

## **Distance Learning Practices at the Moroccan University In the Coronavirus Era.**

**Dr. Sara SAAIDI**

Faculty of Letters and Human Sciences - Mohammed V University

Rabat. Morocco

---

Science Step Journal / Education & Social Sciences

June 2023/Volume 1- Issue 1

DOI: 10.6084/m9.figshare.23546073

Link: <https://sciencestepjournal.com/?p=1745>

To cite this article: SAAIDI, S. (2023, June). Distance learning practices at the Moroccan University. Science Step Journal, 1(1), 14 – 31.

---

### **Abstract**

More than 913.700 Moroccan students, enrolled under the 2019-2020 academic year, have been forced by The Covid-19 pandemic to confine themselves to their homes, following the closure of their academic institutions. The same situation can be observed worldwide. Hence, distance education, as an emergency solution, has been implemented by countries which have advanced digital logistics.

In Morocco, ICTEs (Information and Communication Technologies for Education) are used in universities mainly for pedagogical aims (course development, content distribution, communication between teachers and students, etc.) and for informational purposes (student registrations, announcement of results and administrative support). The crucial question to ask: To what extent was the Moroccan university ready to move from teaching in face-to-face to distance education?

It is in this context of distance education in the era of Covid-19 that is born our research work which aims to answer a two-fold problem: The first part exposes the actions taken by the

Moroccan government to face this exceptional crisis and to support the educational community to have access to resources remotely. The second part, on the other hand, highlights the measures adopted by universities for the benefit of students during this confinement period.

To answer these questions, we propose a mixed qualitative and quantitative approach: An analysis of official documents and information (Ministry of Higher Education, Scientific Research and Executive Training, Higher Education Council, MAP). This analysis is coupled with interviews with the vice presidents in charge of the academic poles and the general secretaries from university presidencies.

**Keywords :** ICTE (Information and Communication Technologies for Education), EAD (distance education), government actions, Moroccan Universities, Covid-19.

## Introduction

Nowadays we witness an accelerated pace of technological development around the world that entails the renewal of education systems. Morocco, like all other developing countries and western ones, has understood the importance of the use and the integration of ICTs in its education system. In so doing, the Moroccan government has stepped up multiple actions that aim at improving the efficiency and the quality of the education system and providing education by ICTs<sup>1</sup>. Multiple initiatives have followed one another for more than 15 years in Morocco. That's why many reforms and programs give priority to the ICTEs. Unfortunately, several factors still hinder the integration of these tools into the Moroccan universities<sup>2</sup> : The degree of motivation and involvement of teachers, the feeling of insecurity shown by students when facing the use of the technical objects used in learning, the non-mastery of the pedagogical use of ICT, etc.). However, the onset of the Covid-19 pandemic has decided to turn the tables. The pandemic has proven to be a real boon for public education in the sense that this is a great opportunity for the development of educational content that could be taught via distance education. In the same vein, Professor Mohammed Guedira<sup>3</sup> said in an interview, *“The coronavirus has accelerated the establishment of the process of distance education and it is in favor of our country. Today, we are witnessing a change in behavior from the part of teachers, parents and students. This is a new culture that is taking place in our country.”*

Like all the countries around the world affected by this pandemic (Covid-19), and as part of a policy of prevention and anticipation, Morocco has imposed several measures that aim at limiting the dramatic spread of the coronavirus. Among the measures enacted by the Law Decree No. 2-20-292, in accordance with the state of health emergency, announced on March 23rd, 2020, we find in particular the ban on gatherings of people, the obligation to stay at home and to leave it only with pre-established authorization as well as the closing of schools and universities. When

---

<sup>1</sup> Bouyzem, M. Maroc : Étude sur les pratiques TICE dans l'enseignement supérieur et la Formation Professionnelle. Octobre 2015. Edupronet, le réseau pédagogique du Maghreb, [online]. URL address : <http://edupronet.com/maroc-etude-sur-les-pratiques-tice-dans-lenseignement-superieur-et-la-formation-professionnelle/>. Consulted on february 2020.

