Throughout the academic year, the support service receives support requests through the UVa electronic office. Based on the request, the required support is set up in order to ensure their autonomy in their university studies. The main requests received are for: academic adaptation in courses (mainly in terms of methodology and examinations) that has been previously justified[4]; support in the processing of university documents; adaptation and accessibility of classroom space and materials; support products in the classroom to improve their reception of information and academic development (e.g. FM stations, magnifying glasses, computers with specific software, tape recorder, etc.); support in the development of curricular and extracurricular practices; support in accessing university cultural activities.

---

[4] Requests for the adaptation of examinations must be justified by means of optional or guidance reports issued by the professionals of the competent entities or bodies in this matter, with the pertinent, sufficiently detailed instructions for the required adaptation.

The university Social Affairs service, with the informed consent of the student it supports, informs teachers, colleagues and staff about the situation of each student with disability and the adaptations that can facilitate the integration of the student in the classroom. Apart from this, the support of colleagues, teachers and staff is considered essential, due to the social benefits it brings, both for the student with disability and for those who provide it. The main tasks they perform consist of

In addition to these general measures, linked to the student body, the UVa's Support Plan for People with a Disability establishes the following axes to be developed: 1. Universal accessibility, 2. Support to members of the university community with a disability, 3. Support to students, 4. Labour integration and 5. Awareness and training, with their corresponding objectives, measures and actions.

3. FINAL CONSIDERATIONS

Each person with a disability has different circumstances and lives in a specific environment with which he or she relates. Based on this fact, the potential response in the educational environment must include the capability assessment, the reasonable accommodation of the student's requirements and the accessibility of the academic context. To this end, the need to create accessible environments and develop teaching materials adapted to the educational needs of students and to adapt the work station of its staff arises. The UVa provides personalised support to its members with disabilities and special educational needs duly accredited by means of a Regulation and Support Plan that was approved by its Governing Council with transversal measures.

4. REFERENCES

United Nations Convention on the Rights of Persons with Disabilities (CRPD, Journal of the United Nations, 13 December 2006).

FIGUERA, P., (DIR.), COIDURA, J., FREIXA, M., Isús, S., RODRÍGUEZ, M.L. and TORRADO, M. (2010). La transición a la universidad de las personas con discapacidad. Madrid: General Directorate of Universities. Studies and Analysis Programme 2009.

FIGUERA, P and TORRADO, M. (2013). El contexto académico como factor diferenciador en la transición a la universidad. Contrapontos Magazine, 13 (1), 33-41.

VARIOUS AUTHORS (2018): *Guide to accommodation of requirements in universities*. Network of Support Services for People with Disabilities at the University (SAPDU Network). Grupo de Adaptaciones. Fundación ONCE and CRUE Universidades.

— (2019). X Annual Meeting of the Network of Support Services for People with Disabilities at University (SAPDU). University of Valladolid. Communications on: http://eventos.uva.es/go/xsapdu

Adaptation of the university of valladolid higher technical school of architecture to safe classroom teaching in a Covid-19 world

Darío ÁLVAREZ ÁLVAREZ
Gemma RAMÓN CUETO[1]
University of Valladolid

1. Introduction

At the end of the 2019-2020 academic year, in the face of the global COVID-19 pandemic, the University of Valladolid (UVa) made the decision to provide safe face-to-face teaching in the following academic year. On 6 July the Governing Council of the UVa approved the *Teaching Methodology Document for the 2020-2021 academic year*, in line with the document agreed by the four Public Universities of Castilla y León and the Ministry of Education *General Criteria for the Adaptation of Teaching during the 2020-2021 Academic Year to Health Requirements* (22 June 2020)[2] and *Preparation of the 2020-2021 academic year* (24 July).

One of the priority issues was the definition of criteria for occupancy in teaching spaces, to achieve safe face-to-face teaching, complying with the measures that the health authorities, both national and regional, had laid down to combat COVID-19. To this end, a Commission was set up, chaired by the Vice-Rector for Infrastructures, with representatives of all the Faculties and Schools and the advice of the Technical Architecture Unit, to create what was called the Digitised Map of Safe Spaces of the University of Valladolid, a totally pioneering action in Spain on this issue. From the first moment, the Higher Technical School of Architecture was considered as a pilot centre, taking the first steps and generating occupancy and circulation systems, which would be extended to the rest of the centres, for which it would serve as a model.

The first measure consisted of formulating two occupation parameters in the teaching spaces: on the one hand, the safety distance of 1.50 m. of separation between the

---

[1]   Director and Academic Secretary of the Higher Technical School of Architecture.

[2]   In response to "*Recommendations of the Ministry of Universities to the University Community to adapt courses in the 2020-2021 academic year to an "adapted face-to-face" or hybrid mode*" of 10 June 2020.

students, and, on the other hand, the maximum occupancy of 3 m² per person over the entire surface of the space. The second consisted of organising a system of safe itineraries, both in the entrances and exits of the buildings and in the interior routes, as well as in the entrance and exit of the teaching spaces themselves. Finally, the Higher Technical School of Architecture began an exhaustive work in relation to the ventilation conditions in the classrooms. All this, its procedures and its results are detailed in this paper.

2.   THE BUILDINGS OF THE HIGHER TECHNICAL SCHOOL OF ARCHITECTURE

The Higher Technical School of Architecture (ETSAVA) is located outside the various campuses that the university has in the city of Valladolid, forming part of the urban nucleus of the Huerta del Rey neighbourhood. It has two independent buildings: the main building of the ETSAVA itself, and a classroom in a building shared with an Integrated centre of the Valladolid City Council.

The main building is made up, in turn, of two buildings built on different dates and joined by the main nucleus of stairs when the second of them was built: the Departmental Building (1979) and the Academic Building (1990). The academic building has two floors and a basement. It is accessed from the outdoor car park, through two direct entrances to the ground floor and the basement, and which give direct access to the stair core that is used to communicate between the two buildings. It has two other stair cores for circulations between the two floors of classrooms, 12 in total, which are located on the ground floor and the first floor. On the second floor there is the library and in the basement the assembly hall and the laboratories. The departmental building has two entrances to the ground floor from the main entrance and two stair cores at the ends of it. On its four floors are the administrative units and the Research Departments and Groups. The basement houses the spaces for student teamwork, a model workshop, and stationery and a vending area with tables and direct access to the outside.

The ETSAVA classrooms are accessed independently from a side street. They are on two floors, ground and first, connected by two staircases, and most of the workshop teaching takes place here through 17 classrooms and 2 study rooms.

3.   TEACHING AT ETSAVA: NEED FOR SPACES

The ETSAVA mainly teaches the Bachelor's Degree in Fundamentals of Architecture (GFA) (300 ECTS | 5 courses) and the Master's Degree in Architecture (MA | 60 ECTS | 1 course) which entitles holders to exercise the profession of architect. In each GFA course, teaching is in theory groups, two groups per course, and a workshop with an average of four groups per course. The teaching of the MA is carried out through teamwork with groups of 5 students. This leads to the need for a minimum of 10 theory classrooms, 20 workshop classrooms and 2 or 3 classrooms for teamwork.

The academic building is where the theoretical part of most of the subjects is taught. This building has 8 classrooms which still have tables with seats fixed to the ground installed at the time of its construction when teaching was carried out with large groups of 130-90 students, and that, therefore, have not been adapted to the small groups of students of the current courses. It also has 2 mixed-use classrooms, in which there are two-seat theory tables (120x50 cm) and individual drawing tables (120x80 cm), and 2 classrooms with large 4-5-seat teamwork tables for the teaching of the students of the Master's in Architecture. All classrooms have a computer and projector or digital screen, and Wi-Fi network.

The natural ventilation of the classrooms is by means of swinging windows with a lower horizontal axis, which allow very limited opening and on only one façade, which makes it difficult to renew the air. The air conditioning of the classrooms is carried out centrally by means of a *fan coil with recirculation* and supply of outside air, and that of the circulation spaces by means of radiators. In measurements carried out in February 2020 by the ETSAVA Recognised Ventilation Research Group, it was verified that CO_2 accumulations occur above the recommended values for their use in all classrooms.

The classrooms are where the teaching of the practical or workshop part of most of the subjects takes place. There are 17 classrooms, the majority with individual drawing tables (120x80 cm), and some two-seat theory tables (120x50 cm) for students to use their own computers. There are also two 24-hour study rooms. All teaching classrooms have a computer and a projector or digital screen, and Wi-Fi. The natural ventilation of the classrooms is carried out by means of large vertical-axis swing windows, which allow the opening of their entire surface and, in many cases, are located on several façades, which facilitates cross ventilation and air renewal. The air conditioning of the classrooms is carried out centrally by means of *radiators*.

4.   Measures taken by etsava in relation to the organisation of teaching spaces

It must be remembered that no measure by itself is 100% effective, so the various strategies had to be combined to reduce the risk of infection. Since it was essential to maintain an interpersonal distance of 1.50 metres in all spaces and enclosures, the initial capacity of the classrooms was reduced, leaving only the positions that resulted from applying this distance between the students. To this end, all the fixed desks in the theoretical classrooms were dismantled and replaced by free-standing tables occupied by a single student and the rest of the classrooms were reorganised respecting that distance. In this way, each classroom, both theoretical and practical or workshop, has a specific arrangement with tables for individual use that gives a maximum occupancy capacity, indicated in a visible place at the entrance of each classroom, and that cannot be exceeded in any case. The reduction in occupancy was very significant. As an example, the classrooms with capacity for 130 students reduced their capacity to 39 students meeting the safety distance, as can be seen in the

As a security supplement, to ensure tracking if necessary, QR codes were placed in all positions and these are scanned by both teachers and students, every time they occupy a table. The safe organisation of all teaching spaces, the possibility of tracking, as well as the use of hydro-alcoholic gels in all accesses to buildings and classrooms and use of masks throughout the ETSAVA, allows 100% face-to-face teaching, both theoretical and practical, of the Bachelor's and Master's degrees at ETSAVA.

Figure 1. Initial state of a theory classroom with 130 joined seats and final state with 38 seats at separate tables
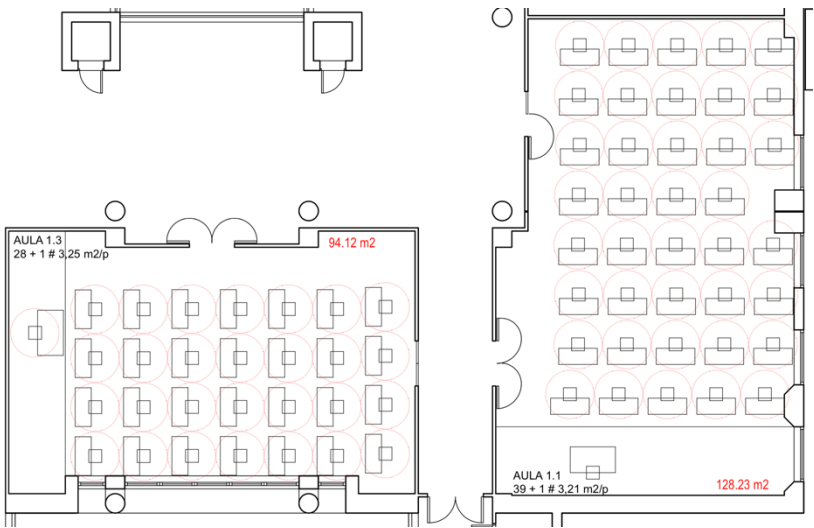
Figure 2. Floor with two classrooms with the distribution of the positions complying with the safety distance of 1.50 m.

AULA 13	CLASSROOM 13
AULA 1.1	CLASSROOM 1.1

Figure 3. ETSAVA main building. Plans of safe routes and itineraries.

Aula	Classroom
Planta baja	Ground floor
Leyenda señalización de recorridos y señalizaión Covid 19	Covid-19 route signalling and signalling legend

Apart from this, the circulation path, both horizontal and vertical, was organised and marked, perfectly differentiated, maintaining interpersonal distance at all times. Entry and exit points, waiting areas, corridor itineraries and stairs up and down are signposted, organising the flow of movements in the safest way possible. Cleaning measures for all spaces have also been reinforced. All this has been collected in a set of plans and instructions that are available to the entire centre for their knowledge and compliance on the ETSAVA website.

With the reorganisation of the classrooms, the distance from the students to the teacher and to the projection screens increased and it became necessary to install public address equipment and podiums in classrooms that did not have them, as well as to replace and update computer equipment for greater visibility. With the aim of ensuring that students can show all their classmates and the teacher the graphic work they are developing in the workshops, while maintaining the safety distance or the need to share material, projectors have been installed that allow the connection of all the students to the Wi-Fi network through the telephone or the computer.

It should be noted that, although the teaching at ETSAVA is 100% face-to-face, the classrooms have been equipped with webcams in anticipation of preventive lockdown of both teachers and students. In this way, it has been possible to deliver or follow the teaching without the need for changes to times due to specific confinements that would imply interference between the subjects.

5.   MEASURES TAKEN BY THE ETSAVA IN RELATION TO BIOAEROSOLS

On 21 July 2020, the UVa Occupational Risk Prevention Service added to the already widely extended measures (mask, hand cleaning, social distancing and ventilation) the "*Ventilation and air conditioning instructions for the prevention of the spread of Covid*", specifying the instructions for the ventilation of the spaces of each of the centres in which, always making preventive measures prevail over energy saving, the natural ventilation of all the spaces was imposed through the frequent opening of the windows, at least twice a day and for at least ten minutes after the use of the classrooms, as indicated in previous documents. This is the case of all the classrooms, though not the ETSAVA academic building, for which, since it has an air conditioning system that recirculates the air, it was instructed that "*windows must be kept open throughout the time the system is on*". In February 2021, the recommendation to carry out CO_2 measurements was included to verify the need for ventilation in the classrooms.

With the given indications, seeking greater natural ventilation in the classrooms of the academic building, the opening axis of the windows was modified to the vertical axis and the external air supply was regulated to 50% in the air conditioning equipment, and to favour cross ventilation windows located just below the ceiling that communicate with the circulation spaces were opened. To reinforce natural ventilation, air purifiers with HEPA 14 filters, model RENTAIR L 600 from Casals, have been installed. These measures have significantly improved CO_2 concentrations relative to the initial measurements. During the second semester, the installation of CO_2 meters associated with a warning light is planned, to indicate when CO_2 levels are reached that make it necessary to open the windows. This measure will be permanent given the levels reached, which, although not harmful to health, have been shown to cause poor indoor air quality, among other things, headaches, fatigue and reduced learning performance.

At this point, it should be noted that ETSAVA's Recognised Ventilation Research Group, based on several previous tests carried out, voiced its concern from the beginning of the pandemic about the possible transmission by bioaerosols in the classrooms of the academic building, for which it proposed carry out a detailed study, in parallel with the measures that were being implemented for the beginning of the classes, and that allowed the taking of complementary measures or adjustment of those already taken.

Trials conducted in the ETSAVA academic building

The *previous* test campaign, prior to lockdown, was carried out to analyse the air quality of the classrooms of the academic building as they had the highest occupancy and initially poor ventilation conditions. It was carried out in *February* 2020 in typical winter conditions, windows and doors closed, and the centralised air conditioning system operating under normal conditions, that is, with a minimum supply of outside air to achieve comfort conditions in less time as an energy saving measure. Two groups of students (1st and 5th year) were accompanied for a week through the different classrooms, taking measurements of temperature, relative humidity and ppm of CO_2, in order to establish the exposure to pollutants present in the classrooms. In the data obtained, it is observed that for most of the time students are exposed to values above IDA2, or good air quality, set by the RITE (Regulation on Thermal Installations in Buildings) for teaching classrooms which, among other parameters, establishes 500 ppm as the maximum concentration of CO_2 above the concentration in the outside air, obtaining an average of more than *900 ppm* (corrected value with respect to the outside), reaching in most cases 500 ppm before *30 minutes* from the start of class.

Subsequently, tests were carried out *with smoke and the classroom empty*, in *September* in summer conditions and in *November* 2020, with the air conditioning system operating in winter conditions (in an emergency situation, the external air intake was increased to 50%. which favours natural ventilation but makes the air intake temperature drop to an average of 25.8.ºC), in order to check the traceability of the aerosols contained in the smoke and to assess the air renewal capacity of the classroom through natural ventilation in relation to different door and window opening configurations. Once the homogeneous distribution of the aerosols that make up the smoke has been achieved, generally around 30 minutes after the start of the test, an average of *30 minutes* is obtained in summer conditions, and *16 minutes* in winter conditions, to achieve the renewal of the air of the classrooms tested.

Finally, in *December* 2020, once all the measures initially planned had been implemented, and the Casals RENTAIR S600 AC purifiers with HEPA14 filters were installed, the last tests were carried out. It was decided that, given the noise they emit, for the normal development of the classes the purifiers would work at 40%, which means a constant flow of 260 m3/h, from 9:00-14:00 h and from 16:00- 19:00, and at 100% for the remaining hours of the day. In these winter conditions, an average of *8 minutes* was reached to achieve the renewal of the air in the classrooms, concluding that the combination of natural ventilation, air conditioning with the supply of outside air and purifiers is the best option, being able to close the windows in very low outdoor temperature conditions. It should be noted that the lowest temperatures occur at the beginning of the day when the classrooms begin to be used and the purifiers have been working at 100% since the previous day, so it is not necessary to open windows. Once the homogeneous distribution of the aerosols that make up the smoke has been achieved, generally around 11 minutes after the start of the test.

Trial/ month 2020	Air quality			Aerosols: homogeneous (smoke)	Renewal: natural vent. (smoke)	Renewal: natural vent, +HEPA14 (40%) (smoke)	I	V
	CO_2 (ppm)	.°C	HR (%)	minutes	minutes	minutes		
February	>900	23	40.8				x	
Sept.				27	30			x
Oct.							x	
Nov.		25	40	40	16	x	x	x
Dec.				11		8	x	

Table 1. Trials conducted in the ETSAVA academic building in 2020.

The maximum occupancy of the classrooms was also studied, obtaining an average of 3.2 of necessary renewals every hour, in principle exclusively through inputs of outside air. Once the classes started and in winter conditions, between *October* and, once the purifiers started operating, *November*, several tests of CO2 measurements were carried out, using it as a test gas, to verify the *air renewal* capacity established in the RITE, once the purifiers have been incorporated and in order to reduce the time windows are open when temperatures are lower.

Recommendations after trials in the Academic Building

The latest tests and studies carried out conclude that the opening of windows is still necessary with the consequent drop in temperatures in the classroom, even with the current reduction in capacity, if the classrooms are 100% occupied. This circumstance does not occur frequently during the course since the total number of enrolled students do not usually attend class, although they very frequently do for the assessment tests at the end of each semester in January and June. In the case of the month of January, several measures could be structured to avoid having to open doors and windows: the reduction of capacity by an average of 43%, with the current operating configuration of the purifiers at 40%, or by 23% increasing to 55% (325.5 m3/h), or increasing the number of purifiers by 60% with the consequent necessary investment. The forthcoming installation of warning lights for CO_2 monitoring will indicate when the windows should be opened.

6. THANKS

beginning of the pandemic. Thanks to their collaboration and dedication, many of the measures adopted during this 2020-21 academic year have been implemented. Thanks also to the School community, students, Teaching and Research Staff and Auxiliary and Service Staff for their collaboration in monitoring all the measures implemented.

7. BIBLIOGRAPHY

MILTON. "A Rosetta Stone for Understanding Infectious Drops and Aerosols" Journal of the Paediatric Infectious Diseases Society; available in: https://pubmed.ncbi.nlm.nih.gov/32706376/

MINISTRY OF HEALTH. "Risk assessment of COVID transmission by aerosols. Prevention measures and recommendations". Technical document, 18 November 2020 https://www.mscbs.gob.es/profesionales/saludPublica/ccayes/alertasActual/nCov/documentos/COVID19_Aerosoles.pdf

MORAWSKA L. "Droplet fate in indoor environments, or can we prevent the spread of infection" Indoor Air 16 (5). June 2006. DOI: https://doi.org/10.1111/j.1600-0668.2006.00432.x

SPANISH STANDARDISATION. "UNE-EN 1822-1:2020 Absolute filters (EPA, HEPA and ULPA). Part 1: Classification, general principles of the test and marking". AENOR 2020.

RITE. RD 1027/2007 of 20 July approving the Regulation of Thermal Installations in Buildings. Revision effective from 14 February 2016.

VAN DOREMALEN N, BUSHMAKER T, MORRIS DH, HOLBROOK MG, GAMBLE A, WILLIAMSON BN, ET al. "Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1". N Engl J Med.16 of 2020;382(16):1564-7.

WHO – WORLD HEALTH ORGANISATION. "Routes of Transmission of the COVID-19 Virus: Implications for Precautionary Recommendations for Infection Prevention and Control". 29 March 2021 Available at: https://www.who.int/es/news-room/commentaries/detail/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendation

Quality assurance of higher education from a double perspective: the internal one of the University of Valladolid and the external one of the Quality Assurance Agency of the university system of Castilla y León

María Cristina AMO IGLESIAS

University of Valladolid (UVa) (Spain)

Raúl CASADO DEL POZO

Quality Assurance Agency of the University Systemof Castilla y León (ACSUCYL) (Spain)

Sandra MARCOS ORTEGA

Quality Assurance Agency of the University System of Castilla y León (ACSUCYL) (Spain)

María Elena PÉREZ ZABALETA

University of Valladolid (UVa) (Spain)

1. INTRODUCTION

During the week of October 20 to 24, 2019, as part of Module 3 of the"*Institutional Twinning Project between Algeria and Spain - Support for the Ministry of Higher Education and Scientific Research in strengthening teachers'/researchers' pedagogical competences and managers' governance capabilities*", the mission on University Governance and Management was carried out, with the following specific activities: A.3.1 *Information et gestion des carrières y A.3.3 Contrôle de l'accréditation des diplômes et des services universitaires par les agences qui veillent sur la qualité.*

This mission, focused on training, was led by four experts from the Office of Studies and Evaluation of the University of Valladolid (UVa) and the Quality of the University System of Castilla y León (ACSUCYL) and directed at an audience composed of university teachers, quality technicians from various universities, members of pedagogical committees of the university system and personnel from the Ministry with competencies in Education, among others.

The UVa Study and Evaluation Office is a service of the University of Valladolid whose main objective is to promote the development and implementation of a quality policy in all its areas of teaching, management and research.

Among its functions is the preparation and development of studies, analysis and tools that provide the information necessary to move forward the planning, improvement

and innovation processes of the Institution, as well as to provide technical support in all activities carried out at the University of Valladolid in quality terms.

For its part, ACSUCYL is the external evaluation body of the University System of Castilla y León whose main objective is the evaluation, accreditation and certification of quality of the Universities of Castilla y León, as well as of research and higher education centres in the context of the European Higher Education Area, seeking as aims:

— To promote the improvement of the teaching, research and management activity of the Universities and of the research and higher education centres, favouring the improvement of the competitiveness and economic development of Castilla y León.

— To provide adequate information on the university system to public administrations, the productive sector and society in general for decision-making in their fields of action.

ACSUCYL is a member of the European Quality Assurance Registry (EQAR) since it complies with the European Standards and Guidelines for higher education established by the Ministers of the European Higher Education Area.

2. FRAMEWORK OF TRAINING AND ITS CHARACTERISTICS

2.1. Background

The launch of the European Higher Education Area (EHEA) in 1998 through the Sorbonne Declaration and, later, in 1999 with the Bologna Declaration, initiated a process of harmonisation, which continues today, of university education in Europe, where the main objectives are to share:

— Adoption of a system based on two levels (bachelor and postgraduate) and structured in three cycles (bachelor, master and doctorate).

— Establishment of an academic assessment system for subjects and a compatible grading system throughout the European Union

  ⋄ European Credit Transfer System (ECTS).

  ⋄ Grading system: numerical scale from 0 to 10 with decimals, to which the corresponding qualitative grades can be added.

— Promotion of European cooperation to guarantee the quality of higher education, with comparable criteria and methodologies.

— Promotion of mobility of students, teachers and administrative and service staff of universities and other institutions of higher education.

— A European Diploma Supplement, understandable in any country.

— Integration of European training programmes.

— Promotion of lifelong learning and based on learning outcomes that allows students to move forward once they finish their studies.

— Common criteria and guidelines for quality assurance.

In 2005, one of the main milestones in terms of quality was reached, when the Ministers responsible for higher education (the signatories of the Bologna Declaration), adopted the Standards and Guidelines for Quality Assurance in the European Higher Education Area (EHEA), which since then has been the reference framework, at European level, for internal and external quality assurance in Higher Education.

In Spain, taking into account these European guidelines and the various successive declarations of Ministers of the EHEA, to adapt its University System, various regulations were developed, at state and regional level, in order to regulate the harmonisation of higher education systems within the framework of the EHEA. It is worth highlighting five of them that did the groundwork from which other related regulations have emerged:

— Organic Law 4/2007 of 12 April, amending Organic Law 6/2001 of 21 December on Universities.