<sup>2</sup> El mendili, S. (2016). Usage des outils numériques par les étudiants et les enseignants : the case of The University of Mohammed V in Rabat. Colloque International « Médias numériques & Communication électronique », University of le Havre - France 1st-2nd and 3rd of june 2016. Pp 275-284.ISBN/ 978-2-9557005-0-1

<sup>3</sup> Mohammed Guedira, president of the scientific observatory for studies on governance and management, and expert in public education politics (published on april 7<sup>th</sup>, 2020). <https://maroc-diplomatique.net/enseignement-a-distance-au-maroc-quels-sont-les-principaux-obstacles/>. Consulted on October 04th, 2020.

faced with this situation, the supervisory ministry took quick measures as a reaction by ordering a number of directives and actions to deal with the repercussions of the Corona pandemic on the education and formation system and scientific research in the country, as well as for the progress and prospects for the current academic year. Despite the lack of capacities and necessary components in this area, the actors in the field of education found themselves overnight in a situation where the ICTs is a priority to teach their students . Hence, this situation represents a cultural shock for many teachers. According to Saïd Amzazi, this transitional phase has been better managed by advanced establishments in this area *“Universities, which all have e-learning platforms, are already familiar with e-learning. Therefore they reacted very quickly to the announcement of the end of classroom lessons. Their schools have invited teachers to publish their courses online, either directly on their website or via e-learning platforms that allow exchanges between teachers and students”*<sup>4</sup>.

### **The Research problem**

Information and communication technologies have become therefore the key elements to guarantee educational continuity and support our new ways of living and working during this exceptional period. Digital technologies have never been so much important in maintaining educational continuity. This research work aims to analyze the transition from face-to-face education to distance education during this period of the Covid-19 pandemic in Morocco. This situation presupposes the articulation of a two-fold problem:

The first part is concerned with setting out the actions of the Moroccan government to ensure educational continuity in general. The second part focuses on the measures adopted by Moroccan universities for students during this period of confinement.

---

<sup>4</sup> Ministry of National Education, Vocational Training, Higher Education and Scientific Research. [Online]. URL adress :<https://www.challenge.ma/enseignement-a-distance-report-des-vacances-scolaires-maintien-ou-pas-des-examens-formation-des-enseignants-en-ntic-saaid-amzazi-dit-tout-135884/> (published on April 04<sup>th</sup>, 2020). Consulted on April 13<sup>th</sup>, 2020.

## **The Research Questions**

- What are the actions undertaken by the Moroccan government during this health crisis to support the educational community ?
- What efforts are the universities making to face the current situation ?
- What are the mechanisms put in place by the universities to ensure educational continuity ?
- Will the coronavirus change how education is organized in the future ?

## **The Research Methodology**

This article aims at drawing up an inventory as well as the use of ICTs within the Moroccan universities during the health crisis caused by Covid-19, to ensure pedagogical continuity through Distance Education. At first, a synthesis of the existing literature on the subject as well as the research work published on the subject during this period of COVID-19 seemed important to us to shed light on the key factors to successfully integrate ICT in universities. After the documentary analysis, we proceeded to a methodology of collecting qualitative and quantitative information in order to draw up the actions of the government and the state of Production of Digital Pedagogical Resources of Moroccan universities for distance education during the period of confinement. In this sense, we referred to the measures recommended by the government as published by the Moroccan Press Agency (MAP) and the session of oral questions in the House of Representatives (Monday May 18th, 2020 )as well as the information published on the web sites of universities and the information collected following interviews with the clerks responsible for the implementation of digital content (the vice presidents in charge of academic centers and the general secretaries of university presidencies).

### **I. The Theoretical Framework**

Around training via ICT, we are witnessing a flowering of terms and vocabulary: Distance Education (DE), Open and Distance Education (ODE), e-learning (or e-training...), etc. The different names may differ according to many criteria: Time (synchronous, asynchronous teaching), space (distance learning or in training premises), technique (one-way or interactive

communication), and the situation (mediated in presence or absence trainer)<sup>5</sup>. This research work does not focus only on the realities and the tools used by the different appellations; it will integrate the Information and Communication Technologies used for Education remotely in the age of Covid-19. It seems to us interesting to define some key concepts of our research and to present the context in which our research takes place. It is about Information and Communication Technologies for Education (ICTE) and Distance Education (DE).

## 1- ICTE

The education systems of all countries face big challenges which call on them to expand, soften and improve their relevance and quality at all levels. For this reason, ICTs are perceived by many observers as a means to meet these challenges (Cynthia Guttman, UNESCO, 2003).

Dieuzeide (1994, p. 11) considers that "Information and Communication Technologies (ICT) designate all instruments that carry intangible messages such as images, sounds and strings of characters". Dieuzeide subdivides ICT into three major categories. The first category is related to the field of audiovisual (sound and image). The second one concerns the field of computing (encoding and processing of information). The third category consists of the sector of telecommunications (Internet and networks).

The acronym ICTE appeared in the literature at the beginning of the third millennium. ICTE is a set of tools designed to produce, exchange, classify and analyze digital documents for teaching and learning purposes. Actually, ICTE constitute a great potential for educational innovations and new practices for both teachers and students. For this reason, we will adopt the definition provided by (Mangenot)<sup>6</sup>, for whom "the integration of ICTE is when the IT tool is used effectively at the service of learning". In fact, the majority of definitions of ICT in the literature converges and assigns to the acronym ICT, all information and communication technologies that can be used for or in the service of teaching / learning. (Mastafi 2014)

---

<sup>5</sup> El mendili, S. (2004). Impact de la Qualité dans le domaine des Technologies de l'Information et de la Communication en milieu éducatif. PHD Thesis in SIC, under the direction of Pr. Isabelle Pouliquen, Marseille, University of Paul Cézanne - Aix Marseille III, 2004, 200 p.

<sup>6</sup> Mangenot, F. (2000). L'intégration des TIC dans une perspective systémique ». *Les Langues Modernes*, (3). 38-44.

## 2- Distance Education

Distance education (DE) is a phenomenon that began in the middle of the nineteenth century and more precisely in 1840 in England thanks to Isaac Pitman. The latter is considered one of the pioneers of correspondence education. This new concept did not become very widespread until the twentieth century with the creation in France (1939) of the first National Center for Distance Education (NCDE), and in Spain (1970) of the National University of Education and the Open University in (1972)<sup>7</sup>. Indeed, the use of ICTE has paved the way to set up a new mode of teaching, that of distance training also referred to as E-training, E-learning or online training. The latter can be defined in relation to face-to-face training, as being a training which is characterized by delocalization in time and space. Learners do not have to be present in the same place and at the same time as teachers. Distance education is enhanced by the advent of networks and internet-based technologies.

UNESCO<sup>8</sup> defines Distance Education as "a mode of teaching, provided by an institution, which does not require the physical presence of the teacher responsible for giving "the lesson" in the place where it is received, or in which the teacher is only present at certain times or for specific tasks. «For its part, AFNOR<sup>9</sup> defines this type of teaching as being a distance training method" designed to allow individuals to train without having to go to the place of training and without the physical presence of a trainer. Distance learning [...] is included in the more general concept of open and online distance learning. " Geneviève Lameul (2000) considers that the use of different means of communication makes it possible to "break with the three units of time, place and action, by allowing learners to be trained without having to go to a place that is specifically identified for training. , by getting in touch with the trainer-guide or the teacher through the means of communication.

---

<sup>7</sup> Djebbari Nassima (2013). *L'enseignement à distance : de l'autonomie vers l'interaction* ; Master's Thesis in French.

<sup>8</sup> UNESCO. Glossary of education technology terms. Paris : Unesco, 1987. [Online]. URL adresse : <https://eduscol.education.fr/numerique/dossier/archives/eformation/notions-distance-mobilite/ead/definitions>. Consulted on December 04th, 2020.

<sup>9</sup> AFNOR. (French Association for Standardization). Distance Learning (Online). Available at : <https://eduscol.education.fr/numerique/dossier/archives/eformation/notions-distance-mobilite/fad>. Consulted on May 20th, 2020.

In distance education, a course can be given "synchronously (at the same time for all students) by audio, video or web conference, or asynchronously (at a time that is convenient for each student) via online discussion forums, blogs, wikis, messaging and email" (Haughey, 2013). In this research work, we will retain the concept of Distance Education as a device made up of a set of material, technical, human and educational resources set up to provide education for confined students and who are distant from their educational institutions at this time of the current circumstances due to COVID-19.