— Law 3/2003 of 28 March on the Universities of Castilla y León.

— Royal Decree 1393/2007 of 29 October establishing the organisation of official higher education.

— ORDER EDU/213/2014 of 27 March developing Decree 64/2013 of 3 October on the organisation of official Higher education, Bachelor's and Master's degrees in the Community of Castilla y León.

— Decree 420/2015 of 29 May on the creation, recognition, authorisation and accreditation of universities and faculties.

In Castilla y León in 2001 the Quality Assurance Agency of the University System of Castilla y León was created, as an external evaluation body of the university system to ensure its quality, one of the fundamental pillars on which the change proposed in the Bologna Declaration was based.

All of this represented a revolution and evolution towards quality assurance within Spanish Universities. Specifically, in the universities various internal regulations were developed to meet the new model of the EHEA, which led to a transformation of university degrees from a previously defined catalogue of official degrees, to the Universities themselves being the ones that created and proposed, in accordance with the established norms, the teachings and degrees to be taught and awarded, without being subject to the existence of a previous catalogue established by the Government.

Subsequently, the institutional accreditation of faculties was regulated, as an alternative to the qualification accreditation model in force in Spain until then. Since it was defined in 2007, this has entailed Spain's adapting to the quality assessment proposals deriving from the European Higher Education Area.

Institutional accreditation of faculties is proposed as a more efficient formula, an alternative to degree-by-degree accreditation and aligned with the requirements of the European Higher Education Area and other European quality assurance systems. Among

the main characteristics and advantages of quality assurance systems at the institutional level are:

— The simplification of the degree accreditation process and cost savings, by avoiding having to renew each degree separately. Therefore, it is considered a more effective and efficient system.

— It is proposed as a joint project of the faculty, aligned with the institution's strategy.

— A centralised management of indicators is established.

2.2. Objective

The main objective of the training carried out during the mission was to present the internal and external processes of quality assurance both at the degree and the faculty level, all from the European perspective of quality assurance. All the evaluation and management processes for the implementation of a study programme, its initial accreditation (verification or ex–ante accreditation), monitoring and ex–post or renewal of its accreditation were addressed. Likewise, explanations were given as to how the UVa designs and implements an Internal Quality Assurance System for faculties and how its evaluation is carried out by an external body such as ACSUCYL. Finally, the structures and bodies that participate in the management and evaluation processes of the two institutions involved were described.

Taking into account the above, the following are identified as specific objectives:

— Present evaluation programmes for verification or ex–ante accreditation, modification, monitoring and renewal of accreditation of official university degrees and the ACSUCYL Elenchos institutional accreditation programme. Understand the differences between the degree accreditation model and institutional accreditation.

— Understand the role of the quality units of the Universities and of the External Quality Assurance Agencies, during the life cycle of the degrees, both in the degree accreditation and institutional accreditation processes.

— Understand the Governance of a university as a key element of quality assurance.

— Acquire the necessary knowledge to help universities in their transformation process towards the objectives set out in the reform of the EHEA.

— Understand the importance of accessible, correct and updated public information for the different stakeholders.

— Recognise document management systems as a key element. Designed to securely store, manage and control centralised and accessible documents.

2.3. Methodology and expected results

The methodology has been based on the presentation of the work carried out by the Quality Agency of the University System of Castilla y León and the University of Valladolid, from a dual approach, theoretical and practical.

With this dual approach, the processes of Management and Evaluation of Official Bachelor's, Master's and Doctorate Degrees (Verification or ex–ante accreditation, Modification, Monitoring and Renewal of Accreditation) and Institutional Accreditation were addressed. Specifically, the following were carried out:

— Theoretical presentations on:
  - ACSUCYL and UVa, their functions, European references that govern their actions and some general data of the Spanish University System.
  - Explanation of the processes of Management and Evaluation of the Official Titles of Degree, Master and Doctorate (Verification or ex–ante accreditation, Modification, Follow-up and Renewal of the Accreditation) and Institutional Accreditation.
  - Explanation of the regulations governing these internal and external evaluation processes.
  - Document manager for the control of the documentation and provision of documentation in the evaluations.
  - Importance of reliable, up-to-date and objective public information, both from the University and from the external quality assurance agency.
  - Resolution of questions presented by attendees after each session.

— Practical examples:
  - Carrying out of workshops in groups of a maximum of four people to set out and work on the explained contents.
  - Presentation, by the working groups, of the results obtained in relation to the practical examples raised and their subsequent resolution by the experts.
  - Final discussion on the similarities and differences with respect to the Spanish university model and the conclusions as to the most significant aspects of the training received.

All the sessions were carried out with full participation of the attendees, generating a rich debate and discussion after each theoretical and practical training session.

2.3.2. *Expected results*

— The results that were posited at the beginning of the mission were fulfilled and are manifested in the following aspects:

— The experts from the Office of Studies and Evaluation of the University of Valladolid and the Quality Assurance Agency of the University System of Castilla y León (ACSUCYL) shared with the audience the structures, models, protocols and activities, in everything related to the higher education training programmes carried out in their organisations.

— In specific training talks, significant aspects of the management and structures that intervene in the design and evaluation processes prior to the implementation of study

programmes for official university degrees were addressed, as were the monitoring, renewal of accreditation and finally the Institutional accreditation (accreditation of faculties).

— Two training workshops were held, with practical cases related to the contents of the theoretical training, so that the participants could appreciate the value of the training with real cases adopting the role of evaluator.

— Greater knowledge was gained about the structure of the Algerian university system, the established academic fields, the existing pedagogical committees, etc. and the possible start-up of an Algerian Quality Agency.

— Lastly, a final discussion was held on the similarities and differences with respect to the Spanish university model and the conclusions as to the most significant aspects of the training received.

3.   GOOD PRACTICES

1.   Practical example on the application of the evaluation process for the verification of a degree: Participants were provided with a curricula of an official master's degree implemented at the University of Valladolid, which was "edited" (incorporating errors), and the ACSUCYL Assessment Template for Verification was also provided.

The working groups adopted the role of evaluators and the work of an Evaluation Committee was simulated, a very high involvement of the attendees and a very interesting debate was achieved, obtaining very satisfactory results.

2.   Practical example on the application of the evaluation process for the Renewal of the Accreditation of an official master's degree: attendees were given the documentation available for this process (self-assesment report of Renewal of Accreditation, study programme report, information extract from the website), so that attendees could carry out a simulation of the evaluation process for the Renewal of Accreditation.

The groups analysed the available information, identifying questions that could be asked during the site visit of the accreditation process. Their immersion in a real case made it easier to understand the process and the difficulties it poses.

4.   CONCLUSIONS

The week of work concluded with highly positive results, which were reflected both in the high degree of participation and interest shown by the attendees in the different training sessions carried out, and in the excellent evaluation results obtained in the satisfaction surveys carried out. Therefore, it is considered that the planned objective of publicising the internal and external quality assurance system in higher education that is being developed in the EHEA has been achieved, in the specific case of two institutions, the University of Valladolid and the Quality Assurance Agency of the University System of Castilla y León.

The practical sessions facilitated the active participation of the attendees and improved their skills regarding the application of quality assurance processes.

Finally, we highlight the comparison that was made during the encounters between the two systems, the European and the Algerian, of their similarities and differences, in order to seek greater understanding and alignment between them.

4.1. Documentary contributions and references

The references used have been the European, state and regional regulations that govern the Spanish university system, as well as those established internally at the University of Valladolid and the documents, criteria and evaluation guides developed by REACU (Network of Qualiy Assurance Agencies of the Spanish University System) and the Quality Assurance Agency of the University System of Castilla y León (ACSUCYL).

— Organic Law 4/2007 of 12 April, amending Organic Law 6/2001 of 21 December on Universities.

— Law 3/2003 of 28 March on the Universities of Castilla y León.

— Royal Decree 1393/2007 of 29 October establishing the organisation of official higher education.

— Royal Decree 99/2011 of 28 January regulating official doctoral studies.

— ORDER EDU/213/2014 of 27 March developing Decree 64/2013 of 3 October on the organisation of official higher education Bachelor's and Master's degrees in the Community of Castilla y León.

— Royal Decree 420/2015 of 29 May on the creation, recognition, authorisation and accreditation of universities and faculties.

— Resolution of 7 March 2018, of the General Secretariat of Universities, issuing instructions on the procedure for institutional accreditation of public and private faculties.

— Standards and Guidelines for Quality Assurance in the European Higher Education Area. (2015).

— Regulation on the Bodies of the Quality Assurance System of the University of Valladolid. (Approved by the Governing Council of 24 July 2012, BOCyL No. 151 of 7 August, amended by the Standing Committee in sessions of 4 October 2013, BOCyL No. 203 of 21 October 2013; 14 March 2014, BOCyL No. 59 of 26 March 2014 and 14 February 2019, BOCyL No. 37 of 22 February 2019).

— Procedure for the design and approval of proposals for new study progammes for official bachelor's and master's degrees (Approved by the Commission for Academic Planning and Teaching Staff of the Governing Council, on 12 November 2015. Update 15 February 2021).

— Procedure for modifying the official Bachelor's and master's study programmes of the University of Valladolid (Approved by the Standing Committee of the Governing Council, on 17 June 2016. Update 15 February 2021).

— Internal Quality Assurance System for official Bachelor's and Master's degrees of the University of Valladolid (Approved by the Governing Council on 24 July 2008).

CHAPTER XIII

External quality assurance in the university system

José-Ángel DOMÍNGUEZ PÉREZ
University of Salamanca (Spain)

Sandra MARCOS ORTEGA
Pontifical University of Salamanca (Spain)

1. INTRODUCTION: QUALITY AND UNIVERSITY[1]

1.1. Society's trust in its universities

1.1.1. *The social role of higher education*

a. *The contribution of universities to society*

The transmission and advancement of knowledge is one of the aspirations of every society, which to that end equipped itself with institutions that assume this dual mission of offering higher education studies and conducting research, called "Universities," in 13th century Europe,.from the Latin "universitas scholarium magistrorum" (corporation of students and teachers) as defined by the Spanish King Alfonso X the Wise (1221-1284).

b. *Autonomy and accountability*

In order for the universities to be able to fully exercise their missions, society has granted them autonomy, with regard to the preparation of their curricula and research programmes, which is accompanied by the commitment to be accountable for the development of their activities and the quality achieved, understood as a measure of the suitability for its purposes ("doing what we have to do well") that allows comparison and competitiveness between universities.

1.1.2. *Quality assurance systems in universities*

a. *Historical development*

The regulation of university institutions has its antecedents in the norms that regulated the Greek philosophical schools of the fourth century BC. (Plato's Academy, Aristotle's Lyceum), 6th century monastic schools (Saint Benedict's Rule), the 8th century Palatine School (founded by Charlemagne, directed by Alcuin of York), medieval studies of the 11th (school of jurists of Bologna), the 12th (Oxford colleges, University of Paris) and the 13th (*studium generale* of Salamanca) centuries.

In the case of Spain, the first Spanish regulation of university studies is found in the legislative code of "Las Siete Partidas" promulgated by King Alfonso X the Wise (1221-1284) and in the constitutions or particular statutes granted by the Kings to each University, together with the bulls and recognitions granted by the Popes of the Catholic Church. It was precisely the Kings and Popes who from the fourteenth century regulated the status of the "visitors" appointed to carry out external evaluations of the universities.

Since the seventeenth century, European universities, their autonomy to develop higher education and research and the corresponding accountability subject to external evaluation have been the object of regulation in each country, in a legislative evolution that continues to this day.

b. *European model*

At the end of the 20th century, a common policy emerged in Europe, in which higher education is considered an essential component of social cohesion, cultural and economic development and global competitiveness. It was the time of mobility initiatives such as the ERASMUS programme (European Region Action Scheme for the Mobility of University Students) started in 1987, the Magna Carta of the Universities signed in 1988 and the Declarations of La Sorbonne (1998) and Bologna (1999), which gave rise to the European Higher Education Area (EHEA).

The six objectives of the EHEA for the harmonisation of university systems focus on certification (European supplement to the degree), the cycle structure (bachelor's, master's and doctorate), the credit system (European Credit Transfer System, ECTS), promoting mobility, promoting European cooperation and establishing a quality assurance system.

To promote this last objective, quality assurance agencies in higher education were established in each country, grouped since 2000 in the European Network for Quality Assurance (ENQA), which promoted the adoption in 2005 of the Standards and Guidelines for Quality Assurance in the EHEA and the creation in 2008 of the European Quality Assurance Registry for Higher Education (EQAR).

1.2. Standards and Guidelines for Quality Assurance in the EHEA

1.2.1. *Internal quality assurance by universities*

a. *ESG 1.1 Policy for quality assurance*

Institutions must have a public quality assurance policy that is part of their strategic management. Internal stakeholders must develop and implement this policy through appropriate structures and processes, involving external stakeholders.

b. *ESG 1.2 Design and approval of programmes*

Institutions must have processes for the design and approval of their study programmes. Programmes must be designed in such a way that they meet the objectives established for them, including the expected learning outcomes. The qualification of a programme must be clearly specified and made public and must refer to the exact level of the national higher education qualifications framework and, consequently, to the Qualifications Framework of the European Higher Education Area.

c. *ESG 1.3 Student-centred teaching, learning and assessment*

Institutions must ensure that programmes are delivered in a way that encourages students to actively participate in creating the learning process and that student assessment reflects this student-centred approach.

d. *ESG 1.4 Student admission, progression, recognition and certification*

Institutions must consistently apply pre-established and public standards that cover all phases of students' "life cycle": admission, progression, recognition and certification.

e. *ESG 1.5 Teaching staff*

Institutions must ensure the competence of their teachers. They must also use fair and transparent processes for the recruitment and development of their staff.

f. *ESG 1.6 Learning resources and student support*

Institutions must be adequately funded to develop teaching and learning activities and ensure that sufficient and easily accessible learning resources and support are provided to students.

g. *ESG 1.7 Information management*

Institutions must ensure that they collect, analyse and use pertinent information for the effective management of their programmes and other activities.

h. *ESG 1.8 Public information*

Institutions must publish clear, precise, objective, updated and easily accessible information on their activities and programmes.

i. *ESG 1.9 On-going monitoring and periodic review of programmes*

Institutions must regularly monitor and evaluate their programmes to ensure that they achieve their objectives and respond to the needs of students and society. Such evaluations

should lead to continuous improvement of the programme. As a consequence of the fore-going, any planned or adopted measure must be communicated to all interested parties.

1.2.2. *External quality assurance by agencies*

a.   *ESG 2.1 Consideration of internal quality assurance*

External quality assurance must be geared towards the effectiveness of the internal quality assurance processes that are described in Part 1 of the ESG.

b.   *ESG 2.2 Designing methodologies fit for purpose*

External quality assurance must be specifically defined and designed to ensure that it is suitable for the achievement of its proposed aims and objectives, while taking into account the regulations in force. Stakeholders must participate in its design and continuous improvement.

c.   *ESG 2.3 Implementing processes.*

External quality assurance processes must be reliable and useful, they must be previously defined, they must be consistently implemented and they must be public. These processes include the following elements:
— a self-evaluation or equivalent
— an external evaluation that usually includes an external visit
— a report derived from the external evaluation
— systematic monitoring

d.   *ESG 2.4 Peer-review experts*

External quality assurance processes must be carried out by peer review groups that include one or more students.

e.   *ESG 2.5 Criteria for outcomes*

The results or judgements derived from external quality assurance must be based on explicit and public criteria that are applied in a systematic way, regardless of whether the process leads to a formal decision.

f.   *ESG 2.6 Reporting*

The detailed reports of the experts must be made public in a clear and accessible way both to the academic community and to external partners or any other interested person. If the agency makes a formal decision based on the reports, the decision must be published in conjunction with the report.

g.   *ESG 2.7 Complaints and appeals.*

The claims and appeals processes must be clearly defined as part of the design of the external quality assurance processes and must be communicated to the institutions.

1.2.3. *Quality assurance of agencies*

a. *ESG 3.1 Activities, policy and processes for quality assurance*

Agencies must carry out external quality assurance activities on a regular basis as defined in Part 2 of the ESG. They must have clear and explicit goals and objectives that are part of their mission statement and are publicly available. Goals and objectives must be carried over into the daily work of the agency. Agencies must ensure that stakeholders participate in their management and work.

b. *ESG 3.2 Official status*

The agencies must have a demonstrable legal basis and must be formally recognised by the competent public authorities as external quality assurance agencies.

c. *ESG 3.3 Independence*

Agencies must be independent and act autonomously. They must be solely responsible for their functioning and for the results of their operations, without the influence of third parties.

d. *ESG 3.4 Thematic analysis*

Agencies must regularly publish reports that describe and analyse the overall findings of their external quality assurance activities.

e. *ESG 3.5 Resources*

Agencies must have sufficient and appropriate resources, both human and financial, to carry out their work.

f. *ESG 3.6 Internal quality assurance and professional conduct*

Agencies must have internal quality assurance processes related to defining, assuring and improving the quality and integrity of their activities.

g. *ESG 3.7 Cyclical external review of agencies*

Agencies must undergo an external evaluation at least once every five years to demonstrate compliance with the ESG.

2. CONCEPTUAL FRAMEWORK EVALUATION, ACCREDITATION AND CERTIFICATION PROCESSES

2.1. International terminology

2.1.1. *INQAAHE (International Network for Quality Assurance Agencies in Higher Education) Glossary*

In 1991 the university quality agencies that had emerged in countries around the world created INQAAHE, the International Network for Quality Assurance Agencies in Higher Education, one of the purposes of which is to define a common terminology in the area.

a. *University*

an institution of higher education that grants its own degrees including the award of Ph.D and normally undertakes leading-edge research, as well as having a critical social role.

b. *Degree*

the core higher education award, which may be offered at various levels from foundation, through bachelors, masters to doctoral.

c. *Curriculum*

the embodiment of a programme of learning including philosophy, content, approach and assessment.

d. *Programme*

a study curriculum undertaken by a student that has coordinated elements leading coherently to the obtainment of a named award.

e. *Module*

a formal learning experience encapsulated into a unit of study, usually linked to other modules to create a programme of study.

f. *Evaluation*

(of quality or standards) is the process of examining and passing a judgement on the appropriateness or level of quality or standards.

g. *Accreditation*

the establishment of the status, legitimacy or appropriateness of an institution, programme or module of study.

h. *Certification*

the process of formally acknowledging achievement or compliance: it can be used to signify the achievement of an individual, such as a student, or of an institution.

2.1.2. *Phases of the evaluation process*

The evaluation processes in accordance with the ESG that lead to the accreditation or certification of a programme or institution in the context of the EHEA follow a series of common phases in all countries.

a. *Terms of reference*

Through a regulation or an agreement between the university and the external evaluation agency, the terms of reference of the evaluation are established, including: the scope and consequences, the applicable criteria and guidelines, the procedure to be followed and the agents involved.

b. *Self-evaluation report prepared by the university*

The university collects evidence about the programme or institution, analyses it and concludes with a self-evaluation report, aimed at improvement. To this end, persons responsible for its preparation and approval are appointed prior to its dissemination among the agents involved so that they can make contributions.

c. *Visit to the university by an external panel appointed by the agency*

The evidence and self-evaluation report prepared by the university are made available to the agency, which appoints an external panel (made up of academics, students and professionals) to analyse them. This is completed with a visit to the university to see the facilities at first hand and confirm the situation of the programme or institution with the agents involved.

d. *External evaluation report prepared by the agency*

Based on the analysis and visit to the university, a specific committee of experts from the agency prepares an external evaluation report. To this end, a draft report will first be sent to the university for its comments before the final report is issued.

e. *Claims and appeals*

The university may formulate claims (expressing its dissatisfaction with the implementation of the process or those who have carried it out) and appeals (calling into question the formal results of the process, when it can demonstrate that the result is not based on solid evidence, that the criteria have not been applied correctly or that the processes have not been implemented in a systematic way).

2.2. Teacher evaluation and accreditation

Among the criteria and guidelines for the quality of programmes at institutions is the teaching and research staff involved as lecturers.

The quality of the teaching staff can in turn be subject to specific evaluation processes, in accordance with the regulations of each country. This is the case in Spain, where, in accordance with university legislation, quality agencies develop various evaluation programmes for university teaching staff.

2.2.1. *Prior evaluation of contract teachers*

In order to be hired by a public university as a teacher, or to comply with the legal requirements for doctorate teaching staff in a private university (50% PhDs, of which 60% with positive external evaluation), it is necessary to have a doctorate and to achieve a positive evaluation by a quality agency (national or of the autonomous region where the university is established)

a. *Criteria*

Merits in research (publications, patents, etc.), teaching experience (classes, seminars, etc.), academic training (dossier, attachments, etc.), professional experience (in companies, institutions, etc.) are valued, along with other merits (recognitions, awards, etc.). The weighting of each block depends on each agency but is around 60% research experience, 30% teaching experience, academic training and professional experience, and 5% other merits.

b. *Procedure*

The agencies issue calls for applications (limited in time or open throughout the year) and interested parties can submit their résumés, which are evaluated by a panel of specialists in their disciplinary field, concluding with a report prepared by a specific committee of experts from the agency.

2.2.2. *Prior accreditation of civil servant teachers*

In order to access the positions of Associate or Full Professor of a public university, those interested must obtain accreditation by the national quality agency (as they are national civil service positions, this is the only competent agency).

a. *Criteria*

Merits in research (publications, patents, etc.), teaching (classes, seminars, etc.), transfer and professional experience (in companies, institutions, etc.), experience in educational, scientific and technical management (academic positions, managerial positions, etc.) and other merits in training are all taken into account. A grade A (exceptional), B (good), C (offset table against higher scores in other subjects), D (insufficient) or E (special situation) can be achieved in each block. The favourable evaluation is achieved with a B in research and teaching, or with other possible combinations such as A in research and C in teaching; B in research, C in teaching and B in transfer or management; C in research, B in teaching and A in transfer or management.

b. *Procedure*

The agencies issue calls for applications (limited in time or open throughout the year) and interested parties can submit their résumés, which are evaluated by a panel of specialists in their disciplinary field, concluding with a report prepared by a specific committee of experts from the agency.

2.2.3. *Quality certifications*

University teachers can voluntarily and periodically (every six years) submit their merits to an external evaluation to achieve a recognition that is rewarded with a financial supplement (six-year term) payable by the administration (national, regional or university).

a. *Six-year research period*

Five outstanding publications are evaluated over a period of six years, in accordance with the reference criteria of their scientific field, by a panel of specialists in their disciplinary field, concluding with a report prepared by a specific committee of experts from the agency.

The call is established by the administration (national, regional or university) and the quality agencies carry out the evaluation in their area of competence.

b. *Six-year transfer*

Five outstanding contributions (contracts, patents, etc.) are evaluated over a period of six years, in accordance with the reference criteria of their scientific field, by a panel of specialists in their disciplinary field, concluding with a report prepared by a specific committee of agency experts.

The call is established by the national administration and is evaluated by the national quality agency.

c. *Six-tear teaching and management terms*

University legislation in Spain is currently being reformed to introduce this type of six-year term linked to teaching and management merits.

As a precedent, there is a "five-year teaching period" that corresponds to internal management of the universities, for the recognition of teaching merits every five-year period.

2.3. Evaluation, accreditation and certification of institutions

2.3.1. *Evaluation for initial accreditation*

As established by Royal Decree 640/2021 of 27 July on the creation, recognition and authorisation of universities and university centres and institutional accreditation of university centres, the institutional accreditation process is based on the recognition of the capacity of the internal quality assurance systems (IQAS) to guarantee academic quality.

Prior to this Royal Decree, Royal Decree 420/2015 already established the general guidelines for the evaluation for the initial accreditation of institutions, also based on the capacity of the internal quality assurance systems of the universities themselves to guarantee the quality of their programmes.

There thus arises a model based on trust in institutions and their ability to internally ensure the quality of their performance. Subsequently it will be the external quality assurance agencies that will institutionally accredit either at the centre level or at the level of the institution as a whole, based on an evaluation of the internal quality assurance system (IQAS).

The aforementioned Royal Decree in force also establishes the requirements for a centre to be able to present itself for institutional accreditation. Thus in its Article 14 it establishes that *the requirements that university centres must meet to obtain institutional accreditation will be the following:*

a. *Having renewed the initial accreditation of at least half of the official bachelor's degrees, half of the official master's degrees and half of the official doctoral degrees taught…. In the case of Doctoral Schools or similar centres in terms of functions, they must have renewed the initial accreditation of at least half of their doctoral programmes.*

b. *Having the certification of the implementation of their internal quality assurance system, in accordance with the provisions of section 9 of annex I to Royal Decree 1393/2007 of 29 October and in accordance with the criteria established for quality assurance in the European Higher Education Area and the protocols and guidelines developed by ANECA (National Agency for Quality Assessment and Accreditation) or by the corresponding quality agencies…*

In this way, the initial institutional accreditation is fundamentally based on the certification of the implementation of the IQAS.

2.3.2. *Renewal of accreditation or monitoring*

The renewal of institutional accreditation of university centres must be carried out within six years from the date of obtaining the last accreditation resolution. Thus, institutions must undergo periodic review, thus complying with European standards.

Given the recent approval of Royal Decree 640/2021 of 27 July, the specific guidelines have not yet been established, as indicated by the Decree itself, to carry out the process of renewal of institutional accreditation that, at the proposal of the Ministry of Universities, is established within the General Conference of University Policy. Although it already establishes that in the evaluation procedure for the renewal of institutional accreditation, a report must be issued by a panel of external and independent experts from the institution requesting accreditation, appointed by the corresponding quality agency that will be based on the protocol approved by the Ministry. Likewise, all the monitoring reports of the various official degrees offered at the centre must be taken into account, as well as the reports of the corresponding quality agency issued in that six-year period in relation to the different official degrees offered.

2.3.3. *Quality certifications*

a. *Internal Quality Assurance System*
There are different programmes in Spain for the certification of internal quality assurance systems developed by external quality assurance agencies, all of them based on the document approved by the General Conference on University Policy, through its Delegate Commission in its session of 21 November 2017. Thus, the dimensions and criteria that the IQAS of the centres must meet are:

— Dimension 1. Quality policy and objectives
  ‣ Criterion 1.1. Establishment of a culture of quality
— Dimension 2. Programme design management
  ‣ Criterion 2.1. Quality assurance of training programmes

— Dimension 3. Teaching of training programmes.
  • Criterion 3.1 Orientation of their teachings to students.
  • Criterion 3.2 Guarantee and improvement of their academic and teaching support staff.
  • Criterion 3.3 Guarantee and improvement of material resources and services.
— Dimension 4. Results
  • Criterion 4.1 Analysis of the results.
— Dimension 5. Information management.
  • Criterion 5.1 Analysis and use of the information generated.
  • Criterion 5.2 Publication of information on their activities and programmes.

b. *Teacher Activity Assessment System*

The evaluation of the teaching activity of the teaching staff corresponds to each university, within the framework of its strategy and teaching staff policy.

The National Quality Agency, in collaboration with the regional agencies, has established a DOCENTIA model of reference in this regard, subject to external accreditation.

2.4. Programme evaluation, accreditation and certification

2.4.1. *Assessment for initial accreditation or modifications*

The ex ante evaluation or initial accreditation prior to the implementation of a bachelor's, master's or doctoral degree is intended to guarantee the quality of the degrees that it is intended to implement. This evaluation is carried out by external quality assurance agencies that meet the European criteria described above. The criteria that are taken into account in this evaluation for undergraduate and master's degrees are included in Royal Decree 1393/2007, which establishes the organisation of official university teachings, which are described below:

1. Description of the degree
2. Justification of the proposed degree
3. Competencies
4. Student access and admission
5. Planning of teaching
6. Academic staff
7. Material resources and services
8. Expected results
9. Quality assurance system
10. Implementation schedule

A positive evaluation of the initial accreditation implies that the degree acquires its official character and can be taught at the University in question. The same evaluation criteria are taken into account when presenting modifications to already accredited curricula.

2.4.2. *Renewal of accreditation or monitoring*

Official degrees, once they obtain their initial accreditation, must undergo a periodic review that varies between 4 and 8 years depending on the duration of the degree. The review is carried out by external quality assurance agencies. The main objective of this evaluation is to renew the accreditation of the degree so that it continues to maintain its official character. To do this, the degree must demonstrate that the curriculum has been implemented as planned when it was presented for initial accreditation. The criteria that are taken into account in this evaluation are those described below:

Criterion 1. Curriculum development
Criterion 2. Transparency and internal quality assurance system
Criterion 3. Human and support resources
Criterion 4. Results of the training programme

The same criteria are taken into account by external quality assurance agencies and higher education institutions to periodically monitor the degrees.

2.4.3. *Quality certifications*

a. *Professional quality labels*

International professional organisations in certain sectors have created recognitions that certify the quality of university education linked to their sector, configured as quality labels that are evaluated by national agencies, in agreement with professional organisations. This is the case of the EUR-ACE Label of the European Network for the Accreditation of Engineering Education, ENAEE, the EURO-INF Label of the European Quality Assurance Network for Informatics Education, EQANIE, the Chemistry Quality Euro-label of the European Chemistry Thematic Network, ECTN and the Quality Label in Medicine of the World Federation for Medical Education, WFME.

b. *Quality labels in online education*

Teaching delivered online has its own particular characteristics, for which the European ENQA network has established quality benchmarks, which have been transferred to the Spanish university system in the form of quality labels certified by quality agencies. such as the ENPHI (Non-Presence and Hybrid Teachings) of ANECA.

c. *Other quality labels*

Quality agencies can create specific quality labels to certify excellence in certain areas of university activity. These certifications represent an external recognition of the universities for strategic purposes, but without legal consequences, beyond the fact that these labels may be evidence of good practices in the accreditation of the legal status of the teachings.

3. GOOD PRACTICES: AGENCIES OF THE SPANISH UNIVERSITY SYSTEM

3.1. National Agency for Quality Assessment and Accreditation (ANECA)

3.1.1. *Regulatory framework*

The National Agency for Quality Assessment and Accreditation (ANECA) was created by Organic Law 6/2001 of 21 December on Universities, and its purpose is to promote and assure the quality of the Higher Education System in Spain, and very particularly that of the Universities, both in the national and international context, through orientation, evaluation, certification and accreditation processes, contributing to the development of the European Higher Education Area as well as to information and transparency vis-à-vis society, adopting quality assurance criteria in accordance with international standards.

3.1.2. *Evaluation programmes*

In the field of programme and institution evaluation, ANECA acts as an external evaluation body for national universities (National Distance University UNED, Menéndez and Pelayo International University UIMP) and for universities whose autonomous region does not have its own agency.

The evaluations for the accreditation of training programmes that lead to official degrees are developed through the VERIFICA (verification of curricula for initial accreditation), MONITOR (monitoring of the implementation of the degrees) and ACREDITA (renewal of accreditation) programmes.).

The evaluations for the institutional accreditation of university centres are developed through the INSTITUTIONAL ACCREDITATION programme, linked to the AUDIT (certification of internal quality assurance systems) and DOCENTIA (certification of evaluation systems of the teaching activity of teachers) programmes.

ANECA also develops evaluations to obtain professional quality seals in certain degrees, through the SIC (International Quality Seals) programme.

In the field of teacher evaluation, ANECA develops the PEP (Teacher Evaluation Program) for the prior certification of contract teaching staff, ACADEMY for prior accreditation of civil service teaching staff and CNEAI (National Commission for the Evaluation of Research Activity) for the certification of six-year research and transfer.

ANECA is also competent to evaluate the recognition of foreign university degrees carried out by the Government of Spain, through the processes of homologation (recognition with professional effects) and equivalence (academic recognition).

3.2. Quality Assurance Agency of the University System of Castilla y León (ACSUCYL)

3.2.1. *Regulatory framework*

The Quality Assurance Agency of the University System of Castilla y León is a public entity under private law created by Law 3/2003 on the Universities of Castilla y León. It has been a member of EQAR since 2009 since it develops its activity in accordance with European standards and guidelines (ESG).

ACSUCYL's mission is to ensure the continuous improvement of the quality of the University System and to provide information on the results of its action that is useful for stakeholders.

The university system of Castilla y León is made up of 9 universities, 4 public and 5 private, which ACSUCYL evaluates to guarantee the quality of the training programmes they have implemented, as well as the research activities they carry out.

3.2.2. *Evaluation programmes*

To achieve its mission, it develops different evaluation programmes that are summarised hereunder:

Degree evaluation:
— Initial accreditation and modification of bachelor's, master's and doctorate degrees.
— Monitoring of official bachelor's, master's and doctoral degrees.
— Renewal of the initial accreditation of undergraduate, master's and doctorate degrees.

Institutional quality assessment:
— Institutional accreditation and certification of internal quality assurance systems for university centres (ELENCHOS programme).
— Creation, recognition, assignment, modification and elimination of university centres.
— Certification of evaluation models of the teaching activity of university teaching staff (DOCENTIA programme)

Teacher evaluation:
— Evaluation prior to the hiring of Contracted Teaching Staff with Doctorate, Assistant Professor with Doctorate and Private University Professor with Doctorate.
— Permanent Contract Teaching Staff with Doctorates
— Emeritus Professors.
— Programme for external evaluation of teaching activity

Evaluation of research:
— University Research Institutes.
— Research Units and Groups.
— Research Projects (competitive calls).
— Research results (research productivity).
— Programmes for hiring research staff (predoctoral, postdoctoral).

3.3. Spanish Network of University Quality Agencies (REACU)

3.3.1. *Configuration*

The Spanish Network of University Quality Agencies (REACU) was created in 2006 in order to collaborate in promoting quality assurance, developing standards, procedures and guidelines, and exchanging experiences and good practices.

Currently, the 11 agencies that operate in Spain at the regional level, as well as the National Agency, are part of REACU.

3.3.2. *Work dynamic*

REACU is organised through a General Assembly, made up of the Directors of the agencies, and a Technical Secretariat exercised by one of the agencies on an annual rotating basis, which is in charge of energising the network and organising the meetings, as well as drafting the protocols and minutes of the meetings that are held

The REACU General Assembly meets at least once every six months (twice a year). Its agreements include the creation of technical or managerial working groups (as the case may be) to address the development and implementation of benchmarks on quality assurance protocols or address issues of interest that may arise between agencies.

On the other hand, the Network serves as a communication link with the Ministry responsible for Universities, to work together on issues of common interest.

4. CONCLUSIONS: NORMATIVE REGULATION OF QUALITY ASSURANCE PROCESSES

4.1. The normative impulse from the universities

4.1.1. *Technical Quality Units*

Universities are responsible for internal quality assurance, in the exercise of their autonomy to organise their teaching and research activities, including internal evaluation processes in accordance with international benchmarks and national protocols, in accordance with their own institutional policies and strategic plans.

For the implementation of their internal quality assessment processes, universities must equip themselves with Technical Quality Units, which facilitate the collection and analysis of evidence to the institutionally competent bodies for decision-making and implementation of improvements.

4.1.2. *Working groups and pilot experiences*

To promote the implementation of internal quality assurance processes in universities and technical units that support them, working groups can be created for the purpose of developing pilot projects and experiences, which can be shared in exchange forums between universities, responsible administrations and, where appropriate, international experts.

4.2.   The regulatory impulse from public administrations

4.2.1.   *Legislative development*

The processes of evaluation, accreditation and certification of the quality of university activities require a regulatory framework that regulates them and establishes their character (mandatory or voluntary), their procedures (agents involved, stages and periodicity) and their criteria (standards and minimum thresholds), in accordance with international benchmarks.

4.2.2.   *Creation of quality assurance agencies*

The procedures that lead to the accreditation and certification of the quality of university activities require an external evaluation carried out by a quality assurance agency, which meets international benchmarks: official status, independence, technical sufficiency, etc.

5.   BIBLIOGRAPHY

DOMINGUEZ PÉREZ, JOSÉ-ANGEL.: "Calidad y Universidad", Colección La Universidad del Siglo XXI. Ediciones Universidad de Salamanca, 2021.

ANECA. http://www.aneca.es/

ACSUCYL: https://www.acsucyl.es/
ENQA: https://www.enqa.eu/
EQAR: https://www.eqar.eu/
INQAAHE: https://www.inqaahe.org/

An alternative to international mobility: internationalisation at home as a strategy for algerian universities

Rabia AZZEMOU

rabea.azzemou@univ-usto.dz

Amine Bouziane HAMMOU

amine.hammou@univ-usto.dz

University of Science and Technology of Oran (USTO) (Algeria)

1. Introduction

Faced with a constantly changing international environment, Algerian universities must implement an internationalisation strategy to remain competitive. This is partly because internationalisation can improve the quality of education and research by increasing the exchange of human resources between universities and renowned laboratories, and partly because it can increase international visibility.

However, internationalisation cannot be reduced to a "standard" model of implementation by governance because each university is a particular case which must invent its own system according to its specific requirements and its financial and human resources. Internationalisation allows for global reorganisation and pursues several objectives: improving the quality and relevance of teaching, research, incoming and outgoing flows, etc.

Internationalisation is a process of structuring services, of organisation through which the university will contribute to developing its international dimension in training and research. In the current context, like all universities, Algerian universities are facing financial and organisational difficulties.

These trigger a negative dynamic that will weaken them. They must therefore set up a new form of organisation adapted to the internationalisation strategy, which would result in the implementation of new concepts. Currently, home-based internationalisation is a new form of internationalisation to enable students to develop qualifying international skills independently of physical mobility. It is an organisational form adapted to a worldwide, global and rapidly changing environment (public health context and lack of funding).

The objective of this paper is to propose to Algerian universities to adopt the concept of internationalisation at home which will allow them to strengthen international collaboration and consolidate international partnerships.

In a second section we present the concepts of internationalisation in higher education. The third section is dedicated to internationalisation at home in Algeria.

2. INTERNATIONALISATION IN HIGHER EDUCATION

The internationalisation of higher education is a relatively new concept that has emerged over the last 30 years, mainly focusing on mobility and competition. In a context marked by international university rankings, internationalisation is seen as a tool for differentiation in the academic world.

Knowing that universities are becoming increasingly competitive, it aims to recruit the best students and provide them with knowledge, know-how and interpersonal skills. Indeed, the globalisation of the world economy has pushed universities to redefine a new strategy in order to achieve continuous progress. "Internationalisation is changing the world of higher education, and globalisation is changing the process of internationalisation"[1]. The internationalisation of higher education is not only a response to globalisation, but also a promoter of globalisation[2],[3].

It is defined as "a process which, due to the international mobility of students and teachers, leads to the integration of the educational functions of higher education institutions and their governance at international and intercultural levels". The internationalisation of higher education is characterised by staff mobility, but there are also plans for cooperation, encouraging development and technical assistance[4],[5].

There are two types of internationalisation[6]:

— Internationalisation of higher education in the country of origin: reception of international students on site, development of internationalised study programs and integration of international dimensions in the teaching, learning and research activities carried out in national institutions.

---

[1]   KNIGHT, Jane. Interview with Jane Knight. *IMHE info*, 2003, vol. 1, no 2.

[2]   HUANG, Futao. L'internationalisation de l'enseignement supérieur à l'ère de la mondialisation: ses répercussions en Chine et au Japon. *Politiques et gestion de l'enseignement supérieur*, 2007, no 1, p. 49-64.

[3]   COSNEFROY, Laurent, DE KETELE, Jean-Marie, HUGONNIER, Bernard, *et al. L'internationalisation de l'enseignement supérieur: le meilleur des mondes?*. De Boeck Supérieur, 2020.

[4]   WIHLBORG, Monne et ROBSON, Sue. Internationalisation of higher education: Drivers, rationales, priorities, values and impacts. *European Journal of Higher Education*, 2018, vol. 8, no 1, p. 8-18.

[5]   HAUPTMAN KOMOTAR, Maruša. Global university rankings and their impact on the internationalisation of higher education. *European Journal of Education*, 2019, vol. 54, no 2, p. 299-310.

[6]   ROBSON, Sue et WIHLBORG, Monne. Internationalisation of higher education: Impacts, challenges and future possibilities. 2019.

— Sending students, teachers and researchers abroad, transnational or cross-border higher education activities including exported study programs offered in higher education institutions abroad.

Each university institution adopts an internationalisation strategy because its contribution to the creation of knowledge and innovation is significant[7].

2.1. International mobility

International mobility can be defined as the geographical mobility of students to foreign countries. It is essential for attractiveness, the competitiveness of the economy, the quality of research, the reputation of higher education systems and the chances of student success[8]. Today, higher education has become highly competitive globally and the international reputation of universities has turned into a key element in attracting students[9].

The Bologna Declaration, signed in 1999, enabled higher education to be more attractive to students from all over the world and to promote student mobility between countries during their studies[10]. One of the main objectives of the Bologna process has been not only to consolidate and harmonise European higher education systems, but also to strengthen the international competitiveness of European higher education, mainly with respect to American higher education.

To support such student mobility, the European Union has made instruments and funding available to its member countries[11]. The most emblematic European programme in this area is the Erasmus student exchange system (European Community Action Scheme for the Mobility of University Students) launched in 1987 which now offers, on the scale of an enlarged Europe, institutionalised mobility[12]. International mobility keeps growing, accompanied by a distribution of geographical mobility flows in different countries. The harmonisation of courses in Maghreb countries through the Bologna

---

[7]   VEUGELERS, Reinhilde. L'internationalisation de l'enseignement supérieur et ses effets sur l'économie. 2020.

[8]   RÉGNIER, Jean-Claude et ACIOLY-REGNIER, Nadja. Mobilité internationale académique et Interculturalité. In : *Biennale Internationale de l'Éducation, de la Formation et des Pratiques Professionnelles:" faire/se faire".* 2021.

[9]   ERLICH, Valérie, GÉRARD, Étienne, et MAZZELLA, Sylvie. La triple torsion des mobilités étudiantes. *Agora debats/jeunesses*, 2021, no 2, p. 53-69.

[10]   SCHOMBURG, Harald et TEICHLER, Ulrich. Mobilité internationale des étudiants et débuts de vie active. *Formation emploi. Revue française de sciences sociales*, 2008, no 103, p. 41-55.

[11]   HUGONNIER, Bernard. Stratégies et politiques des États en matière d'internationalisation de l'enseignement supérieur. *L'internationalisation de l'enseignement supérieur: Le meilleur des mondes?*, 2020, p. 33.

[12]   HAVET, Nathalie. Mobilité internationale des étudiants du supérieur et débuts de vie active. *Revue francaise d'economie*, 2017, vol. 32, no 2, p. 64-106.

process has allowed the development of international mobility towards Europe despite the difficulties in administrative procedures[13].

Thus, international mobility has become essential for the reputation of institutions and for the recognition of the quality of their training because the global landscape of higher education and its international dimensions are constantly changing.

2.2.   Internationalisation at home

The concept of "internationalisation at home" was "born" at the University of Malmö (Sweden) in 1998, which lacked a network of partners and was unable to send its students abroad. It was first introduced in 2001[14]. This concept appeared as an alternative to international mobility, which is widely promoted by the Erasmus mobility programme. Rather than replacing traditional forms of mobility, it is more about supplementing them, in particular for students who cannot move for various reasons. It is also a set of instruments and "at home" activities which aim to develop international and intercultural skills for all students but also to strengthen cooperation between institutions in their internationalisation efforts, while improving the quality of the sector and human resources through mutual learning and the comparison and exchange of good practices[15].

The COVID-19 crisis has certainly put international mobility on hold, but it has also created an opportunity to develop and invest in internationalisation "at home". Indeed, internationalisation at home must be prioritised in the internationalisation programme because it is aimed at a very wide audience and is also inclusive and democratic[16].

3.   Internationalisation at home in Algeria

The university network currently has 107 establishments hosting 1,669,000 students divided into bachelor's, master's and doctoral degrees for the 2021–2022 academic year. The objective of higher education is to respond to national priorities but also to international

---

[13]   Ghouati, Ahmed. Espace euro-méditerranéen d'enseignement superieur et de recherche et circulation des flux d'etudiants maghrébins. In : *Conférence annuelle de l'OREM–Chaire Jean Monnet. Session Education:«Les* études *euro-méditerranéennes en perspectives»*. 2019.

[14]   Crowther, Paul, Joris, Michael, Nilsson, Bengt, *et al.* Internationalization at home (beyond mobility). 2001.

[15]   Almeida, Joana, Robson, Sue, Morosini, Marilia, *et al.* Understanding internationalization at home: Perspectives from the global North and South. *European Educational Research Journal*, 2019, vol. 18, no 2, p. 200-217.

[16]   Guimarães, Felipe Furtado, Mendes, Ana Rachel Macêdo, Rodrigues, Lisiane Mendes, *et al.* Internationalization at Home, COIL and Intercomprehension. *SFU Educational* Review, 2019, vol. 12, no 3, p. 90-109.

requirements in terms of knowledge, skills and the qualification of students. This is why the international mobility of students is part of a process of developing multicultural skills which remains an essential prerequisite for their integration into a global labour market[17].

In this context, Algerian universities must take charge, on the one hand, of the needs of increasingly demanding students. They seek to obtain a diploma within the framework of cross-border mobility, which will allow them the opportunity of a job on the international labour market. On the other hand, Algerian universities must also mobilise the scientific diaspora established abroad with a view to integrating it into the internationalisation process.

As part of their integration into the world system of higher education, Algerian universities have adopted the LMD system and are part of an internationalisation process focused mainly on importing education services but also exporting them, albeit still timidly, to Arab and African countries.

Today, internationalisation translates into increasing mobility and requires the availability of infrastructure and substantial financial resources.

However, student mobility is limited, even while students' motivation remains linked to the search for quality training to facilitate their access to the national and international labour markets.

International mobility is desired by all students when completing their initial training, but the difficulties mainly related to the limited number of mobility options, the preparation of administrative files, visas etc., mean that less than 2% of Algerian students leave the country[18].

In this context, Algerian universities can turn to internationalisation at home, which proves to be an interesting way of fostering the development of an institutional culture that is internationally oriented in order to ensure quality higher education that is adapted to the context and challenges of globalisation, exchanges and knowledge. It is also a dynamic process in which Algerian universities can only participate through the international opening of higher education establishments as well as experiences with renowned foreign university and research institutions with high scientific and technological capabilities.

Internationalisation at home aims to promote the internationalisation of courses and allows students to develop qualifying international skills regardless of physical mobility.

Algerian universities have developed international partnerships to strengthen mobility. However, given the global health context, internationalisation at home is an opportunity for Algerian universities. The presence of foreign students and teachers on their

---

[17] Montgomery, Catherine et Bourassa-Dansereau, Caterine. Mobilités internationales et intervention interculturelle: théories, expériences et pratiques. PUQ, 2019.

[18] Source UNESCO

campuses will enable the entire university community (students, teacher-researchers, administrative and support staff) to develop openness and intercultural communication skills. Among the assets achieved is the opening of Intensive Language Teaching Centres (CEIL) in all universities, the main objective of which is the linguistic empowerment of students.

4.   CONCLUSION

Internationalisation at home also aims to reduce inequalities, seek equity and strive to achieve sustainable development, but also and above all to develop critical thinking about globalisation while respecting and promoting human rights and cultural differences.

Higher education devotes the resources at its disposal mainly to training and research, but very few for international reputation-building. Thus, the inadequacy of financial resources can influence the governance of universities and consequently their internationalisation processes.

In the current context, the process of internationalisation cannot be effective and is limited to a few individual projects and the mobility of a few individuals. Further efforts are needed to make Algerian higher education more competitive globally and to give it greater visibility.

Internationalisation at home is a dynamic process in which Algerian universities can only participate through the international opening of higher education establishments as well as experiences with renowned foreign university and research institutions with high scientific and technological capabilities.

Thus, to become a world-class university, the university is called upon to clearly define its international strategy.

The effectiveness of national scientific data platforms (ASJP_SNDL_PNST_DSPACE) in improving the quality of university publications in terms of readability and impact factor

Farouk SOLTANI
Al-Msila University (Algeria)
The Algerian Poetic Laboratory
Farouk.soltani@univ-msila.dz

1. INTRODUCTION

The developments taking place in the field of scientific research technology at the international level have encouraged the higher scientific bodies in Algeria to keep pace by following a solid strategy based on the digitization of educational and learning processes in the field of higher education, teaching, research, writing and publishing. The features of this strategy were reflected in the establishment of national scientific data platforms, which contributed to the existence of a virtual digital knowledge bank, after the current pandemic conditions helped to enhance the free access to scientific information through the use of technical means to view and read the scientific content published on the national platforms (asjp_dspace_sndl_pnst).

The national scientific platforms overcame the scientific stumbling block for actors in the academic educational field (professor_researcher_student), due to the multiple knowledge content, which would satisfy the intellectual curiosity of the recipient with lowest cost and fastest time, especially in the current educational conditions in which distance learning has become an indispensable educational strategy, as these platforms complement it. Readers can see all new and updated information immediately and periodically, without having the trouble of classic research based on the principle of attendance and the use of hard copy scientific references.

This positive change in the path of scientific readability will provide useful output that will raise the level of scientific research nationally and improve the efficiency of researchers by raising the impact factor and h-index, because spreading the culture of education and cloud research as an alternative to attendance education leads to the availability of solid knowledge content capable of (storage, download and employment) in various scientific positions after reading it, by encouraging academic segments to use scientific platforms and refer to them constantly.

The study has been limited to the following four national platforms: National Portal for Scientific Journals, National Portal for Online Documentation, and the

Institutional Repository for Universities, using in the study the descriptive approach and the following two mechanisms: Analytics and Statistics, it's an approach that helps to demystify what these platforms are (Origin and Function).

The purpose of the study is also reflected in: Giving a positive and different view of cloud education, in which counter the prevailing custom of students who still see the professor as the source of the scientific knowledge. The study further aims to show the scientific contribution added by the above-mentioned national data platforms and assess the positive effect that has helped to value the mechanism of remote cloud education, enhance the quality of scientific research, and reflect its reliabiltiy on the high h-index among researchers.

While using national platforms, researchers face certain difficulties that prevent the optimal use thereof, including the following:

— The content is periodically exposed to hacking, due to weak cybersecurity of the platforms, and exposed to technical malfunction due to poor internet traffic flow.

— The length of time to update platforms with new knowledge content, which reduces researchers' desire to view it.

— Lack of sufficient knowledge of the mechanisms for using educational and research technology.

— Limited knowledge of researchers in terms of how to deal with automated search across data platforms, and the possibility of being exposed to an ethical problem of scientific integrity when using the bibliographic documentation mechanism of indexed electronic references on the platforms via scientific researcher service (google scholar).

In order to explain the modern scientific concepts in the Algerian scientific community, we present several problems in connection with several intellectual aspects that roam the minds of academics, and the information contained in this intervention will enlighten everyone who is interested in the topic of cloud education and free access to information and its relationship to the advancement of the level of academic research, as we consider the following questions:

— How can the national scientific platforms contribute to enhancing the quality of scientific research, readability and impact factor?

— What are the most important suggestions that improve the work of these platforms to comply with international standards?

— What benefit does the researcher get from their digital scientific identity, whether in terms of publishing or international employment?

2. FIRST, THE NATURE OF DISTANCE EDUCATION AND SCIENTIFIC RESEARCH AND PURPOSES THEREOF REGARDING KNOWLEDGE

The world is currently witnessing a qualitative leap in the area of educational and research foundations of universities, now that technology has shown its effectiveness in achieving scientific efficiency for students in light of the current pandemic conditions affecting the entire world. The educational and learning process in university institutions is based on two strategies, which are: First: In-person and cloud (distance) education; Second: Digital scientific research based on research platforms. Thus, knowledge contact is no longer confined to the professor-student duality, as the acquisition of scientific knowledge has become linked to the use of scientific means, especially digital means, because it allows smooth and secure acquisition of knowledge for the actors in the imparting and receiving of information, and perhaps cloud education and scientific research through national scientific research platforms are among the most important strategies currently being used. So what does this mean?

2.1. Cloud Education

It is an educational means that depends on knowledge instruction technologies, provided that the presence of the actors in the educational process is virtual, for the purpose of obtaining permanent and continuous visual knowledge content, as this type of education shows the ability of the professor and the student to "use technological innovation in order to achieve better effectiveness and efficiency for education, including the use of a computer and its accessories, electronic display means, satellite channels, satellites, the internet and electronic libraries, to provide learning throughout the day, for those who want it and in the place that suits them, via various means and methods which display the educational content with static and moving visual elements with audio-visual effects, that makes education more interesting and enjoyable, with higher efficiency and with less time and effort"[1].

The advantage of cloud education is its quantitative ability to provide education "for a large number of people wishing to pursue their higher education, without the need to frequent the classroom, as information can be transferred from the professor to the student, regardless of the compatibility or difference of time and place between them"[2].

---

[1] منبر طبي، التعليم الإلكتروني آلي معاصرة نحو تفعيل العملية التعليمية، مجلة التمكين الاجتماعي، جامعة الأغواط، المجلد2 ، العدد04 ، ديسمبر2020 ، ص.76.

[2] هشام عبد الواقي، أنماط التعليم الجديدة في ظل الجائحة وما بعدها، مجلة دراسات في التنمية والمجتمع، جامعة الشلف، المجلد06 ، العدد02 ،30/06/2021 ، ص.03.

This e-learning process is virtual and interactive, using the digital means created for distance education, so that the knowledge content is readable all the time.

Digital development in teaching technology has contributed to encouraging the officials of scientific bodies to use cloud education at the present time, because there are several factors that have helped to enhance the existence of this educational method, including:

— "The emergence, evolution, spread and consistency of the Internet and networking technologies with electronic publishing techniques.

— Increased use of information sources available on the internet.

— Decrease in the budgets allocated to the acquisition of scientific intellectual production; which led to the inability of libraries to meet all the needs of their users and satisfy them.

— The political, social and cultural transformations the world has gone through that require more rights for ordinary citizens in political and social participation, including the right to access knowledge and information"[3].

E-learning made it possible to keep pace with the globalization of knowledge, which in turn contributed to the proper management of the optimal use of the Internet in the field of university education, overcoming the difficulties that prevented students from acquiring knowledge, especially when it came to overcoming the hurdles of mobility for the sake of in-person education as distance education provides the same knowledge with free access, and perhaps, in terms of educational outcomes, it obtains better efficiency for the active learner.

2.2. Types of cloud education

There are three types of cloud education, each having a specific feature that distinguishes it from the others, but all of them provide added knowledge that serves the field of e-learning, as a result of the flexibility, interaction and ease of use inherent therein, in order to acquire knowledge based on visual instruction utilizing the art of public speaking and listening through technological means that provide information virtually. The three types are:

---

[3] ينظر :عبد القادر كداوه، دليل مستودعات الوصول الحر للمعلومات :الحر أنموذجا، مجلة دراسات وأبحاث المجلة العربية للأبحاث والدراسات في العلوم الإنسانية والاجتماعية، جامعة الجلفة، المجلد13 ، العدد01 ، جانفي 2021، ص.652_651

2.2.1. *Synchronous E-Learning*

It is one of the educational means that promote a culture of Internet-based distance learning for the purpose of "communicating and exchanging lectures and research topics, between both learners and teachers in real time in order to teach the subject, through instant chat rooms and virtual classes"[4].

2.2.2. *Asynchronous E-Learning*

This educational means differs from the first only in the aspect of the technological means adopted in the educational process which are indirect, where the method of education in this method is limited to learners "taking courses or lessons according to a planned study program, in which they choose the time and place that suit their situation, by using some methods and tools of e-learning, such as: E-mail, internet, mailing lists, discussion forums, and file transfers and compact discs"[5].

2.2.3. *Integrated Education*

This type of e-learning is based on the overlap of several technical means, in order to integrate and make them consistent, whereby this blended education includes several learning tools, namely: Instant virtual collaborative learning software, online accredited courses, self-learning courses, electronic performance support systems, management of education systems and blended learning with the integration of multiple activity-based events, including traditional classroom based learning where teachers and students meet face-to-face"[6].

The importance of these three types lies in promoting the importance of using artificial intelligence (AI) in the educational field, due to the many competencies it achieves, aimed at valuing self-learning by encouraging students to adapt to cloud education technologies. This education provides the additional benefit of a digital knowledge bank that can be stored and uploaded at any time and from anywhere, in a way that ensures the free, immediate and smooth access to information for learners.

Second, scientific research during the current pandemic

The educational process at university is not limited to providing students with science, both human and technical, rather, its essence is to encourage students to have a spirit of research and investigation of information, to not be satisfied with cursory knowledge of the specialization they are studying, but to seek and contemplate and not

---

[4] منير طبي، التعليم الإلكتروني آلي معاصرة نحو تفعيل العملية التعليمية، ص77
[5] المرجع نفسه، ص77
[6] المرجع نفسه، ص77_78

be satisfied with receiving the superficial meaning of the phenomenon in question, rather, but to explore its secrets and causes in a systematic and organized way until they reach the hidden meanings which were not clear at the beginning. Perhaps "the simplest application of scientific thinking in life is to adopt planning as a principle in the face of our individual and social problems. Society or the individual can no longer live in spontaneity and improvise solutions and situations"[7].

Therefore, scientific research is an educational basis that distinguishes the university study from the other educational stages, and here we ask the following two questions:

— What is scientific research?

— What are its most important research mechanisms in the current environment of cloud education?

2.3. Concept of scientific research

"Van Dalen" defines it as: "An accurate, organized, and critical attempt to find solutions to the various problems facing humanity, and which raise concern and confusion for human beings"[8].

While other researchers provide another definition as follows: "an organised scientific effort, aimed at discovering and verifying new facts, and analysing the relationships between the various facts"[9].

It is clear that scientific research in its practical nature depends on the use of a clearly defined approach during the research process, so that the approach is seen as "using an organized method to face our daily problems an problems in general", which also means that we will be able to do the following:

— Accurately identify our problems to help us study and research them.

— Make initial assumptions that help us solve our problems.

— Identify the necessary procedures to choose hypotheses and find solutions to problems"[10].

The meaning extracted from these concepts is that they share a single intellectual point: The human mind no longer deals with the phenomena of life spontaneously, but rather interacts with life variables with constant thinking, and begins to doubt its facts and inquire about its multiple apparent and hidden causes that call for understanding and prediction, so it tries to find realistic solutions to them using methods based on a clear approach.

[7] ذوقان عبيدات وآخرون، البحث العلمي مفهومه وأدواته وأساليبه، دار الفكر، بيروت،1984 ، ص12

[8] ذوقان عبيدات وآخرون، البحث العلمي مفهومه وأدواته وأساليبه، ص41

[9] المرجع نفسه، ص41

[10] المرجع نفسه، ص13

2.4. Scientific Research Mechanisms in light of the digitization of scientific learning

The pandemic conditions that swept across the world during the past years dictated the adaptation of scientific research to the deadly epidemiological situation, in order to ensure the health and safety of the professor and student, as well as to ensure the continuity of the educational process in ways that guarantee student access to knowledge. Perhaps the most important challenge facing this educational system is: How to obtain scientific sources and references for the various actors in the educational process, so that academic knowledge can continue to be produced (books, articles, thesis and notes). The strategy of establishing national scientific data platforms was a shift in the path of education and scientific research in Algeria, due to the outputs it provided that contributed to improving and facilitating the teaching process and scientific research. These platforms include:

2.4.1. *The Institutional repository_Dspace*

In the context of keeping pace with informational globalization in which scientific research proceeds in the modern context, universities have established a digital repository that helps to store the scientific publications of researchers and students belonging to it. It is an initiative that reflects the great awareness among the directors of national universities, as a result of their understanding of the benefit of these repositories in spreading the readability of scientific content, considering the repository "as a collaborative workspace on the internet to collect and preserve the academic scientific production of organisations and research centres, to create a collective memory that is distinguished by cumulative and long-term preservation, where the user of the digital repository publishes their intellectual product and saves it in the repository to facilitate access to it for the purpose of retrieving it and benefiting from it"[11].

Among the systems included in the institutional repository of universities is the Dspace system. So what is this system? And what are its most important scientific outputs?

The Dspace institutional repository means: It is a software system invented in 2000, which helps to create "Digital repositories in order to manage the digital content of academic organisations. The system preserves and allows the free access to various

---

11 وداد العمري وآخرون، دور المستودع المؤسساتي Dspace في التحصيل المعرفي للأساتذة بجامعة المسيلة، مذكرة مكملة لنيل شهادة الليسانس في علوم الإعلام والاتصال، جامعة المسيلة،2018/2019 ، ص.05.

digital sources (texts, images and videos), as well as supporting Dublin Core standard, and allows the export and import data and search with full text"[12].

This system ensures the provision of a digital knowledge bank, used to deposit scientific literature for universities, preserving and protecting ownership, then allows the free and permanent download and use of its knowledge content after being read by the researcher.

2.4.1.1. *The importance of Institutional repository Dspace*

Those familiar with this type of software in academia will immediately realize that it provides many useful scientific outputs for academic readers with various attributes and benefits such as:

— Collecting scientific content in one digital library which facilitates long-term preservation and instant and free access.

— "Helping researchers and students to save and retrieve their research and make their scientific works available inside and outside the academic organisation while protecting intellectual property rights.

— Increasing the opportunities to see and cite intellectual works, thereby increasing the impact factor of scientific research.

— Emphasizing the availability of digital content to improve the quality of educational sciences and meet the various educational needs.

— Raising and enhancing the scientific position of the university by increasing views and reference citations to the intellectual production of its affiliated researchers in the scientific community locally and globally.

— Providing access to scientific research around the world"[13].

2.5. Institutional repository Dspace for Al-msila University

National universities attach great importance to archiving knowledge content at the level of their institutional repository, because it ensures the improvement of their readability and an increase in the impact factor of researchers' knowledge citations. This scientific openness has made it possible, through institutional repositories over the past five years, to raise many national universities in the national, continental and international rankings related to the evaluation of the content of the institutional repository for each university. Mohamed Abu-Diyaf University in Msila is an academic

---

[12] زليخية حشود، سارة شلغوم، استراتيجية إدارة المحتوى المعلوماتي للمستودعات الرقمية المؤسساتية دراسة حالة Dspace جامعة حسيبة بن بوعلي بالشلف، مجلة بيليوفيليا لدراسات المكتبات والمعلومات، جامعة تبسة، العدد 02،2019 ، ص.114.

[13] بتصرف: المرجع نفسه، ص113

model that could be cited after achieving "first place nationally"[14], while "ranked 204th globally"[15], after it ranked 26th continentally" in 2020[16], in terms of its reliance on three basic criteria in ranking, which are:

_ The quality of scientific literature published at the level of the university's institutional repository.

_ The amount of scientific achievements archived on the website and edited in foreign languages (English and others) and the value of citing them in various scientific papers nationally and internationally.

_ Viewing of university website.

This qualitative leap in the path of Msila University is excellent considering the recent establishment of its digital repository in 2016[17].

---

14 ينظر :دون مؤلف، جامعة محمد بوضياف الأولى وطنيا، الجريدة الالكترونية الشعب، رابط المقال : http://www.ech-chaab.com/ar/%D8%A7%D9%84%D8%AD%D8%AF%D8%AB/%D8%A7%D9%84%D9%85%D8%AD%D9%84%D9%8A/item/165957-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D9%85%D8%AD%D9%85%D8%AF-%D8%A8%D9%88%D8%B6%D9%8A%D8%A7%D9%81-%D8%A7%D9%84%D8%A3%D9%88%D9%84%D9%89-%D9%88%D8%B7%D9%86%D9%8A%D8%A7.html، تاريخ لنشر 12/02/2021 ؛، تاريخ الزيارة.20/10/2021 :

15 ينظر :دون مؤلف، جامعة المسيلة تحتل المرتبة الأولى وطنيا في تصنيف google scholar ، الجريدة الالكترونية البلاد نت، رابط المقال https://www.elbilad.net/derniere-info/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A7%D9%84%D9%85%D8%B3%D9%8A%D9%84%D8%A9-%D8%AA%D8%AD%D8%AA%D9%84-%D8%A7%D9%84%D9%85%D8%B1%D8%AA%D8%A8%D8%A9-%D8%A7%D9%84%D8%A3%D9%88%D9%84%D9%89-%D9%88%D8%B7%D9%86%D9%8A%D8%A7-%D9%81%D9%8A-%D8%AA%D8%B5%D9%86%D9%8A%D9%81-scholar-google-2021-91923، تاريخ النشر 15/05/2021 ؛، تاريخ الزيارة.20/10/2021 :

16 الهاشمي بن الواضح، جامعة المسيلة الرابعة وطنيا و 26إفريقيا، الصفحة الرسمية لجامعة المسيلة :رابط المنشور https://www.facebook.com/UniversityofMsila/posts/1690902664390868 ؛، تاريخ النشر 28 :جوان 2020، تاريخ الزيارة.20/10/2021 :

17 ينظر :وداد العمري وآخرون، دور المستودع المؤسساتي Dspace في التحصيل المعرفي للأساتذة بجامعة المسيلة، ص16

The image shows: (Al-Msila University Ranking in 2020). The image shows: (University Ranking in 2021)[18].

2.5.1. *Steps for using the institutional repository Dspace of Al-Msila University*

— Access the university's official website link; available here: https://www.univ-msila.dz/ar/

— Hover over the institutional repository Dspace icon, located at the top of the page in the fourth option; as shown in the image:

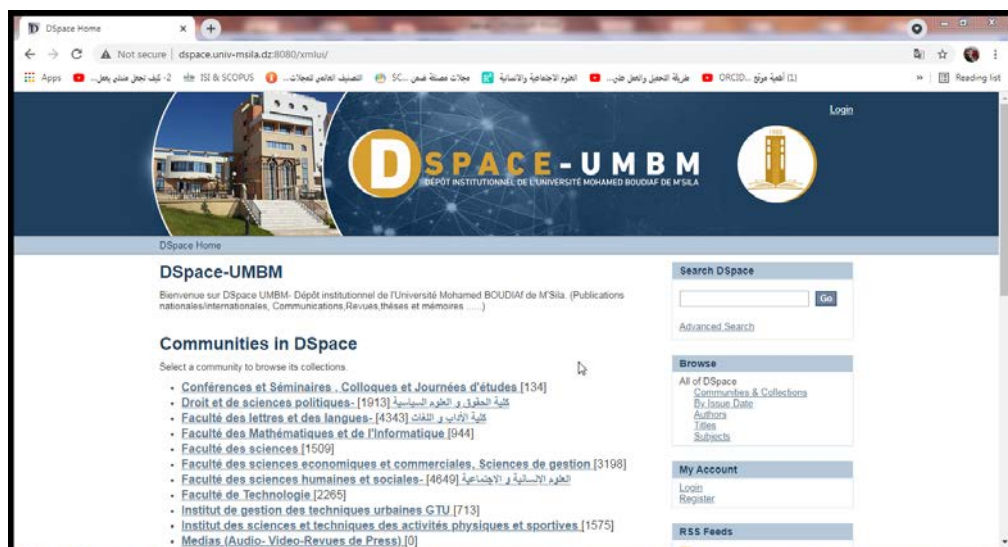— After clicking on the icon, a new window will open, displaying the main interface of institutional repository Dspace, as shown in the image below:

---

18 الهاشمي بن الواضح، العرض الصحفي حول تصنيف جامعة المسيلة الأولى وطنيا، الصفحة الرسمية لجامعة المسيلة، رابط المقال :
https://m.facebook.com/groups/370380536415795/permalink/3735522046568277/?sfnsn=mo&ref=share
، تاريخ النشر11/02/2021 ؛، تاريخ الزيارة.20/10/2021

— Or access it directly by clicking on the link below: http://dspace.univ-msila.dz:8080/xmlui/

— This window allows you to view the university scientific literature according to each faculty and its quantitative amount, as shown in the image:
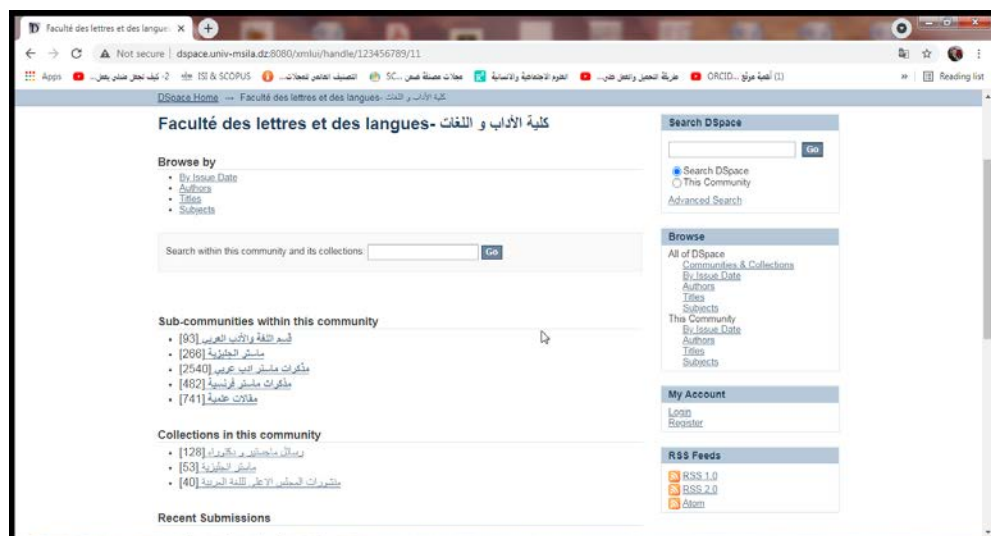
— After selecting the faculty; for example: We select (Faculty of Arts and Languages), a new window will open, showing you the type of publication according to

each department and its type (intervention, articles, graduation notes, master's theses and theses), as shown in the image:

— After selecting a specific scientific content, a new window will open that allows you to see the summary of the scientific research, with the ability to read or download it in PDF format, by clicking on the (Open/View) option.

2.5.2. *Bibliographic content of the institutional repository Dspace of Msila University*

The repository of Msila University is a distinctive digital knowledge bank, because it has a diverse and rich academic knowledge content, affiliated with the authoring professors in various scientific positions (class days, scientific forums and graduation discussions) related to the three types in the different faculties and departments, and in this research we will try to count the bibliographic product of the archived scientific references in the institutional repository of Msila University, as shown in the following table:

Faculty/content	Thesis	Master's Degree	Notes	Articles	Conferences	Professors' publications
Faculty of Law and Political Science	04 Science thesis	03	1272 Master of Laws	114	01	104
	22 Thesis L M D		370 Master of Political Science			
Faculty of Arts and Language	77 Science thesis	128	2540 Arabic literature	743	00	40 Supreme Council for Arabic Language
	15 Thesis L M D		482 French			
			266 English			
Faculty of Humanities and Social Science	33	07	3063	110	42	00
Faculty of Economics and Commercial Sciences	205 Science thesis	205	2102	196	665	00
	60 Thesis L M D					
Institute of Physical and Sports Activities	93	00	1313	32	00	00
Faculty of Technology	112	00	1715	131	00	00
Faculty of Science	Chemistry 22	06	178	09	00	00
	Physics 25	00	447	24	00	00
	Agricultural Sciences 01	00	232	06	00	00
	Natural Sciences 09	00	340	15	00	00
	Biochemistry 00	00	117	03	00	00
Faculty of Mathematics and Automated Media	39 Science thesis	02	420 Media Major	09	00	00
	21 Thesis L M D		392 Mathematics major			
Institute of Cultural Technologies	19	10	667	09	02	00

Classified and Peer-Reviewed Scientific Journals		4451	

The table shows: (Statistics of scientific achievement archived on the institutional repository Dspace website of Msila University).

The above table shows: Content richness and variation in terms of the amount of archived scientific research in it according to each section, so that the variety of the digital content rich with "paper text documents that have a digital counterpart was the most viewed because it ensures the quality of the content of open archive to undergo scientific arbitration, it is also considered the most important information sources that researchers resort to in order to meet their scientific and research needs, these documents are represented primarily in theses, then scientific articles, then conference proceedings, and finally patents, while the original and unofficial digital documents such as images, maps, audio and video files, educational entities, reports, research projects, manuscripts and rare books are completely absent, and these documents are available and displayed in PDF format"[19]

We also realise from this scientific variety the eagerness of university administrators to continuously digitize all scientific production, in order to promote the "Zero paper"[20] policy that the university has been following since 2019, as highlighted by the internal instruction issued by the university presidency:

---

[19] آمنة بهلول وآخرون، الأرشيفات المفتوحة وإتاحة المحتوى الرقمي: مستودع الأرشيف المفتوح لجامعة أبوبكر بلقايد تلمسان أنموذجا، مجلة ببليوفيليا لدراسات المكتبات والمعلومات، جامعة تبسة، العدد06، 30/06/2020، ص 30.

[20] رابح بوقرة، سياسة الرقمة _صفر ورقة للجامعة، رئاسة جامعة المسيلة، رقم150، تاريخ الإصدار: 18/06/2019

The image shows: (A zero-paper strategy approach at Msila University in the framework of promoting digital work).
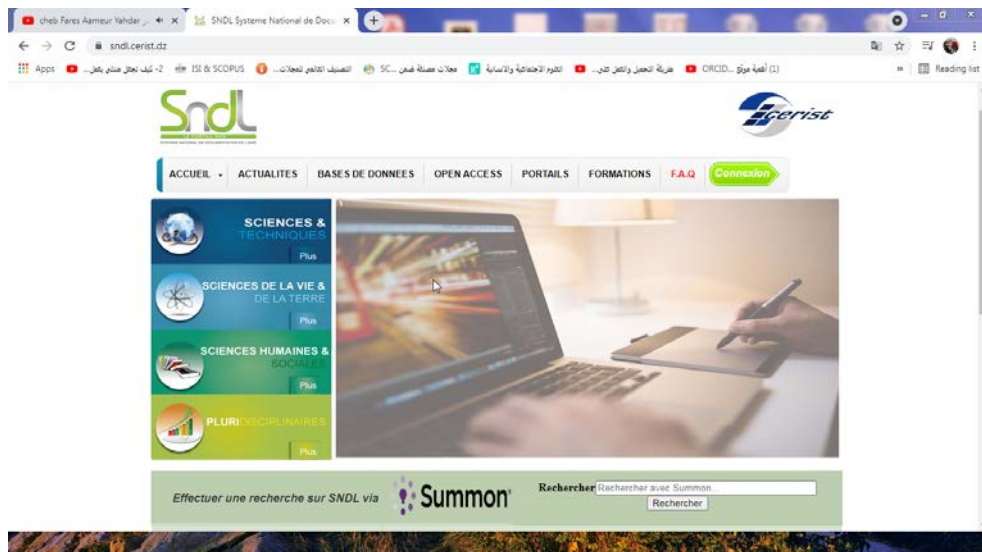
2.6. The national online documentation portal (sndl)

This is a digital knowledge bank limited to Algerian students. It was established in 2011 within the framework of "the implementation of the national project for identifying, processing, reporting and placing the national scientific production on the Internet, such that the sources and index are already provided to you through this portal; Cerist this is the Algerian reviews portal Sndl, you will find more details about available products by clicking on portal icons in the navigation bar on the home page of the (Asa_algeriana) website, Algerian databases, and the national theses reporting portal Pnst"[21].

Any Algerian university student who is pursuing their studies at the graduate level can benefit from the portal, as it contains specialized and diverse knowledge content that covers all disciplines, provided that an account is opened by going to the nearest central library of the university or a research laboratory accompanied by a registration certificate and a written request or by sending an e-mail to the sndl portal headquarters:

---

[21] تاريخ النشر _2011 دون مؤلف، البوابة الوطنية للتوثيق عبر الخطSndl ، رابط الموقع :
https://www.sndl.cerist.dz/index.php?p=1،، تاريخ الزيارة 24 :أكتوبر.2021.

Sndl@cerist.dz, then access the site by clicking on the official link of the portal provided here: https://www.sndl.cerist.dz/index.php?p=2
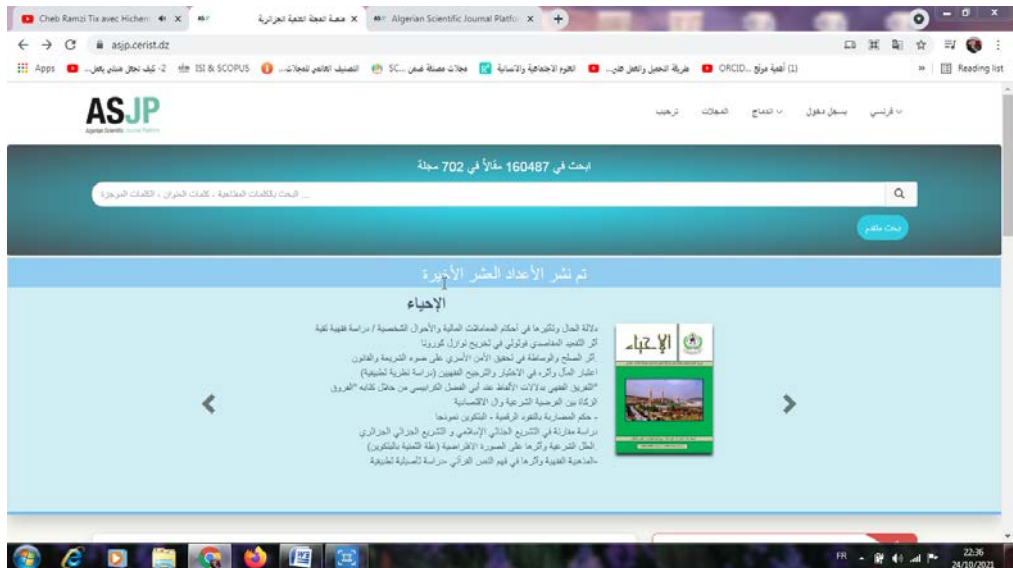

The image shows: (The official interface of the national portal for online documentation Sndl).

2.6.1. *The knowledge bank available on the national portal for online documentation Sndl*

The portal includes many national and international platforms with free access to downloadable scientific research after the student is authorised to use it. These national portals include:

— The national portal for Algerian journals, Asjp
— The national portal to notify about theses, Pnst
— University libraries and research centre portal, Biblio univ
— Algerian collective catalogue, Ccdz
— Review portal for scientific articles Web reviews

Since the establishment of the national portal for online documentation sndl, Cerist has included many international platforms, as it contains articles, books and reports, results of international forums, and it is updated and expanding all the time, and in this image we present the most important of these international platforms that have agreements with with Sndl:

The image shows: (International data platforms shared with sndl).

There are two ways to search and benefit from the knowledge content here: Simple and advanced searches, provided that all scientific research is downloadable in PDF format, always free of charge for Algerian researchers only.

2.7. The national portal for Algerian journals (Asjp)

Higher organisations in the field of scientific research have adopted a new view of scientific publishing, the strategy of which is to move from written paper to digital publication, by establishing a national platform for peer-reviewed journals, such that this portal "is part of a national scientific and technical information system that protects writers and academics from falling into the trap of fictitious magazines or predatory publishers, as it is a third party between the writer and the publisher, the portal is administered by research centre and scientific and technical media belonging to the Ministry of Higher Education"[22].

You can access to the national portal for journals by signing up after clicking on the following direct link: https://www.asjp.cerist.dz/

---

22 عبد الجليل طواهير، بشير بن شويحة، أثر جودة البوابة الجزائرية للدوريات العلمية Asjp على رضا المستخدمين، باستخدام نموذج دليون وماكلين_دراسة ميدانية لعينة من أعضاء هيئة التحرير للمجلات العلمية صنف ج بالجزائر، المجلة الجزائرية للتنمية الاقتصادية، جامعة قاصدي مرباح _ورقلة، الجزائر، د م، د ع، 06 فيفري2019 ، ص.89.

The image shows: (The official interface of the Algerian portal for scientific journals Asjp).

The national portal for scientific journals Asjp since its establishment in 2017 includes scientific courses in various scientific disciplines, as shown in the following table:

Agricultural Sciences	Arts and Literature	Biochemistry, Genetics and Microbiology	Business. Management and Accounting	Chemical Engineering	Chemistry
Computer sciences	Decision Sciences	Dentistry	Earth and Planetary Sciences	Economy, Econometrics, and Finance	Energy
Engineering	Environmental Sciences	Health posts	Immunology and Microbiology	Materials Science	Mathematics
Social Sciences	Veterinary Medicine	Science and technology of physical and sports activities	Islamic Sciences	Physics and Astronomy	Psychology
Medicine	Neurology	Medical Care	Pharmacology and pharmaceutical toxins	Administrative and General Sciences	

The portal provides periodic statistics on the view of the archived content in one year, which are as follows:

Number of Journals	702 Peer-Reviewed Journal		
Type of Journals	37 C class journals in 2018	89 C class journals in 2019	More than 200 C class journals in 2021
Number of articles	160487 Published articles		
More than 100 cited articles	Direct link: https://www.asjp.cerist.dz/MostCitedJorArt		
The top 100 journal impact factors	Direct link: https://www.asjp.cerist.dz/bestImpactFactors		
Bibliographic information about the journal and published articles	Journal name, classification, issuing institution, date of establishment, impact factor, acceptance rate, specialities, publication announcement, issue archive, scientific body, contact information, journal template, journal guide, article summary, author name and article download.		

2.7.1. *The conditions for adding a peer-reviewed journal in the national portal for scientific journals Asjp*

Portal administrators seek to add most scientific peer-reviewed journals issued by various scientific bodies in Algeria whether issued by universities, higher schools, laboratories, research centres or non-public scientific bodies, as the aim of this electronic content is not only to provide a digital knowledge bank, but the digitization of the publishing process is an initial step for counting and evaluating national journals according to the standards in force in various international data platforms, in order to qualify in the future some journals classified at the level of the global data platform such as Scopus, AERI, Ebisco or others that have the ability to raise the quality of knowledge content for researchers and raise the classification of national scientific bodies at the international level, so the portal administrators imposed the necessity of providing objective conditions in the journals so that Editors-in-chief may include them, which qualifies them in the future to advance in the national classification of journals. Among these conditions, we mention:

— The journal should have two years of publication, and more than five downloadable versions.

— The journal should have publication conditions (Journal template, Literature guide) publication therein is always free.

— "The journal should have an international classification number for the hard-copy version and another for the electronic version.

— The journal should have a website that contains all the information and a date of publication in which articles are published regularly.

— The journal should have scientific body composed of scientifically recognised professors of reading and arbitration, and the means of contacting them should be available on the portal website"[23].

Two images show: (Criteria for classifying peer-reviewed journals into Category C nationally)[24].

2.7.2. *Steps to publish a scientific article in the national portal for scientific journals*

The national portal for scientific journals is concerned with electronic publishing of reputable scientific articles, which are received by peer-reviewed and electronically classified scientific journals during certain periods of the year and are subject to confidential arbitration before issuing the arbitration decision, which involves three judgements regarding the evaluation of the article: (Rejection, a*cceptance or acceptance with reservation) After publication, the article will be available for free, immediate, and permanently archived download, and in this image we summarize the most important stages that the article goes through when submitted for publication in a journal on the portal:*

23 فاطمة الزهراء مسعودي، وآخرون، صعوبة النشر في المجلات العلمية عبر البوابة الوطنيةAsjp ، مجلة الباحث للعلوم الرياضية والاجتماعية، جامعة الجلفة، عدد خاص بأعمال الملتقى الوطني العلمي الأول حول :أساسيات النشر في المجلات العلمية المحكمة) التطورات والاتجهات الحديثة(، 14-13 نوفمبر2019 ، ص.474

24 نور الدين كناس، معايير إنتقاء المجلات العلمية المحكمة إلى الصنف ج، مدونةDZ.SCHOLAR ، رابط المنشور- https://1bibliothequedroit.blogspot.com/2019/03/criteres-de-selection-des-revues-categorie-C.html?fbclid=IwAR1EvGVlb2fg9w-c75voWh-6LcFBeskMC7M_YmZQsgn6UwRiwK8rGHEBLPo ، تاريخ الزيارة.2021/10/24 :

تحوين هذا قائمة المقالات المرسلة إلى المجلات، بالإضافة إلى المعلومات المتعلقة بالمقالات والمشتملة في:

- عنوان المقال
- تاريخ الإرسال
- المجلة
- تفاصيل المقال
- حالة المقال

- **في إنتظار المعالجة من طرف رئيس التحرير** المقال على مستوى رئيس التحرير من أجل النظرة الأولى مادام المقال على هذا الحا يمكنكم تحميله بالنقر على الزر **تحميل المقال** أو سحبه من المجلة بالنقر على الزر **سحب المقال**

- **في طور المعالجة** المقال مقبول من طرف رئيس التحرير للمراجعة إذا ظهر الزر **سحب المقال** ، معناه أن المقال لم يتم إسناد د لمحكمين و بالتالي في هذه الحالة يمكنكم سحبه من المجلة، و العكس أن المقال قد تم إسناده لمراجعين و بالتالي لا يمكنكم سحبه..

- **مرفوض** المقال تم رفضه بعد التحكيم.

- **مقبول للنشر** المقال مقبول للنشر، في انتظار صدوره في عدد.

- **مقبول بتحفظات** المقال مقبول بتحفظات، يمكنكم الإجابة عن أسئلة تعليقات و ملاحظات المحكمين، من خلال الانتقال إلى قائمة "المقالات المحولة بتحفظ" في القائمة الرئيسية أو في لوحة المؤشرات.

- **تم نشر المقال** تم نشر المقال.

- **Retiré** قمتم بسحب المقال.

- تحميل:
  مادام المقال في حالة "الانتظار المعالجة من طرف رئيس التحرير" يمكنكم القيام بـ:
  - تحميل معلومات عن المقال (العنوان، الكلمات المفتاحية، الملخص)
  - تحميل المقال و تحميله من خلال النقر على الزر **تحميل المقال**
  - سحب المقال بالنقر على الزر **سحب المقال**

يمكن الحصول على تفاصيل أكثر عن المقال، كقائمة المؤلفين، المؤسسة، البريد الإلكتروني بالنقر على الرابط إصدار. تحميل المقال المرسل النقر على عنوان المقال.

The image shows: (Stages that the article goes through before being published on the pages of peer-reviewed journal added in the national portal for scientific journals).

To find out how to create an account on the national journals portal in order to submit an article and publish or download it from the portal, refer to the video available at the following link:

https://www.facebook.com/ScientificPublication/videos/166609065408770

Third, quality standards in digital knowledge content

Scientific bodies keeping pace with scientific digitization is in response to the requirements of the current era, which is experiencing a boom in the field of artificial intelligence and its applications in academic teaching and scientific research, due to the many advantages this trend provides in the field of the learning process, which will help in the future to improve the quality of higher education in the country. Among the expected outcomes of this adoption of digital repositories in scientific research we find the following:

1. Free access to information and improving its readability:

Scientific digitization made it possible to move away from the scientific research path of authoring and traditional research based on the need for the physical presence of the three parties of the educational process (author, book, recipient). This method is no longer effective at the present time, as technology has been implemented at university libraries and currently knowledge is archived electronically and accessed through the

use of data platforms, which have facilitated the process of saving, downloading and transmitting scientific information smoothly through AI media such as the Internet. Perhaps one of the most important benefits of this new digital trend is the improvement in the visibility of scientific achievement, as the data platforms allow "the ability to browse by address, and this may be due to the popularity of this option. When researchers browse any database, they resort directly to browsing by the title of the document they are looking for to speed up the browsing and search process, and if they do not find what they are looking for, they will narrow down the browsing operations by using various other options such as: The subject field they are looking for, author's name, year of publication, etc."[25].

Browsing the archived knowledge content on national data platforms takes place through two methods:

— Simple search: This is the search icon located at the top of the platform, in which the researcher simply types either the title or the name of the author in the search bar of the platform, in order to get the search results quickly and with more choices.

Simple search	Address, Name of the author_____

— Advanced Search: Expanded search option for scientific references; using its complete bibliographic information _ Author name, reference title, year of publication, publisher, year of publication, an option that aims to narrow search results.

Advanced Search	
Address: _____	Organization: _____
Author: _____	Year: _____

After the results are displayed, the researcher will have the option to download the reference in PDF format by simply clicking on the download icon.

For those who want to see how to take advantage of Msila University's Dspace to download references, they should watch this recorded video (audio and image) in which we show the steps for working with the platform by clicking on the following link[26]:

²⁵ آمنة بهلول وآخرون، الأرشيفات المفتوحة وإتاحة المحتوى الرقمي :مستودع الأرشيف المفتوح لجامعة أبوبكر بلقايد تلمسان أنموذجا، ص،.26

²⁶ فاروق سلطاني، فيديو يشرح كيفية استخدام موقع المستودع المؤسسي Dspace جامعة المسيلة لتحميل المراجع) مذكرات مقالات مداخلات كتب (تساعدك في إعداد بحوثك وتحرير مذكرة تخرجك، الصفحة الرسمية لجامعة المسيلة، رابط المنشور

https://www.facebook.com/watch/?ref=search&v=867532787356437&external_log_id=0c13191b-b9c7-469d-8a72-cd7e29d691fb&q=dspace%20%D8%AC%D8%A7%D9%85%D8%B9%D8%A9%20%D8%A7%D9%84%D9%85%D8%B3%D9%8A%D9%84%D8%A9، تاريخ النشر 10 :فيفري2021 ، تاريخ الزيارة 24 :أكتوبر.2021

https://www.facebook.com/watch/?ref=search&v=867532787356437&external _log_id=0c13191b-b9c7-469d-8a72- cd7e29d691fb&q=dspace%20%D8%AC%D8%A7%D9%85%D8%B9%D8%A9%20 %D8%A7%D9%84%D9%85%D8%B3%D9%8A%D9%84%D8%A9

The scientific digitization of research content at the level of the national data platform facilitated the visualization of scientific achievement on a broad scale not restricted by time or place. This privilege allowed researchers for the digital reference to benefit from free access to information, which is intended to: Make scientific intellectual production available online for free, initially represented in published peer-reviewed articles and draft articles that have not yet been peer-reviewed, for all students on the internet, allowing them to read, download, copy, distribute, print, find and index by search tools for any legal purpose without any financial, legal or technical limitations as long as the work is attributed to its owner"[27].

This process achieves an increase in the readability of scientific achievement for researchers at the national and international level.

2. Spreading the scientific identity of researchers to international readers:

Those familiar with scientific research standards realize that there is an overlap between the process of digitizing scientific achievements in national data platforms and improving their readability, because it offers researchers a common benefit represented in spreading the scientific identity of researchers; which means: "The concerted efforts of the various departments of the university to achieve research excellence through the Deanship of Scientific Research, and the existence of a strategic plan aimed at building up, producing and distributing knowledge in accordance with national and international quality standards, in addition to research excellence, developing innovation and creativity, achieving leadership in the field of information technology, and serving the community are all considered requirements for achieving a knowledge society"[28].

This means that the researcher has a research digital identifier resulting from the researcher's diligence in archiving their scientific papers with different knowledge values (publication_scientific interventions) in the data platforms, so that it can be easily accessed for free (reading and downloading) and then employing them in various scientific research that deals with the same identity orientation. For the researcher, this

---

[27] فردوس، عمر عثمان عبد الرحمن، الوصول الحر للمعلومات البحثية والعلمية تجربة الجامعات السودانية_جامعة غرب كردفان نموذجا، جامعة غرب كردفان، السودان،01/10/2016 ، ص.02.

[28] مضان محمود عبد العليم عبد القادر، الهوية العلمية لجامعة الإمام محمد بن سعود الإسلامية ومدى تلبيتها لمتطلبات مجتمع المعرفة من وجهة نظر أعضاء هيئة التدريس، مجلة العلوم التربوية، جامعة الملك سعود، العدد20 ، الجزء3 ، محرم1441 هـ، ص.486.

digital activity will engage the reader in the knowledge society based on free access to information through the national and international data platform.

This digital scientific activity achieves several scientific and research benefits, including:

— Helping the researchers, scientists and experts to publish their research, and marketing their research products through the platforms which leads to an increase in opportunities for access and citation by other researchers.

— Enabling researchers to identify their published research and who cites it.

— Enabling researchers to know their impact factor as a researcher such as: H-index.

— Creating an identification number for the researcher as a scientific identity helps to collect the researcher's products in one place.

— Increasing opportunities for researchers to discuss new topics with other colleagues to advance scientific research.

— Scientific platforms contribute to creating a digital repository of academic research, which in turn increases its visibility on the internet and its adoption by other researchers that contributes to raising the status of scientific research[29].

3.   Outcomes of improving the readability of Msila University over the past two years (2019/2021):

Msila University witnessed an improvement in its national, continental and international rankings, and this is due to its adoption of a rational strategy based on enhancing the use of digitization in scientific research among its various scientific bodies (professors, researchers, students, scientific journals). This activity contributed to the advancement of the university's rank, such that it is now one of the top universities in the classifications concerned with the readability of the university and the quality of its scientific achievements (publishing and citing). Thus, Msila University has become a role model in the field of digital scientific research, and these are some of its classifications over the past two years:

_ According to the classification of the American website Unirank[30], Msila University became one of the top fifty African universities, while it ranked second

---

[29]   سلمى عيدة، التحديات الجيوفيزيائية والاجتماعية والإنسانية والطبيعية في بيئة متغيرة، المؤتمر الدولي العاشر، اسطنبول، تركيا،_26-25 يوليو -تموز2019 ، ص.1688.

[30]   هو موقع أمريكي مختص في تصنيف الجامعات دوليا، حسب معيار مرئية الجامعة، رابطه-https://www.4icu.org/top : universities-africa/

nationally, according to the university's visual standard and the readability of scientific achievements, as shown in the following image[31]:
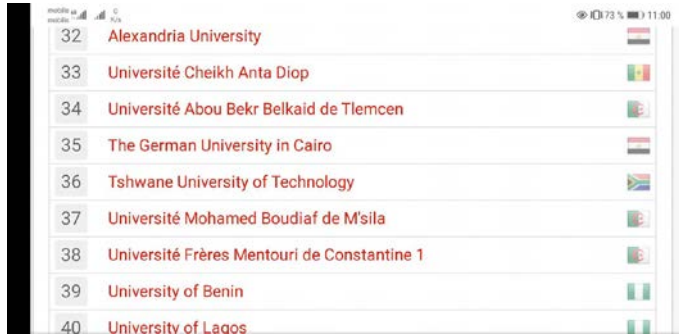
The image shows: (Msila University is among the top 100 universities continentally).

_ Msila University ranked first nationally according to the renown [32]UniRank classification for the February 2021 edition, as the ranking is considered strong thanks to the good reputation of international universities, while the university is ranked 26 continentally out of a total of 200 African universities[33].

[31] الهاشمي بلواضح، جامعة المسيلة ضمن أفضل 100 جامعة إفريقية، الصفحة الرسمية لجامعة المسيلة، رابط المنشور /https://www.facebook.com/groups/865213650663037/permalink/999758300541904 ،: تاريخ النشر /29 :سبتمبر2020 ، تاريخ الزيارة.21/10/2021 :

[32] ولكن يهتم بقياس مدى شهرة المواقع الإلكترونية للجامعات التي نالت الاعتراف أو الاعتماد الأكاديمي من منظمات أو هيئات دولية، ويعلن ذلك التصنيف كل ستة أشهر، يحتوي هذا التصنيف على أكثر من 13000 كلية وجامعة يتم تصنيفهم وفقا لشهرة موقعها الإلكتروني على شبكة الإنترنت لدى 200 دولة، ويهدف هذا التصنيف إلى ترتيب الكليات والجامعات العالمية وفق شهرة وجماهيرية الموقع الإلكتروني للجامعات :رابطه/https://www.4icu.org/top-universities-africa :

[33] الهاشمي بلواضح، جامعة المسيلة الأولى وطنيا، الصفحة الرسمية لجامعة المسيلة :رابط المنشور : https://www.facebook.com/UniversityofMsila/posts/1861311114016688، تاريخ النشر 10 :فيفري2021 ، تاريخ الزيارة.21/10/2021 :

The image shows: (The rank of Msila University at the African level).

Based on the two classifications we can conclude that there is an improvement in the university's rank at the national and continental levels, and this is due to the improvement in the quantity and quality of scientific and archived achievements in the national and international data platform in which the university participates, and the development of its scientific activity. This indicates the continuity of science and its quality as its results were positive and distinct in this upward trend.

4. Citation index of the researchers:

Measuring the quality of digital research directories is not limited to the amount of knowledge archived in them, but rather goes beyond measuring the quality of content by calculating the citation index of the researchers. This is because archiving the scientific achievements of researchers in national and international data platforms will facilitate an increase in the visibility of this achievement, and its readability by the academic reader, who can then extract quotes and cite them in other scientific research. This scientific interaction between the reader and the author through digitization contributes to improving the citation index of researchers, which means: The number of times "the researcher referred to previous research with reference to the sources"[34].

Algerian researcher Zoubaida Zaidi (may God have mercy on her)[35] is considered a role model in the field of research published in major scientific journals having a strong

---

[34]   غسان حميدة عبد المجيد، طرق قياس تأثير وجودة البحوث، وزارة التعليم العالي والبحث العلمي، العراق، 4 جانفي2017 ، ص.02.

[35]   باحثة جزائرية من مدينة سطيف، وأستاذة محاضرة جامعية في تخصص علم الأوبئة منذ سنة1998 ، درست بجامعة فرحات عباس 1_بسطيف، وشاركت في عدة ملتقيات علمية وطنية ودولية، لها 133 بحثا منشورا في مختلف المجلات العلمية، حققت الباحثة منجزا علميا قياسيا حينما حصلت على 38476 استشهادا من أبحاثها العلمية، ولها

impact factor, and the researcher is also considered the first Algerian professor to have a high citation index.
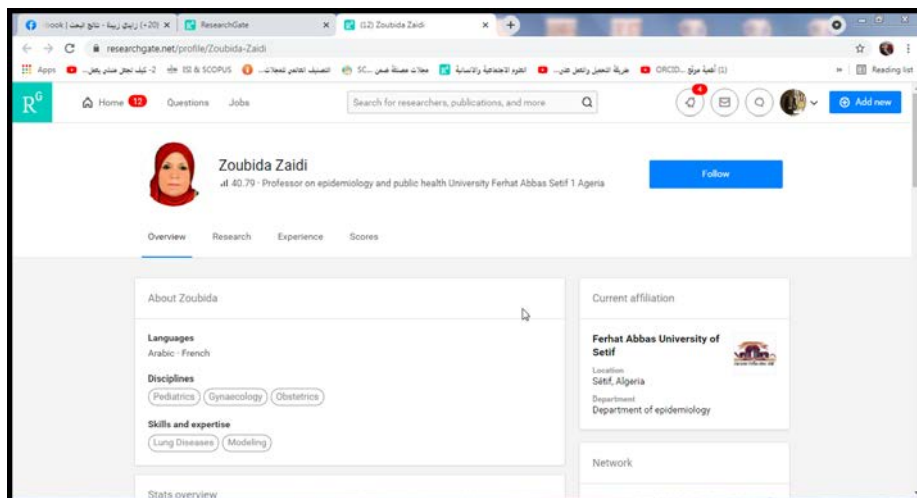
The image shows: (The account of Algerian researcher Zubeida Zaidi in Resaerchgate, which shows her scientific statistics).

On Friday, October 22, 2021, Stanford University in the United States of America and the Scopus data platform published its annual report on the best global researchers. The list included the "names of the top 2% of the world's researchers" most cited in various disciplines for the year 2021, and there were about 160,000 scientists from 149 countries, based on the Scopus database in 22 scientific disciplines and 176 sub-specialities of researchers who have published at least 5 research papers. The assessment is based on scientists citations, the h-index, which is one of the indicators measuring the scientific productivity of researchers, the modified Hirsch index of co-authorship hm-index, and citations from papers published in different authorship websites"[36].

The list included about 47 professors in various national universities, as they were arranged as follows:

أكثر من 133123 قارئا على حسابها Resaerchgate ، رابطه https://www.researchgate.net/profile/Zoubida-Zaidi :
، توفيت يوم 15 نوفمبر 2020 بسبب فيروس كورونا.

36 دون مؤلف، 47 باحث من مختلف جامعات الوطن في قائمة ترتيب أفضل 2% من باحثي العالم لسنة2021 ،
الصفحة الرسمية لمركز تنمية الطاقات المتجددة، رابط المنشور :
https://www.facebook.com/cder.dz/photos/a.555658674541116/4376699315770347/، تاريخ النشر 23 :
أكتوبر ، تاريخ الزيارة 24 :أكتوبر.2021

	A	B	C	D	E	F	G
1161	Mellit, Adel	Université de Jijel	dza		150	2003	2021	21 32
1162	Trache, Djalal	Ecole Militaire Polytechnique	dza		30	2012	2021	23 07
1163	Bouhemadou, A.	Université Ferhat Abbas Sétif 1	dza		230	1988	2021	31 36
1164	Mebarek-Oudina, F.	Université 20 Août 1955-Skikda	dza		27	2014	2021	35 79
1165	Heddam, Salim	Université 20 Août 1955-Skikda	dza		58	2008	2021	47 07
1166	Bousahla, Abdelmoumen	Université Djillali Liabes de Sidi Bel Abbes	dza		68	2013	2021	56 65
1167	Triki, Houria	Université Badji Mokhtar - Annaba	dza		209	2002	2021	61 80
1168	Khenata, R.	Université Mustapha Stambouli de Mascara	dza		485	2003	2021	100 72
1169	Ferrag, Mohamed Amine	Université 8 Mai 1945 Guelma	dza		39	2013	2021	100 76
1170	Belhocine, Ali	Université des Sciences et de la Technologie d'Oran	dza		68	2011	2021	108 35
1171	Daouadji, T. Hassaine	Université Ibn Khaldoun - Tiaret	dza		54	2008	2021	112 59
1172	Stambouli, Amine Boudgh	Université des Sciences et de la Technologie d'Oran	dza		50	1996	2020	113 36
1173	Benchohra, Mouffak	Université Djillali Liabes de Sidi Bel Abbes	dza		345	2000	2021	114 61
1174	Ameur, Houari	Centre Universitaire Salhi Ahmed Naama	dza		81	2011	2021	116 11
1175	Tayebi, Tahar	Université Bachir El Ibrahimi de Bordj Bou Arreridj	dza		28	2012	2021	117 13
1176	Moulay, Saad	Université Saad Dahlab de Blida	dza		75	1986	2021	121 66
1177	Houari, Mohammed Sid A	Université Mustapha Stambouli de Mascara	dza		79	2011	2021	122 08
1178	Bourada, Fouad	Université Djillali Liabes de Sidi Bel Abbes	dza		36	2016	2021	124 48
1179	Ghernaout, Djamel	Université Saad Dahlab de Blida	dza		28	2008	2021	127 43
1180	Hadji, L.	Université Ibn Khaldoun - Tiaret	dza		47	2011	2021	128 33
1181	BOULKROUNE, Abdessele	Université de Jijel	dza		94	2006	2021	131 69
1182	Rekioua, Djamila	Université Abderrahmane Mira - Béjaia	dza		111	2000	2021	132 79
1183	Menni, Younes	Université Abou Bekr Belkaid Tlemcen	dza		55	2017	2021	146 19
1185	Drouiche, Nadjib	Centre de Recherche de la Technologie des Semicon	dza		123	2006	2021	167 05
1186	Bouarissa, Nadir	Université Mohamed Boudiaf M'sila	dza		324	1994	2021	168 29
1187	Bait, Omar	Université Hadj Lakhdar de Batna	dza		7	2015	2020	169 19
1188	Harrag, Abdelghani	Université Ferhat Abbas Sétif 1	dza		52	2001	2021	188 20
1189	Boumali, Abdelmalek	Université Larbi Tébessi - Tébessa	dza		42	1998	2021	200 12
1190	Chellali, Mustapha	Université Saad Dahlab de Blida	dza		101	2004	2021	201 44
1191	Houmat, A.	Université Abou Bekr Belkaid Tlemcen	dza		45	1991	2021	227 69
1192	Trari, M.	Université des Sciences et de la Technologie Houari	dza		325	1994	2021	238 51
1193	Merouani, Slimane	Université Salah Boubnider Constantine 3	dza		60	2010	2021	240 45
1194	Djilali, Salih	Université Abou Bekr Belkaid Tlemcen	dza		16	2017	2021	242 44
1195	Bitam, Salim	Université Mohamed Khider, Biskra	dza		43	2008	2021	247 93
1196	Belouchrani, Adel	Ecole Nationale Polytechnique Alger	dza		180	1994	2020	280 79
1197	Keddam, M.	Université des Sciences et de la Technologie Houari	dza		113	2003	2021	334 76
1198	Ouannas, Adel	Université Oum El Bouaghi	dza		130	2014	2021	341 77
1199	Challal, Yacine	École nationale supérieure d'Informatique	dza		33	2007	2021	351 83
1200	Oubbati, Omar Sami	Université Amar Telidji Laghouat	dza		15	2015	2021	363 77
1201	Nait Amar, Menad	Sonatrach	dza		36	2018	2021	470 85
1202	Boulebd, Houssem	Université des Frères Mentouri Constantine 1	dza		26	2014	2021	535
1203	Mellah, Abdelhamid	Commissariat à l'Energie Atomique (COMENA)	dza		23	1989	2020	
1204	Amara, E. H.	Centre de Développement des Technologies Avancé	dza		60	1995	2020	
1205	Tamersit, Khalil	Université 8 Mai 1945 Guelma	dza		26	2013	2021	
1206	Abderazek, Hammoudi	Mechanical Research Center-CRM-Constantine	dza		43	2015	2021	

The image shows: (Ranking of the 47 best Algerian university professors in terms of scientific publication and citation).

The list includes, but is not limited to, professor: Bouarissa Nazir, Professor at the Department of Physics at Msila University[37], who was classified as follows:

37   الهاشمي بلواضح، تصنيف الأستاذ المحاضر بوعريسة نذير على تقرير جامعة ستانفورد ومنصةscopus ، الصفحة الرسمية لجامعة المسيلة :رابط المنشور :
https://www.facebook.com/UniversityofMsila/photos/pcb.2051776461636818/2051776368303494/،
تاريخ النشر 22 :أكتوبر2021 ، تاريخ الزيارة 23 :أكتوبر.2021

The image shows: (Rank of Professor Bouarissa Nazir from Msila University)

For those who want to view and use the full report, visit the website by clicking on the link:

https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3?fbclid=IwAR3 6kIozBP-RhlZ2Gbw3gPF-8ECll6AFziqpM0fuuCePmHvNx8okdbHJlw4

These statistics provide the recipient with an indication of the value of scientific archiving of scientific achievements in various national and scientific data platforms because of their importance, which is reflected in the increase in the visibility and readability of the researcher's research, and its reflection in the high return of the citation cited from it, and these are numbers that indicate the quality and seriousness of research through the novelty of the subject and the eloquence of the scientific discourse in it.

5. Impact Factor (IF) of journals:

It is an international measurement that measures the quality of the journal based on its type and the number of times research published in that journal was cited in the previous two years, as attributed to the total number of research published in that journal in those two specific years. If the impact factor of a journal is 5 in 2014, for example, the research published in the years 2012 and 2013 in that journal has been cited at a rate of 5 citations for each researcher"[38].

---

[38] فاطمة الزهراء مسعودي، وآخرون، صعوبة النشر في المجلات العلمية عبر البوابة الوطنية Asjp، ص 475.

An example of how to calculate the impact factor of journal during a year:

The number of citations in the database of journal research published during years 1 and 2
The total number of journal research published in two consecutive years

The Impact Factor is issued by scientific bodies specialised in the field of scientific publishing, of which there are many, but "the most popular and trusted are the Thomson and Reuters Foundation which has a database of its own journals: Web of science issues periodic reports to update the lists of journals and their impact factor values, adding solid journals to the lists and removing journals that turn commercial[39].

There is also an Arab scientific body that issues an impact factor for Arab scientific journals, Arcif, which was launched by the Knowledge Data Platform in December 2018. It simulates the international impact factor, as it is relied upon to raise the quality of Arab research, and the researchers' citation index during a certain period of time, where the "Arcif Lab" included data and results of 60 overlapping and unique academic disciplines, distributed over 18 Arab countries, and provided them from their original sources, and within transparent standards"[40].

You can visit the website to view its knowledge content by clicking on the following link:

https://www.arabimpactfactor.com/pages/aboutus.php

[39] غسان حميدة عبد المجيد، طرق قياس تأثير وجودة البحوث، ص

[40] دون مؤلف، معرفة تطلق معامل التأثير والاستشهاد العربي Arcif 362 مجلة تجتاز معايير الإختبار من أصل
4000مجلة، مجلة الغد الالكترونية، الأردن، رابط المنشور :
https://alghad.com/%D9%85%D8%B9%D8%B1%D9%81%D8%A9-
%D8%AA%D8%B7%D9%84%D9%82-%D9%85%D8%B9%D8%A7%D9%85%D9%84-
%D8%A7%D9%84%D8%AA%D8%A3%D9%8F%D8%AB%D9%8A%D8%B1-
%D9%88%D8%A7%D9%84%D8%A7%D8%B3%D8%AA%D8%B4%D9%87%D8%A7%D8%AF/، تاريخ
النشر2018/12/16 .؛ تاريخ الزيارة 22 :أكتوبر.2021
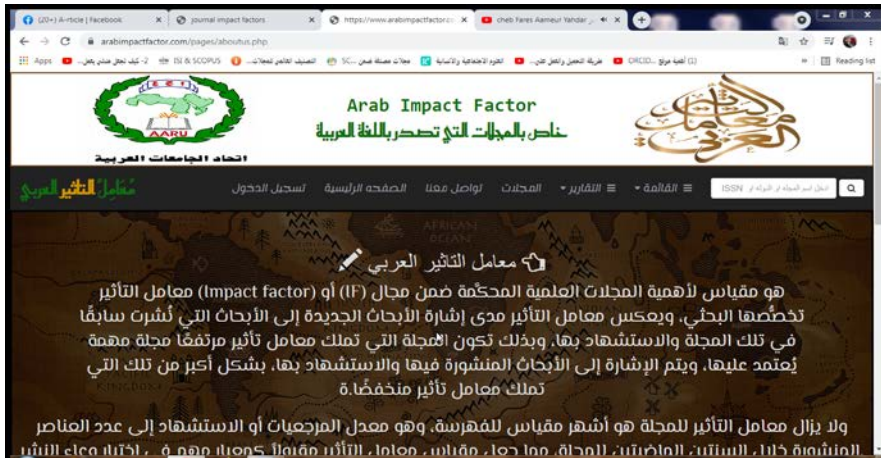
The image shows: (The official interface of the Arab Impact Factor, issued by Arcif)

The management of the Arcif database is supervised by the "Supervision and Coordination Council" which consists of representatives of several Arab and international bodies, namely: (UNESCO Regional Office for Education in the Arab Countries in Beirut, United Nations Commission for Western Asia (ESCWA), Library of Alexandria, Knowledge Database, and World Specialised Libraries Association Gulf Branch)"[41].

We have to realize that the more a journal becomes involved in an international data platform, the more its visibility multiplies, its impact factor increases, and the researchers' citation index increases exponentially.

At the end of September 2021, a report of the Arab Impact Factor Arcif was issued for Arab journals in general and Algerian journals in particular in various disciplines, in which it was noted that the national journals occupied advanced ranks among the first journals that obtained a high impact factor, with a record of the improvement in the value of citations for articles published on the national portal for Algerian journals, which has become an important digital knowledge bank for various researchers at the

---

[41] دون مؤلف، 7 جزائريين ضمن قائمة 100 مؤلف وباحث الاكثر تأثيرا في العالم العربي، مجلة البلاد نت الالكترونية، رابط المنشور 7-https://www.elbilad.net/info-divers/ :
%D8%AC%D8%B2%D8%A7%D8%A6%D8%B1%D9%8A%D9%8A%D9%86-
%D8%B6%D9%85%D9%86-%D9%82%D8%A7%D8%A6%D9%85%D8%A9-%D8%A7%D9%84-100-
%D9%85%D8%A4%D9%84%D9%81-%D9%88%D8%A8%D8%A7%D8%AD%D8%AB-
%D8%A7%D9%84%D8%A3%D9%83%D8%AB%D8%B1-
%D8%AA%D8%A3%D8%AB%D9%8A%D8%B1%D8%A7-%D9%81%D9%8A-
%D8%A7%D9%84%D8%B9%D8%A7%D9%84%D9%85-
47977%D8%A7%D9%84%D8%B9%D8%B1%D8%A8%D9%8A، تاريخ النشر 23/11/2020 :، تاريخ الزيارة : 22/10/2021.

national, regional, Arab and international levels. The report relied on several objective characteristics in its evaluation criteria, including: (Objectivity and impartiality, transparency, independence, reliability and credibility, comprehensiveness in disciplines and countries).

For those who want to view or utilize the report, visit the website by clicking on the following link:

https://emarefa.net/arcif/ar/?fbclid=IwAR0DlJPjHnhlzAkJW9nJlQVJ7TIEI N5n3TfIdAbnwtPM7eHgfaC_RSm5MdY

The image shows: (Statistics included in the annual report issued by the Arcif Impact Factor for the year 2021).

As a model for these journals, we will cite some of them, in order to clarify the idea for the recipient, to realize the importance of national data platforms in raising the level of scientific research to ensure the quality of the published content; as an example, we show the following:

2.8. The Arab Impact Factor of The Translation and Language Journal

It is a scientific journal classified_B, published by The University of Oran_2. The Arab Impact Factor was issued to it at the end of September, where it obtained an

impact factor of 0.3333, which enabled it to rank 70 at the Arab level out of 877 journals[42].

For those who want to view its knowledge content and utilize it by downloading and citing it, visit its website on the National Portal of Scientific Journals, by clicking on the following link:

https://www.asjp.cerist.dz/en/PresentationRevue/155

Two images show: (The interface of the journal and its Arab impact factor, issued at the end of September).

2.9. The Arab Impact Factor of Al-Resala Journal for Human Studies and Research

It is a peer-reviewed scientific journal classified as C, issued by the University of Larbi Tebessi in Tebessa. The Arab Impact Factor was issued to it at the end of September, where it obtained an impact factor of 0.0541, despite its recent classification of C at the national level, where the journal ranked "Q2 at the level of the most

---

42   دون مؤلف، معامل التأثير العربي لمجلة الترجمة واللغات، الصفحة الرسمية لمجلة الترجمة واللغات، جامعة وهران2_، رابط المنشور :

https://www.facebook.com/fle.univoran2/photos/pcb.399419318395147/399413995062346/ ، تاريخ النشر : 29سبتمبر2021 ، تاريخ الزيارة 22 :أكتوبر.2021

influential Arab journals in the field of humanities, and ranked Q3 in terms of the best influential journals in the field of social sciences"[43].

For those who want to view its knowledge content and utilize it by downloading and citing it, visit its website on the National Portal of Scientific Journals, by clicking on the following link:

https://www.asjp.cerist.dz/en/PresentationRevue/223

Two images show: (The interface of Al-Resala journal and its Arab impact factor, issued at the end of last September).

2.10. The Arab Impact Factor of Sports Creativity Journal

It is a solid scientific journal classified C, issued by the Institute of Science and Technology of Physical and Sports Activities at the University of Mohamed Boudiaf in Msila, The Arab Impact Factor was issued to it at the end of September, where it "was

43   رضوان بلخيري، معامل التأثير العربي لمجلة الرسالة للدراسات والبحوث الإنسانية، رابط المنشور :
https://www.facebook.com/DrRadoua/photos/pcb.582268573113873/582268399780557/ ، تاريخ النشر :
29سبتمبر2021 ، تاريخ الزيارة.23/10/2021 :

ranked first in the Arab world in the field of sports sciences out of a total of 27 journals at the Arab level, after it achieved an impact factor estimated at: 0.2778"[44].

For those who want to view its knowledge content and utilize it by downloading and citing it, visit its website on the National Portal of Scientific Journals, by clicking on the following link:

https://www.asjp.cerist.dz/en/PresentationRevue/316?fbclid=IwAR1_DHxuIr fm0IUCSZv3HCU29fzrSThWc5qV_fIUw4btmbTXeImXeHEd29g

Two images show: (The interface of Sports creativity Journal and its Arab impact factor, issued last September).

Fourth, Improving the visibility of scientific achievement and raising the impact factor and citation index through bibliographic research on the Google scholar website

What is recorded on the Arabic data platform (dspace_sndl_pnst_asjp) is: Most of the knowledge content is archived by Google scholar, and this is a positive thing, given the scientific benefit that this archive provides, if the researcher makes good use

---

44 سامي الخزندار، مجلة الإبداع الرياضي ومعامل أرسيف Arcif لسنة2021 ، رابط المنشور : http://virtuelcampus.univ-msila.dz/inst-staps/?p=5241&fbclid=IwAR1WLh76BRjluFTZoAVxFDmoTtbeSKuw0Rwl2Q7HMip_MHg2Zvf2r7u bBIY، تاريخ النشر 30 :سبتمبر2021 ، تاريخ الزيارة.23/10/2021 :

of the search (simple and advanced) available on the researcher's website, with the need to be proficient in the automated bibliographic documentation process that is provided by the scientific researcher using digital documentation programs (Mendali, Andonot, Latex). This process is integrated in its steps, and it can benefit researchers by improving their citation index, helping to raise the impact factor of journals, and increasing the readability of archived knowledge content in various national and international digital repositories.

The image shows: The official interface of the Google scholar website.

The method is outlined in the steps that the researcher follows as provided in an audio and video explanation[45]:

Click on the following link:

https://www.facebook.com/watch/?ref=search&v=333501708158604&external_log_id=11720132-09fa-4464-a9e4-814cab6a8bda&q=google%20scholar

3. CONCLUSION

Through this knowledge bank, universities have achieved quality and quantitative knowledge, which allows them to compete with major national, continental and international universities. This was evident in the improvement of the performance of professors, the development of their citation indexes, and the rise in the impact factor of national journals, which helped it to raise the level of the national classification (A-B-C). In the future, it is hoped that it will reach the level of a global data platform such as Scopus Aereh and Abisco, as the students also benefited from these platforms by forming an updated knowledge background at all times, which was reflected in the

---

[45] فاروق سلطاني، كيفية توثيق المعلومات البيبليوغرافية للمراجع في المذكرة باستخدام موقع الباحث العلم Google scholar، الصفحة الرسمية لجامعة المسيلة، رابط الفيديو :
https://www.facebook.com/watch/?ref=search&v=333501708158604&external_log_id=11720132-09fa-4464-a9e4-814cab6a8bda&q=google%20scholar، تاريخ النشر 25 :جانفي2021 ، تاريخ الزيارة 23 :أكتوبر.2021.

ability of some students to obtain patents, which is the result of receiving high quality knowledge that would qualify them in the future to enter the labour market efficiently and compete to run pioneering research projects.

The process of linking the national data platform with international search directories helps to globalize knowledge content and improve comprehensiveness, which leads to an increase in the visibility of the site and an increase in the readability of the knowledge content, as well as contributes to the researcher benefiting from new research skills that help them to understand the steps of digital research (reading, downloading, and citing), especially with regard to electronic documentation media (Mandali, Latex, and Ondonut).

This transition contributed to overcoming the traditional linear path to the use of digital research based on the use of scientific data platforms in establishing a permanently free and visible knowledge bank, as this matter helped to protect copyright ownership, by addressing the phenomenon of scientific theft. It also contributed to protecting the researcher from falling into the trap of predatory journals and publishing houses, which helped raise scientific journals in the national, continental and international rakings, and improved the quality of published scientific papers. The most important benefit obtained from digitizing the research process is the researcher's liberation from the bureaucratic procedures previously related to the physical presence of administrative documents.

This digital step in the field of national scientific research is still recent, but it is currently achieving a quantum leap in the quality of researchers and their scientific achievements, which is clearly visible in the impact factor and the citation of archived scientific research in various national and international data platforms, despite the outputs provided by this addition, achieving the long-term goals, especially those related to: Raising the impact factor of journals and upgrading them from national to international classification, and increasing the citation index of researchers. This requires making several additions, we suggest the following:

The need to archive all scientific achievements in the various national data platforms, and working to speed up linking them to international platforms such as the scientific researcher and obtaining the Dewey digital identifier for the article. All of this helps to form a digital scientific identity for the researcher, which will help them in the future to increase their citation index.

— Encouraging and helping journal editors-in-chief to include their journals in international search directories (Scopes, Aereh, Episco), through complying with the international standards pursued by these international platforms.

— Working to spread the serious review of scientific articles in forums or journals, because the quality of evaluation, the scarcity of errors and scientific gaps help to promote scientific research in both reading and citing. For this, we should use programs

that help to overcome the peer-review process, such as: Plagiarism detection programs Ktarantin.

— The need to develop the technology that runs national data platforms, such as: Updating the icon to download the full version of the journal, and the icon for automatic documentation as available on the Scholar platform.

— Enhancing the training of students on the basics of digital scientific research and documentation programs, and this requires obtaining the professional email for various students rather than limiting it to postgraduate students (Masters and Ph.D.).

— The need to charge a fee on the national portal of journals, while encrypting the published articles, which international researchers must pay to obtain the article. This will protect the articles from being stolen, after many predatory data platforms have downloaded references from them and forwarded them for digital sale through fraudulent links.

BIBLIOGRAPHY

آمنة بهلول وآخرون، الأرشيفات المفتوحة وإتاحة المحتوى الرقمي مستودع الأرشيف المفتوح لجامعة أبوبكر بلقايد تلمسان أنموذجا، مجلة ببليوفيليا لدراسات المكتبات والمعلومات، جامعة تبسة، العدد06، 30/06/2020.
دون مؤلف، 47 باحث من مختلف جامعات الوطن في قائمة ترتيب أفضل 2% من باحثي العالم لسنة2021 ، الصفحة الرسمية لمركز تنمية الطاقات المتجددة، رابط المنشور : https://www.facebook.com/cder.dz/photos/a. 555658674541116/4376699315770347/، تاريخ النشر 23: أكتوبر 2021 ، تاريخ الزيارة 24 :أكتوبر 2021.
دون مؤلف، 7 جزائريين ضمن قائمة 100 مؤلف وباحث الاكثر تأثيرا في العالم العربي، مجلة البلاد نت الالكترونية، رابط المنشور : https://www.elbilad.net/info-divers/7-%D8%AC%D8%B2%D8%A7%D8%A6%D8%B1%D9%8A%D9%8A%D9%86-%D8%B6%D9%85%D9%86-%D9%82%D8%A7%D8%A6%D9%85%D8%A9-%D8%A7%D9%84-100-%D9%85%D8%A4%D9%84%D9%81-%D9%88%D8%A8%D8%A7%D8%AD%D8%AB-%D8%A7%D9%84%D8%A3%D9%83%D8%AB%D8%B1-%D8%AA%D8%A3%D8%AB%D9%8A%D8%B1%D8%A7-%D9%81%D9%8A-%D8%A7%D9%84%D8%B9%D8%A7%D9%84%D9%85-

%D8%A7%D9%84%D8%B9%D8%B1%D8%A8%D9%8A-47977، تاريخ النشر 23/11/2020 ؛، تاريخ الزيارة.22/10/2021 :
دون مؤلف، جامعة المسيلة تحتل المرتبة الأولى وطنيا في تصنيف google scholar ، الجريدة الالكترونية البلاد نت، رابط المقال- https://www.elbilad.net/derniere-info/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A7%D9%84%D9%85%D8%B3%D9%8A%D9%84%D8%A9-%D8%AA%D8%AD%D8%AA%D9%84-%D8%A7%D9%84%D9%85%D8%B1%D8%AA%D8%A8%D8%A9-%D8%A7%D9%84%D8%A3%D9%88%D9%84%D9%89-%D9%88%D8%B7%D9%86%D9%8A%D8%A7-%D9%81%D9%8A-%D8%AA%D8%B5%D9%86%D9%8A%D9%81-scholar-google-2021-91923، تاريخ النشر : 15/05/2021، تاريخ الزيارة: 20/10/2021.
دون مؤلف، جامعة محمد بوضياف الأولى وطنيا، الجريدة الالكترونية الشعب، رابط المقال- http://www.ech-chaab.com/ar/%D8%A7%D9%84%D8%AD%D8%AF%D8%AB/%D8%A7%D9%84%D9%85%D8%AD%D9%84%D9%8A/item/16595 7-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D9%85%D8%AD%D9%85%D8%AF-%D8%A8%D9%88%D8%B6%D9%8A%D8%A8

سامي الخزندار، مجلة الإبداع الرياضي ومعامل أرسيف Arcifلسنة2021 ، رابط المنشور :
http://virtuelcampus.univ-msila.dz/inst-staps/?p=5241&fbclid=IwAR1WLh76BRjluFTZoAVxFDmoTtbeSKuw0Rwl2Q7HMip_MHg2Zvf2r7ubBIY، تاريخ النشر 30 :سبتمبر 2021، تاريخ الزيارة.23/10/2021 :

سلمى عيدة، التحديات الجيوفيزيائية والاجتماعية والإنسانية والطبيعية في بيئة متغيرة، المؤتمر الدولي العاشر ، اسطنبول، تركيا،_25-26 يوليو -تموز 2019 ، ص.1688.

عبد الجليل طواهير، بشير بن شويحة، أثر جودة البوابة الجزائرية للدوريات العلمية Asjp على رضا المستخدمين، باستخدام نموذج دليون وماكلين_دراسة ميدانية لعينة من أعضاء هيئة التحرير للمجلات العلمية صنف ج بالجزائر ، المجلة الجزائرية للتنمية الاقتصادية، جامعة قاصدي مرباح _ ورقلة، الجزائر، د م، ع، 06 فيفري.2019.

عبد القادر كداوه، دليل مستودعات الوصول الحر للمعلومات : الحر أنموذجا، مجلة دراسات وأبحاث المجلة العربية للأبحاث والدراسات في العلوم الإنسانية والاجتماعية، جامعة الجلفة، المجلد13 ، العدد 01 ، جانفي،2021.

فاروق سلطاني، فديو شرح كيفة استخدام موقع المستودع المؤسسي Dspace جامعة المسيلة لتحميل المراجع (مذكرات مقالات مداخلات كتب (تساعدك في إعداد بحوثك وتحرير مذكرة تخرجك، الصفحة الرسمية لجامعة المسيلة، رابط المنشور :
https://www.facebook.com/watch/?ref=search&v=867532787356437&external_log_id=0c13191b-b9c7-469d-8a72-cd7e29d691fb&q=dspace%20%D8%AC%D8%A7%D9%85%D8%B9%D8%A9%20%D8%A7%D9%84%D9%85%D8%B3%D9%8A%D9%84%D8%A9، تاريخ النشر 10 :فيفري2021 ، تاريخ الزيارة 24 :أكتوبر.2021.

فاروق سلطاني، كيفية توثيق المعلومات البيبليوغرافية للمراجع في المذكرة باستخدام موقع الباحث العلمGoogle scholar ، الصفحة الرسمية لجامعة المسيلة، رابط الفيديو :
https://www.facebook.com/watch/?ref=search&v=333501708158604&external_log_id=11720132-09fa-4464-a9e4-814cab6a8bda&q=google%20scholar، تاريخ النشر 25 :جانفي2021 ، تاريخ الزيارة 23 :أكتوبر.2021.

فاطمة الزهراء مسعودي، وآخرون، صعوبة النشر في المجلات العلمية عبر البوابة الوطنيةAsjp ، مجلة الباحث للعلوم الرياضية والاجتماعية، جامعة الجلفة، عدد خاص بأعمال الملتقى الوطني العلمي الأول حول :أساسيات النشر في المجلات العلمية المحكمة) التطورات والاتجاهات الحديثة(، 14-13 نوفمبر.2019.

A7%D9%81-%D8%A7%D9%84%D8%A3%D9%88%D9%84%D9%89-%D9%88%D8%B7%D9%86%D9%8A%D8%A7.html، تاريخ لنشر 12/02/2021 ؛، تاريخ الزيارة : 20/10/2021.

دون مؤلف، معامل التأثير العربي لمجلة الترجمة واللغات، الصفحة الرسمية لمجلة الترجمة واللغات، جامعة وهران2_ ، رابط المنشور :
https://www.facebook.com/fle.univoran2/photos/pcb.399419318395147/399413995062346/ ، تاريخ النشر 29 :سبتمبر 2021 ، تاريخ الزيارة 22 : أكتوبر.2021.

دون مؤلف، معرفة تطلق معامل التأثير والاستشهاد العربي Arcif 362مجلة تجتاز معايير الإختبار من أصل 4000 مجلة، مجلة الغد الالكترونية، الأردن، رابط المنشور :
https://alghad.com/%D9%85%D8%B9%D8%B1%D9%81%D8%A9-%D8%AA%D8%B7%D9%84%D9%82-%D9%85%D8%B9%D8%A7%D9%85%D9%84-%D8%A7%D9%84%D8%AA%D8%A3%D9%8F%D8%AB%D9%8A%D8%B1-%D9%88%D8%A7%D9%84%D8%A7%D8%B3%D8%AA%D8%B4%D9%87%D8%A7%D8%AF/، تاريخ النشر 16/12/2018 ؛، تاريخ الزيارة 22 : أكتوبر.2021.

ذوقان عبيدات وآخرون، البحث العلمي مفهومه وأدواته وأساليبه دار الفكر ، بيروت،.1984.

رابح بوقرة، سياسة الرقمة _صفر ورقة للجامعة، رئاسة جامعة المسيلة، رقم150 ، تاريخ الإصدار.18/06/2019 :

رضوان بلخيري، معامل التأثير العربي لمجلة الرسالة للدراسات والبحوث الإنسانية، رابط المنشور :
https://www.facebook.com/DrRadoua/photos/pcb.582268573113873/582268399780557/ ، تاريخ النشر 29 :سبتمبر 2021 ، تاريخ الزيارة : 23/10/2021.

رمضان محمود عبد العليم عبد القادر ، الهوية العلمية لجامعة الإمام محمد بن سعود الإسلامية ومدى تلبيتها لمتطلبات مجتمع المعرفة من وجهة نظر أعضاء هيئة التدريس، مجلة العلوم التربوية، جامعة الملك سعود، العدد20 ، الجزء 3 ، محرم 1441هـ.

زليخية حشود، سارة شلغوم، استراتيجية إدارة المحتوى المعلوماتي للمستودعات الرقمية المؤسساتية دراسة حالة Dspaceجامعة حسيبة بن بوعلي بالشلف، مجلة بيبليوفيليا لدراسات المكتبات والمعلومات، جامعة تبسة، العدد02 ، 2019.

الهاشمي بلواضح، جامعة المسيلة ضمن أفضل 100 جامعة إفريقية، الصفحة الرسمية لجامعة المسيلة، رابط المنشور : https://www.facebook.com/groups/86521365 0663037/permalink/999758300541904/، تاريخ النشر /29 سبتمبر 2020 ، تاريخ الزيارة : 21/10/2021.

الهاشمي بن الواضح، العرض الصحفي حول تصنيف جامعة المسيلة الأولى وطنيا، الصفحة الرسمية لجامعة المسيلة، رابط المقال : https://m.facebook.com/groups/3703805364 15795/permalink/3735522046568277/?sfnsn =mo&ref=share، تاريخ النشر 11/02/2021 ؛، تاريخ الزيارة.20/10/2021.

الهاشمي بن الواضح، جامعة المسيلة الرابعة وطنيا و 26 إفريقيا، الصفحة الرسمية لجامعة المسيلة :رابط المنشور : https://www.facebook.com/UniversityofMsila /posts/1690902664390868، تاريخ النشر 28 جوان 2020، تاريخ الزيارة.20/10/2021 :

هشام عبد الوافي، أنماط التعليم الجديدة في ظل الجائحة وما بعدها، مجلة دراسات في التنمية والمجتمع، جامعة الشلف، المجلد06 ، العدد02 ،30/06/2021.

وداد العمري وآخرون، دور المستودع المؤسساتي Dspace في التحصيل المعرفي للأساتذة بجامعة المسيلة، مذكرة مكملة لنيل شهادة الليسانس في علوم الإعلام والاتصال، جامعة المسيلة،.2019/2018.

فردوس، عمر عثمان عبد الرحمن، الوصول الحر للمعلومات البحثية والعلمية تجربة الجامعات السودانية_جامعة غرب كردفان نموذجا، جامعة غرب كردفان، السودان، 01/10/2016.

منير طبي، التعليم الإلكتروني آلي معاصرة نحو تفعيل العملية التعليمية، مجلة التمكين الاجتماعي، جامعة الأغواط، المجلد 2، العدد 04 ، ديسمبر 2020.

نور الدين كناس، معايير إنتقاء المجلات العلمية المحكمة إلى الصنف ج، مدونةDZ.SCHOLAR ، رابط المنشور : https://1biblothequedroit.blogspot.com/2019 /03/criteres-de-selection-des-revues-categorie-C.html?fbclid=IwAR1EvGVlb2fg9w-c75voWh-6LcFBeskMC7M_YmZQsgn6UwRiwK8rG HEBLPo، تاريخ الزيارة.24/10/2021 :

الهاشمي بلواضح، تصنيف الأستاذ المحاضر بوعريسة نذير على تقرير جامعة ستانفورد ومنصةscopus ، الصفحة الرسمية لجامعة المسيلة :رابط المنشور : https://www.facebook.com/UniversityofMsila /photos/pcb.2051776461636818/205177636 8303494/، تاريخ النشر 22 :أكتوبر 2021 ، تاريخ الزيارة : 23أكتوبر.2021.

الهاشمي بلواضح، جامعة المسيلة الأولى وطنيا، الصفحة الرسمية لجامعة المسيلة :رابط المنشور : https://www.facebook.com/UniversityofMsila /posts/1861311114016688، تاريخ النشر 10 فيفري2021 ، تاريخ الزيارة : 21/10/2021 :

Public University: Extreme Capitalism and Branding. Assembling a Motley Puzzle

Mohamed Réda BOUKHALFA

(Université Alger2)

reda.boukhalfa@gmail.com

Mohamed Yassine TAIBI

(Université Alger2)

mohamedyassine.taibi@univ-alger2.dz

1. INTRODUCTION

The social reality according to a holistic vision, said Samir Amine, is three-dimensional: economic, political, and cultural. (سمير, s. d., p. 7) The relationship of the university to each of these dimensions is at least complex. The university contributes greatly to the creation of this social reality, and is retroactively affected by the changes it makes to it.

However, the economic dimension is the one that has had the greatest impact on the field of knowledge, and it has subsequently developed more advanced analytical tools than those used in the study of politics and culture. (passim سمير, s. d.)

Thus, this economic reality models societies by forcing them to conform to its parameters. However, it is within this logic that an extreme capitalism, subservient to the economist Milton Friedman, and its epiphenomena such as the consumer society and branding, tend to dominate the global economic climate. Naomi Klein, in this sense, says: "He -Milton Friedman- is credited with the credo of the contemporary globalized economy, characterized by hypermobility. (Klein *et al.*, 2010, p. 11)

For Milton Friedman, the essential function of government is « […] de protéger notre liberté contre ses ennemis extérieurs et contre nos concitoyens euxmêmes ; il fait régner la loi et l'ordre, il fait respecter les contrats privés, et il favorise la concurrence. » (Friedman & Fourçans, 2010, p. 41) The role of the state is therefore "… de fournir les policiers et les soldats, tout le reste, y compris l'éducation publique gratuite, n'est qu'ingérence au sein des marchés". (Klein *et al.*, 2010, p. 12)

Faced with the rise of this capitalist ideology, the Algerian public university is forced to adapt to an environment where competition is the key word. Competition between whom? With whom? This is where a brand image for the university, even a public one, is needed to give it an identity that sets it apart from competing parties.

2. BRANDING FOR THE PUBLIC UNIVERSITY, BUT WHICH ONE?

It is accepted that the capitalist model tends to spread geometrically, whether in the form of economic internationalisation, political globalisation or cultural standardisation. But it is also recognised that there is no one form of capitalism. " Literature on varieties of capitalism (VoC) argues that capitalist economies can be classified into several types, which include liberal and coordinated market economies." (Lee & Shin, 2021) However, what its various models have in common is the consecration of individual ownership of the means of production, which needs an identity to survive.

This identity, which has the characteristics of a brand image, acquires an importance under neo-liberalism that goes beyond the very product it designates. In the mid-1980s, a theory was developed to the effect that « … pour réussir, les entreprises doivent d'abord fabriquer des marques, pas des produits. » (Klein *et al.*, 2017, p. 26)

The Algerian public university, as a producer of knowledge in the wake of extreme capitalism (neo-liberalism), is forced to work on its 'Brand'. Although in this line of thought, this 'Brand' evokes a climate of competition that forces us to approach the university in the plural. Universities that work to market their products. In this case, knowledge.

This situation means that the university « … affronte des défis de trois types. Le premier renvoie à une crise d'hégémonie entre ses fonctions traditionnelles et des fonctions nouvelles qui ont été progressivement introduites. Le deuxième renvoie à une crise de légitimité entre la hiérarchisation des savoirs spécialisés à travers la réduction de l'accès et l'exigence sociale de la politique de démocratisation des études universitaires. Le troisième renvoie à une crise institutionnelle résultant de la tension entre l'autonomie revendiquée par les universités et leur soumission à des critères d'efficacité et de productivité entrepreneuriale. » (Akkari & Santiago, 2017) Thus, the image of the public university in the face of this situation, which is described as « période de crise » (Akkari & Santiago, 2017) is a 'Brand' that is required to be financed for publicity, and which is frustrated by its status as an official name granted by the public authorities. As a corollary, the public university works to implement instructions from the political stratum, instead of producing (knowledge) according to a set of specifications.

3. START AT THE BEGINNING; INTERNAL BRANDING

Semiotically, a brand image is a mental, and therefore ideal, representation. One has even gone so far as to define the brand image in higher education as : « […] a construct that allows its owners to augment the institution and its products using certain values. » (Chapleo & Clark, 2016) For Balmer « la mission et la philosophie » of the institution, is one of the key concepts for understanding its brand management. (Balmer, 1995) Now, an idea or a concept spreads from the inside (of a person or a society) to the outside. (Gustave Gabriel, 1993, p. 225) There is even an academic consensus that marketing

starts from the inside out. (Chapleo & Clark, 2016) Thus, branding a university starts with the employees' adherence to the idea of the brand itself before it is represented by the buyers, the student-customers.

This "internal branding" denotes: "the activities undertaken by an organization to ensure that the brand promise reflecting the espoused brand values that set customers expectations is enacted and delivered by employees." (Punjaisri & Wilson, 2011)

To this end, global universities are setting up rebranding committees to improve their brand analysis and decision making. (Chapleo & Clark, 2016) The contribution of the university's employees to its branding is crucial. (Sujchaphong *et al.*, 2015)

However, the employees of the Algerian public university, as civil servants, are subject to regulations that restrict their room for manoeuvre both in terms of regulations and economics. This situation is unsuited to the context of capitalism in the contemporary world.

Consequently, the recourse of the Algerian public university to advertising agencies, and the installation of internal rebranding committees, seems to present a possible solution, but one that would generate resistance on the part of the university's employees, who see the idea of branding as being contrary to their culture (tradition) formed in the past. Cahapleo Chris and Clark Paul point out this difficulty when they say « Embedded cultural resistance to branding is often an issue for universities.» (Chapleo & Clark, 2016)

3.1.   Official name and simplicity of the symbol

If internal branding is a start by integrating all stakeholders. Externally it starts with the design of an intrinsically powerful brand. The status of an official name in the form of a national personality or a Wilaya (also national) seems to be a hindrance in the process of branding.

It is common for us to hesitate about how to write the names of our universities when they are proper names -which are written as they are meant to be- as is the case, for example, of the University of Algiers 2, Abou El Kacem Saad Allah. Moreover, a designation in the form of a wilaya name would raise a difficulty in its translation-reporting as a toponym. London (England) is the translation (correspondence) of "London" United Kingdom, but not of London from Ontario in Canada. (Delisle & Fiola, 2013) Algiers is the capital of Algeria, but also the name of Algiers Island in the Franz Josef Archipelago in Russia, and of Algiers County in Michigan, USA.

Advertising such a Brand would not be easy for the agencies or committees mentioned above, as it may denote other entities, and subsequently not give a stable identity to the university. This is in addition to their morphological complexity. It should be recalled here that the pioneers of the new branding model (Nike, Apple…) seek to « […] trouver d'abord une idée abstraite ou une (image de) marque qui personnifie l'entreprise. S'en servir pour entrer en contact avec les consommateurs qui partagent ces valeurs. » (Klein *et al.*, 2017, p. 27)

Furthermore, the simplification of symbols accompanying brand images is an element of effectiveness, appeal and even strength. The example of Serge Tachakhotin's ranking of the best-known graphic symbols in order of increasing complexity, to support the thesis of superiority residing in the simplicity of symbols, is revealing. (Čachotin, 1992, p. 268)

In higher education worldwide, the phenomenon of rebranding has not been left behind. Several institutions in this field have resorted to rebranding in order to gain recognition for their identities. Examples include : Rose-Hulman Istitute of Technology in the United States of America, whose naming history is used as a model for the effectiveness of rebranding in the university context (Petroski, 2019), and McDaniel College, Arcadia University and Stevenson University, which have implemented a radical *renaming* process. (Williams *et al.*, 2013)

This situation suggests that the Algerian university is resorting to a rebranding process that is supposed to (re)give it an identity brand as part of its internationalisation process.

4.   CONCLUSION

The state, faced with the democratisation of access to higher education, is obliged to finance other activities of the university, or of the universities that depend on it, equitably and wrongly. In addition, this funding raises the question of the university's autonomy from public and political authorities.

The private sector could, insofar as a competitive economic climate is concerned, contribute by funding higher education, but not without a quid pro quo. Its funding would therefore be directed mainly towards the work of research laboratories, from which it would expect tangible and lucrative results.

Between the state and private sectors, the intermediate position is occupied by the "Economic Public Enterprises" and the "Public Establishments of an Industrial and Commercial Nature". This sector, which is supposed to represent a transitional stage towards the privatisation of public enterprises, and where the enterprises belonging to it enjoy financial autonomy, could be, albeit temporarily, an effective actor in the process of branding the university, through actions of sponsorship, funding of research work, and partnerships in general. Although the integration of 'EPICs' and 'EPEs' into the branding process of universities seems feasible, the same cannot be said for internal branding, for which the adoption of a system of subcontracting in administrative management does not seem to be imminent for the Algerian public university.

BIBLIOGRAPHY

Akkari, A., & Santiago, M. (2017). L'internationalisation des universités dans un contexte de crise. Revista espaço pedagógico, 24(1). Https://doi.Org/10.5335/Rep.V24i1.6995

Balmer, J. M. (1995). Corporate branding and connoisseurship. Journal of general management, 21(1), 24-46.

Čachotin, s. (1992). Le viol des foules par la propagande politique (ouvr. Repro. Par proc. Photomech). Gallimard. Chapleo, c., & Clark, p. (2016). Branding a tertiary institution by committee: an exploration of internal brand analysis and management processes. Journal of brand management, 23(6), 631-647.

Delisle, J., & Fiola, M. A. (2013). La traduction raisonnée: manuel d'initiation à la traduction professionnelle de l'anglais vers le français (3e édition). Les presses de l'université d'ottawa.

Friedman, M., & Fourçans, A. (2010). Capitalisme et liberté (nouvelle éd.). Leduc.S éd.

Gustave Gabriel, d. T. (1993). Les lois de l'imitation (2ème édition). Edition kimé.

Klein, N., Dassas, V., & St-Hilaire, C. (2017). Dire non ne suffit plus: contre la stratégie du choc de trump. Actes sud.

Klein, N., Saint-martin, L., & GAGNÉ, P. (2010). La stratégie du choc: la montée d'un capitalisme du désastre. Leméac actes sud.

Lee, K., & Shin, H. (2021). Varieties of capitalism and east asia: long-term evolution, structural change, and the end of east asian capitalism. Structural change and economic dynamics, 56, 431-437. Https://doi.Org/10.1016/J.Strueco.2018.06.0

Petroski, H. (2019). Naming and branding. Asee prism, 29(4), 19. Proquest one academic. Punjaisri, k., & Wilson, a. (2011). Internal branding process: keymechanisms, outcomes and moderating factors. European journal of marketing, 45(9/10), 1521-1537. Https://doi.Org/10.1108/03090561111151871

Sujchaphong, N., Nguyen, B., & Melewar, T. C. (2015). Internal branding in universities and the lessons learnt from the past: the significance of employee brand support and transformational leadership. Journal of marketing for higher education, 25(2), 204-237. Https://doi.Org/10.1080/08841241.2015.1040104

Williams, R., Williams, H., & Omar, M. (2013). The marketing impact of the principles of renaming within a higher education service organization. Am. Mark. Assoc. Winter educ. Conf. Proc, 24, 271-281. نحو نظرية للثقافة نقد التمركز الأوروبي سمير , أ .والتمركز الأوروبي المعكوس.(S. D.).

Inclusive education at the algerian university: Teachers' representations

DJANETTE BLIZAK MERIEM

*Laboratoire de Bioinformatique, Microbiologie Appliquée
et Biomolécules, Université M'hamed Bougara de Boumerdes (Algeria)*

bdmeriem@yahoo.fr

NADIA GRINE

LDP / Université Ahmed Draia Adrar (Algeria)

nadou33@yahoo.fr

NADJIA HAMI

Université Abou El Kacem Saadallah, Alger 2 (Algeria)

najhami@yahoo.fr

1. INTRODUCTION

Inclusive pedagogy is indebted to a movement of people with disabilities, fighting for full participation in social life and publicly claiming this right for the first time in the United States in the 1970s. It was within this movement that the term inclusion was first used, and it was not long before it entered the field of education. However, it was not until the 1990s that the concept of inclusion gained momentum in education at the international level, thanks to the Salamanca Declaration (June 1994) on Special Needs Education and the extensive research carried out on the subject.

With the implementation of the UN Convention in December 2006, which is based on the principle of equality and whose mission is to protect and ensure equal access to all rights, Algeria, like many other countries, has committed itself to implementing an inclusive school system with the aim of achieving, by 2030, the fourth Sustainable Development Goal (SDG 4) of the 2030 Agenda which aims to « assurer une éducation inclusive et équitable de qualité et à promouvoir des possibilités d'apprentissage tout au long de la vie, pour tous»[1].

---

[1]   Sustainable Development Goal 4 (ODD 4) of the 2030 Agenda (UNESCO).

What is the status of the application of the principles of this pedagogy in the Algerian field? It is somewhat difficult to answer this question because of the scarcity of research work on the subject. Indeed, we have only been able to list two scientific events on the subject which took place at the University of Bejaia: a seminar entitled «La démocratisation de l'enseignement inclusif en Algérie (2016)»[2] and an international study day on the theme « L'université algérienne et les pratiques inclusives ; de la réalité aux perspectives (2019)»[3]. This exploratory study therefore aims to fill the existing gap in this area to some extent by examining the perceptions and attitudes of Algerian higher education teachers towards inclusive education in the Algerian university. But before reporting on our study, it is necessary to describe its theoretical and conceptual underpinnings. In the following section, we will attempt to shed light on the concepts of inclusion and inclusive education (or pedagogy), and then we will discuss some of the work on the role of teachers' representations and attitudes towards the principle of inclusion in the success or failure of the inclusive education process.

2.   THEORETICAL FRAMEWORK

2.1.   Inclusive Education

This concept assumes that there is no typical learner and that diversity is the norm (Meyer, Rose & Gordon, 2014). Inclusive pedagogy is therefore an approach that is essentially based on valuing diversity. In an education system, learners with and without disabilities are taught together in regular classes, also called inclusive classes. No one should be excluded from an education system because of a disability, whether at school, college or university. According to this view of education, any education system should support and encourage all learners without exception. It is therefore not up to the learner with a disability to change and adapt to a given system, but rather the system should adapt and take into account the needs and requirements of each learner. The aim of inclusive pedagogy is therefore not to compensate for or reduce differences, as was the case for inclusive education (Garel, 2010), but to respond to, recognise and value existing diversity. Indeed, inclusive pedagogy aims to develop the full potential of all learners (Bergeron, Rousseau & Leclerc, 2011). It is therefore necessary to rethink teaching by using new methods that correspond to the needs of all learners, each according to their specificities, as learners form, by definition, heterogeneous groups.

---

[2]   Interdisciplinary seminar on inclusive education for social integration in Algeria: Reality and perspectives in the light of seasoned experiences; University of Bejaia, 2016.

[3]   The Algerian University and inclusive practices. From reality to perspectives. University Abderrahmane Mira - Bejaia, 2019.

Inclusion is seen as a dynamic process that benefits everyone. It aims to improve the quality of education for all students. It focuses on the removal of barriers, contributes to the performance of all students and pays particular attention to groups that might be at risk of marginalisation, exclusion or poor performance (Havel, 2014). In countries such as Finland and Canada, inclusive education is generally aimed at students who differ from other students in terms of academic performance. It is not about giving everyone the same opportunities, but about giving everyone what they need most to achieve the best learning outcomes (Ianes, *et al.*, 2014). It is not the concept of equality that is emphasised within this pedagogy but that of equity.

2.2.   The importance of addressing teachers' representations and attitudes towards inclusion

The positive attitudes of teachers are a decisive factor in the success of inclusive education, now IE[4]. This is a conclusion that has been reached in several studies, such as that conducted by Emmers and colleagues (2020). Indeed, attitudes can be seen as predictors of behaviour (Ajzen & Fishbein, 2000). Yada and Savolainen (2017) (cited in Elias Avramidis *et al.*, 2019) assert a relationship between teachers' perceptions of self-efficacy and their positive attitudes towards IE and even their adoption of inclusive classroom practices. Therefore, Forlin (2010) believes that training teachers in IE is necessary as it helps to improve their attitudes towards this pedagogy and to foster a real commitment to its principles. He argues that when teachers are not well equipped to deal with students with disabilities, their attitudes towards IE are negative, hence the need to adapt teacher training to enable successful implementation of inclusion in practice. This means that a comprehensive reform of the education system is to be seriously considered as a major challenge. Avramidis and Norwich (2002) state that the factors that influence teachers' attitudes towards inclusive education are gender, age, teaching experience, grade taught, training, teacher beliefs, political views and the educational environment (means). Some research has been able to shed light on the correlation between IE achievement and age. (McGhie-Richmond *et al.*, 2013) demonstrated through their empirical study that younger teachers with less teaching experience tend to be more willing to change their attitude to accept students with disabilities.

Based on the theoretical framework described above, we asked the following research questions:

1.   How do Algerian university teachers perceive inclusive education and its application in the Algerian university?

2.   What are the factors affecting the perception of university teachers in Algeria towards inclusive education?

---

[4]   Attitude has been defined by Eagly and Chaiken (1993) as a construct of affective and cognitive components with an associated behavioural component.

3.   Methodology

This study is exploratory in nature. It was carried out according to the quantitative methodology. In this case, the questionnaire is one of the most appropriate data collection methods. In order to answer our research questions, statistical analyses were carried out using the (SPSS) program. Means, frequencies and standard deviations were calculated, and the differences between the means were used according to the one-way analysis of variance (ANOVA) for the study variables.

3.1.   Search tool

Given that there are a number of good, validated and verified questionnaires in the literature related to inclusive education and that creating a new questionnaire is a time-consuming and demanding task, we opted for a test originally used in an international survey on Inclusive Education; SACIE-R (Sentiments, Attitudes and Concerns about Inclusive Education Revised) focusing on future teachers' feelings, attitudes and concerns about inclusive education (Forlin et al, 2011).

For the purpose of this study, the SACIE-R scale was translated into French and Arabic after being adapted to the Algerian context. The adapted scale contains 15 statements, divided into three subscales. Each part of the questionnaire consists of five statements relating, respectively, to teachers' feelings, attitudes and concerns about inclusive education. A four-point Likert scale was chosen to measure the degree of agreement with the proposed statements. The teachers interviewed were given a choice of four possible answers (strongly disagree, disagree, agree, strongly agree), which are rated in the order of 1 to 4.

The questionnaire also includes questions on individual socio-demographic factors. These were used to define the personal and professional profile of the teachers participating in the research and to investigate possible correlations between these factors and the teachers' attitudes towards inclusion. These indicators are: gender (male, female), age, university, speciality, professional experience and grade. For the same purpose, we added five closed questions related to the respondents' experience with IE: do they or do they not have a disability (the nature of the disability in case of a positive answer).

Have they interacted with a person with a disability?

What is their level of training in teaching people with disabilities ?

How confident they are in teaching a learner with a disability ?

What level of experience they have in teaching a learner with a disability ?

3.2. The reliability of the SACIE-R reflects.

The revision of the SACIE-R scale and its adaptation to the Algerian context and to the level of higher education was undertaken by three experts in didactics and French language.

We calculated the overall internal consistency of the SACIE-R scale in its Algerian version, which was found to be very satisfactory (α=0.847). The Cronbach's alpha values for the subscales shown in Table 1 are also very acceptable. The SACIE-R scale has also been used and validated in numerous studies of teachers' attitudes towards AR in several countries. Table 2 shows the reliability of the scale, as confirmed by several researchers. Some values are very close to those found in the present study.

Subscale	Description	Number of items	Example	Cronbach's α
Feelings	How teachers think about attachment to people with disabilities.	5	I would feel bad if I had a disability	,731
Attitudes	How teachers accept students with different learning needs.	5	Students who need communication technologies (e.g. Braille/sign language) should be in regular classes.	,711
Concerns	Concerns that teachers may have about inclusive education.	5	I fear that my workload will increase if I have students with disabilities in my class.	,775
SACIE-R	Global	15		,847

Table 1: Cronbach's Alpha of the SACIE-R subscales

	Population	N	Country	Cronbach's Alpha	Ref
SACIE-R (adapted)	University teachers	180	Pakistan	0.84	Ayub, U., Shahzad, S., & Ali, M. S.(2019)
SACIE-R (adapted)	Future primary school teachers	573	Turkey	0.78	Kis, A. (2016).
SACIE-R (original)	Future teachers	542	Hong Kong, Canada, India and the United States.	0.74	(Forlin, Earle, Loreman & Sharma, 2011)
SACIE-R (adapted)	Secondary school staff	118 teachers et 13 administrators	Singapore	0.77	Poon, K. K., Ng, Z., Wong, M. E., & Kaur, S. (2016).
SACIE-R (adapted)	Primary school teachers	122	Spain	0.83	Gallego-Ortega, J. L., Rodríguez-Fuentes, A. (2021).
SACIE-R (adapted)	university students	323	Spain	0.64	Navarro-Mateu, D., Franco-Ochoa, J., & Prado-Gascó, V. J. (2020).
SACIE-R (adapted)	University teachers	126	Algeria	0.85	Our present study (2021)

Table 2: The reliability of SACIE-R adapted to several country contexts

3.3. Sampling and procedure

The study population consisted of all teachers in three universities, two located in the north-central part of the country (University of Algiers 2 and University of Boumerdes) and one in the southwestern part (University of Adrar). The questionnaire survey was conducted during the month of October 2021 in the three universities. The questionnaire link (Google form) was shared with 550 teachers. Out of this total, we recorded, 126 responses, a return of about 23%. The data are statistically processed by SPSS version 19 software. The significance level is set at 5%.
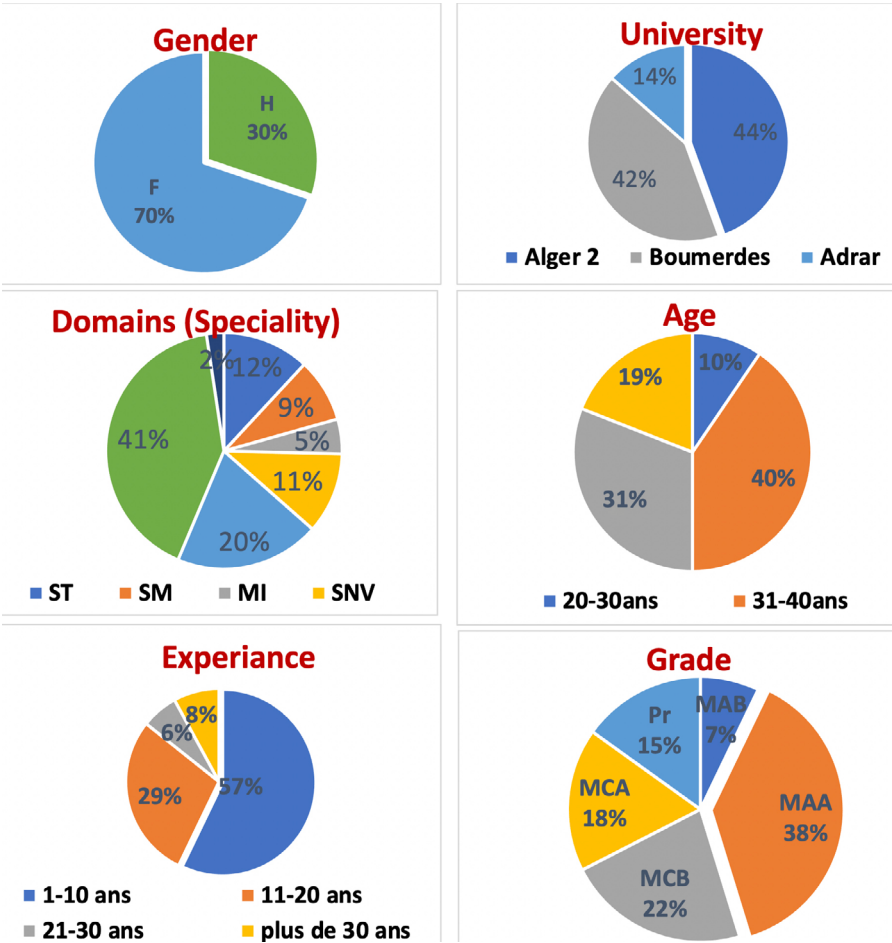
Figure 1: Distribution of the study sample according to the variables (gender, age, grade, university, number of years of experience and field of training)

The study sample was therefore randomly selected, with a sample size of (N=126) teachers, 70% of whom were women. The participants in the survey belong to four age categories, of which two are in the majority: 31-40 years (40%) and 41-50 years (31%). 57% of the sample had less than 10 years of professional experience in higher education. The grades of the teachers surveyed vary from the lowest (MAB) to the highest (Pr.) [5] with a predominance of intermediate grades: MAA (38%) and MCB (22%). The respondents belong to 7 different teaching fields, but the majority of them come from the LLA (Arabic language and literature) field. Figure 1 illustrates the heterogeneity of our sample.

4. RESULTS

4.1. Descriptive statistics of teachers' responses

The descriptive statistics (min, max, mean and standard deviation) of the teachers' responses presented in Table 3 were obtained from the:

— level of knowledge of AR-related legislation,
— level of confidence in teaching a learner with a disability,
— level of experience in teaching a learner with a disability.

The means and standard deviations of the responses of the study sample indicate that university teachers in Algeria have :

— Low level of knowledge of local legislation or policy regarding learners with disabilities (M=1.81, SD=0.978).
— An average level of experience in teaching a learner with a disability is : (M=2.49, SD=1.13).
— A high level of self-confidence when dealing with a learner with a disability (M=3.45, SD=1.07).

	N	Min	Max	Average	SD	
Age	126	28	71	43,04	9,960	**Degree**
Professional experience	126	1	41	11,71	9,359	
Knowledge of legislation (5-level Likert)	126	1	5	1,81	0,98	**Low**
Confidence level (5-level Likert)	126	1	5	3,45	1,07	**Average**
Experience level (5-level Likert)	126	1	5	2,49	1,13	**High**

Table 3: Descriptive statistics of teachers' responses

4.2. Answer to the first research question

Question 1: *How do Algerian higher education teachers perceive inclusive education and its application in the Algerian university?*
Table 4 presents the means and standard deviations of the SACIE-R scale adapted to the Algerian context and its three subscales.

With regard to how teachers perceive inclusive education for students in Algeria, the results in Table 4 indicate that the highest level of response from teachers (on a scale of 1 to 4) is for the feeling factor (M = 3.06, SD=0.6). This means that teachers have a very positive feeling towards inclusive education. The other two factors (attitude and concern) received a medium rating.

In general, the scores are all above 2.5, which leads us to say that the perception of the teachers interviewed is positive towards IE. They have positive feelings, attitudes and concerns about the inclusion of students with disabilities in mainstream classrooms.

	N	Min	Max	Average	SD	Degree
Feelings (4-level Likert)	126	1,00	4,00	3,0603	0,6056	High
Attitudes (4-level Likert)	126	1,00	4,40	2,7286	0,5188	Medium
Concerns (4-level Likert)	126	1,00	4,00	2,7794	0,5948	Medium
SACIE_R (4-level Likert)	126	1,00	4,00	2,8228	0,4627	Medium
N (Valid)	126					

Table 4: Descriptive statistics of teachers' responses to the SACIE-R

4.3. Answer to the second research question:

Question 2. What are the factors affecting the perception of university teachers in Algeria towards inclusive education?

In order to reveal the factors affecting the perception of university teachers in Algeria towards inclusive education, the Pearson correlation was used.

We exploited the bi-variate relationship between the following predictor variables:

— The gender.
— Age.
— The grade.
— The number of years of experience.
— The level of training in education for people with disabilities.
— The level of knowledge of IE legislation.
— The level of confidence in teaching a learner with a disability.
— The level of experience of teaching learners with disabilities.
— Interacting with a person with a disability.

— SACIE-R.
— Feelings.
— Attitudes.
— Concerns.

The results presented in Table 5 indicate that there is no relationship between teacher's age and the SACIE-R scale. The same is true of the level of training in teaching people with disabilities. A statistically significant correlation of other demographic and professional factors such as gender (r = 197, p < .05), grade and professional experience with attitude was found. Only, no other significant relationships were observed between these factors and the other two subscales.

The variables "level of knowledge of IE legislation", "level of confidence in teaching a learner with a disability", "interaction with a learner with a disability" and "level of experience in teaching learners with a disability" revealed positive and significant associations with the overall SACIE-R and the subscales. This means that the more knowledge teachers have of IE legislation, the better their perception of IE. Similarly, the higher their confidence in teaching a learner with a disability, the more positive their attitude towards IE.

A multiple regression analysis was conducted to determine the degree of correlation of the factors with a statistically significant correlation with the SACIE-R subscales. Table 6 shows the ANOVA test and the 4-predictor multiple linear regression combined in one block:

— Predictor 1: Level of knowledge of IE legislation.
— Predictor 1: Level of confidence in teaching a learner with a disability.
— Predictor 1: Level of experience teaching learners with disabilities.
— Predictor 1: Interaction with a person with a disability.

The ANOVA test confirmed that the block predictors were statistically significant (F = 3.49, p < 0.05). The multiple regression analysis revealed that they explained 7.4% of the variance in the total SACIE-R scale. We conclude that the four independent variables mentioned above are significant predictors of teachers' positive attitudes towards inclusion.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender	1												
2. Age	-0,121	1											
3. Grade	-0,084	,434(**)	1										
4. Experience	0,013	,793(**)	,480(**)	1									
5. Level of training	-0,044	-0,058	-0,060	-0,037	1								
6. Knowledge of legislation	0,049	0,030	0,013	-0,024	0,165	1							
7. Confidence level	,209(*)	0,094	0,103	,222(*)	0,106	,326(**)	1						
8. Level of experience	0,134	0,137	0,100	,184(*)	0,164	,462(**)	,592(**)	1					
9. Interactions	0,169	0,098	0,005	0,020	0,171	,273(**)	0,171	,331(**)	1				
10. SACIE_R	0,158	-0,049	0,047	0,032	0,096	,194(*)	,345(**)	,259(**)	,234(**)	1			
11. Feelings	0,060	-0,082	-0,009	-0,066	0,108	,206(*)	,282(**)	,185(*)	,279(**)	,899(**)	1		
12. Attitudes	,197(*)	0,105	,230(**)	,210(*)	0,060	0,020	,205(*)	,189(*)	0,129	,637(**)	,350(**)	1	,
13. Concerns	0,135	-0,124	-0,082	-0,042	0,062	,224(*)	,339(**)	,251(**)	0,149	,863(**)	,775(**)	,257(**)	1

*. The correlation is significant at the 0.05 level
**. The correlation is significant at the 0.01 level
Table 5: Pearson correlation between predictors and SACIE-R subscales

Factor	Regression			ANOVA		
	R^2	R^2- adjusted	ddl	Medium square	F	Sig.
SACIE-R (Global)	0.103	0.074	4	0.664	3.486	0.010
Subscale:-Feelings	0.144	0.116	4	1.530	5.107	0.001
Subscale: Attitudes	0.036	0.005	4	0.286	1.146	0.338
Subscale: Concerns	0.123	0.094	4	1.2228	4.246	0.003

Table 6: Results of regression analysis and ANOVA test

5.　DISCUSSION AND CONCLUSION

This exploratory study is the first of its kind in the field of IE at university level in Algeria. Its aim was to explore teachers' attitudes and perceptions towards IE. To answer our research questions, we used the SACIE-R scale (Forlin, *et al.*, 2011), translated and adapted to the study field.

Teachers' perceptions and attitudes towards IE were explored through different socio-demographic and professional factors.

The results showed that the majority of teachers in our sample have a positive attitude towards IE. Similar results have been observed in several other research studies conducted in various countries (Ayub *et al.*, 2019; Tuncay & Kizilaslan, 2021). Descriptive statistics showed that teachers' adherence to the "feelings" subscale towards IE was higher than their adherence to the "concerns" and "attitudes" subscales.

The study found that neither gender, nor years of teaching experience, nor rank, nor age of teachers had any influence on their perception of IE. Similar results were obtained in a study investigating the correlation between attitudes and self-efficacy of teachers in inclusive education in the Republic of Armenia (Alaverdyan, 2018).

Statistical analysis of the data revealed positive and significant associations between teachers' perceptions of IE and the following four factors: knowledge of IE legislation, experience of teaching learners with disabilities, level of experience of teaching learners with disabilities and interaction with a person with a disability.

According to the multiple regression analysis, these predictors, taken together, can explain 7.4% of the variance in the SACIE-R scale, 11.6% of the feelings and 9.4% of the concerns of teachers towards IE.

Several studies on IE have also found that the higher the level of confidence teachers have in teaching a learner with a disability, the more positive their attitudes towards IE are (Forlin, *et al.*, 2011; Kis, 2016; Ayub *et al.*, 2019; Tuncay & Kizilaslan , 2021).

It is therefore necessary to take these factors into account in the decision-making process concerning the reform of the Algerian university education system, and to make efforts to intervene in teachers' perceptions and attitudes towards IE so that they are as positive as possible. Indeed, a significant number of studies have argued that this is a necessary condition for the success of any inclusive education process.

6. BIBLIOGRAPHY

AJZEN, Icek, and Martin FISHBEIN. "Attitudes and the attitude-behavior relation: Reasoned and automatic processes." *European review of social psychology* 11.1 (2000): 1-33.

ALAVERDYAN, Vahan. "Understanding attitudes and self-efficacy of in-service teachers and professionals towards inclusive education in the Republic of Armenia." (2018).

AVRAMIDIS, Elias, and Brahm NORWICH. "Teachers' attitudes towards integration/inclusion: a review of the literature." *European journal of special needs education* 17.2 (2002): 129-147.

AVRAMIDIS, Elias, *et al.* "Teachers' attitudes towards inclusion and their self-efficacy for inclusive practices as predictors of willingness to implement peer tutoring." *Journal of Research in Special Educational Needs* 19 (2019): 49-59.

AYUB, Umair, Shumaila SHAHZAD, and Muhammad SHABBIR Ali. "University Teachers' Attitude towards Inclusion, Efficacy and Intentions to Teach in Inclusive Classrooms in Higher Education." *Global Social Sciences Review (GSSR)* 4.1 (2019): 365-372.

COOK, Bryan G. "A comparison of teachers' attitudes toward their included students with mild and severe disabilities." *The journal of special education* 34.4 (2001): 203-213.

EAGLY, Alice H., and Shelly CHAIKEN. *The psychology of attitudes*. Harcourt brace Jovanovich college publishers, 1993.

EMMERS, Elke, Dieter BAEYENS, and Katja PETRY. "Attitudes and self-efficacy of teachers towards inclusion in higher education." *European Journal of Special Needs Education* 35.2 (2020): 139-153.

FORLIN, Chris. "Teacher education reform for enhancing teachers' preparedness for inclusion." *International Journal of Inclusive Education* 14.7 (2010): 649-653.

FORLIN, Chris, *et al.* "The sentiments, attitudes, and concerns about inclusive education revised (SACIE-R) scale for measuring pre-service teachers' perceptions about inclusion." *Exceptionality Education International* 21.3 (2011).

GALLEGO-ORTEGA, José Luis, and Antonio RODRÍGUEZ-FUENTES. "Teaching Attitudes towards Students with Disabilities." *Mathematics* 9.14 (2021): 1637.

GAREL, Jean-Pierre. "De l'intégration scolaire à l'éducation inclusive: d'une normalisation à l'autre." *Journal des anthropologues. Association française des anthropologues* 122-123 (2010): 143-165.

HAVEL, Jiří. "Teaching Elementary Reading and Writing Practice in Inclusive School." *International Multidisciplinary Scientific Conferences On Social Sciences And Arts SGEM 2014.* 2014.

IANES, Dario, Heidrun DEMO, and Francesco ZAMBOTTI. "Integration in Italian schools: teachers' perceptions regarding day-to-day practice and its effectiveness." *International Journal of Inclusive Education* 18.6 (2014): 626-653.

KIS, Arzu. "Adaptation of the sentiments, attitudes, and concerns about inclusive education revised (sacie-r) scale on a Turkish population." *Academic Research International* 7.1 (2016): 123-134.

MCGHIE-RICHMOND, Donna, *et al.* "Teacher perspectives on inclusive education in rural Alberta, Canada." *Canadian Journal of Education/Revue canadienne de l'éducation* 36.1 (2013): 195-239.

MEYER, A., D. H. Rose, and D. GORDON. "Universal Design for Learning: Theory and Practice. Wakefield, MA: Center for Applied Special Technology." (2014): 331-348.

NAVARRO-MATEU, Diego, Jacqueline Franco-Ochoa, and Vicente-Javier Prado-Gascó. "Measuring attitudes towards inclusion among university students pursuing education degrees: descriptive study (Medicion de actitudes de estudiantes universitarios de magisterio hacia la inclusion: estudio descriptivo)." *Culture and Education* 32.1 (2020): 43-64.

POON, Kenneth K., *et al.* "Factors associated with staff Perceptions towards inclusive education in Singapore." *Asia Pacific Journal of Education* 36.sup1 (2016): 84-97.

ROBERTS, Kelly D., *et al.* "Universal design for instruction in postsecondary education: A systematic review of empirically based articles." *Journal of Postsecondary Education and Disability* 24.1 (2011): 5-15.

SALEND, S. "Creating inclusive classrooms: Effective and Reflective practices. Columbus." *OH: Merrill* (2008). Scott, John, and Gordon Marshall, eds. *A dictionary of sociology*. Oxford University Press, USA, 2009.

TUNCAY, Aysegul Avsar, and Aydin KIZILASLAN. "Pre-Service teachers' sentiments, attitudes and concerns about inclusive education in Turkey." *European Journal of Special Needs Education* (2021): 1-14.

VERRET, Claudia, Geneviève BERGERON, and Lyne DUHAMEL. "La différenciation pédagogique : une voie à privilégier pour répondre à la diversité des besoins des élèves en EPS." *Revue Propulsions* 29.1 (2016): 38-41.

Pilar Garcés-García

Meriem Bedjaoui

Antonio Bueno-García

Fatiha Ferhani

(dirs.)

VOL. 1

TRAINING PAPERS & PICTURES

Pilar Garcés-García, Meriem Bedjaoui,
Antonio Bueno-García & Fatiha Ferhani (eds.)

VOL. 2

PLAN FOR DEVELOPING TEACHING METHODOLOGIES

Bartolomé Rubia-Avi & Zoubir Gaci (eds.)

VOL. 3

UNIVERSITY TEACHING STAFF TRAINING PLAN

Alfredo Corell-Almuzara & Fatma Fatiha Ferhani (eds.)

VOL. 4

ORGANISATIONAL STRUCTURE AND GOVERNANCE PLANNING

María Teresa Parra-Santos & Ali Zineddine Boumehira (eds.)