To answer the question which concerns the importance of Distance Learning, we will borrow the arguments put forward by (Abbassi Mustapha (2005)) and which explain the reasons for the implementation of such a tool:

- to overcome or limit distances: this involves allowing distant people to follow their training without having to travel or to move from one place to another;
- to overcome the constraints linked to the specific or exceptional circumstances of the learners: sometimes the physical state, the professional status, when the working conditions do not allow the interested persons to be present or to move from one place to another for several reasons : the hospitalized people, the confinement in the current state ...;
- to contribute alongside the public institutions: The Ministry of Education alone cannot meet all the expectations and needs in terms of education.

Today, we are witnessing several modes of postgraduate training in Morocco, both continuous and distance, initiated mainly by private institutes. What are the key factors of success in this mode of education so required during this health crisis?

### **The actions undertaken by the Moroccan government for educational continuity**

The current education crisis, due to the unexpected onset of the Covid-19 pandemic, has revealed the need to review the strategies of the Moroccan government for managing the education system. Like all other countries around the world, affected by this pandemic, and as part of



prevention and anticipation policy, Morocco has taken several measures in order to limit the dramatic spread of the coronavirus.

In the same vein, it is important to highlight the measures and actions undertaken by the Moroccan government. Among these measures enacted by the Law Decree No. 2-20-292, in accordance with the state of health emergency, announced on March 23rd, 2020, we find in particular the ban on gatherings, the obligation to stay at home and to leave only with a pre-established authorization as well as the closure of schools and universities. In this regard, the supervisory ministry was quick to react by ordering a number of directives and actions to deal with the repercussions of the Corona pandemic on the education and training system and scientific research nationwide. These measures aim to meet the needs of the current academic year at present and in the future, given the exceptional circumstances in which we currently live.

We based our analysis on official documents (the measures recommended by the government and published by the Moroccan Press Agency (MAP), and the session of oral questions in the House of Representatives), which defined the main measures, directives and actions taken by the responsible ministry in order to succeed in this project and to deal with the repercussions of the pandemic on the sector of education.

The main measures:

- The launch of two platforms: a digital platform entitled: "TelmidTICE" and an audiovisual platform on the Attakafia TV channel. These platforms provide lessons grouped according to the level and branch of study as well as the required subject.
- The feeding of the electronic platforms of the universities by the courses, which allow the teachers and professors to make the courses available for the students.
- The broadcast of courses on the Arriyadia channel for undergraduate students: 3 hours of broadcasting per day (6 courses in total), then 6 hours per day (12 courses in total).
- The launch of a distance learning platform for vocational students called: "Teams", with the possibility of creating virtual classes in order to communicate directly with the students.

- The integration of distance support courses into television programming.
- Distance education for all, as announced by the MENFPESRS, the Ministry of Industry, Trade, Investment and the Digital Economy and the National Telecommunications Regulatory Agency, will be supported by the three national telephone operators which have decided to give free access, and on a temporary basis, to the various digital distance education platforms set up by the MENFPESRS, for all students and trainees.

## **II. The Mobilization of universities for the success of the distance education program**

### **A. The measures and actions taken during the months of March and April 2020**

In March 13th, 2020, the ministry will suspend classes until an indefinite date. Two days later, the Minister<sup>10</sup> visited a set of centers responsible for the preparation and retransmission of courses and affirms that all measures have been taken to ensure pedagogical continuity and the success of distance courses while maintaining the establishments of teaching open in order to guarantee pedagogical continuity through distance education.

The Commission of University Presidents, for its part, has taken the initiative to launch the courses of distance learning by initiating actions such as:

- the establishment of a distance training system;
- the launch of distance learning courses via the internet, social networks and the university's digital platforms for the benefit of students.

At the same time, many journalists are providing universities with digital production mechanisms to produce video clips for distance education for the benefit of university students. Telecommunications companies, for their part, offer free access to “Distance Education and Training” sites and platforms.

---

<sup>10</sup> Saïd Amzazi, Minister of National Education, Vocational Training, Higher Education and Scientific Research.

The Department<sup>11</sup> of Higher Education and Scientific Research broadcasts a series of university courses, in partnership with the National Broadcasting and Television Company, on the TV channel Arryadia.

Other actions initiated by various universities have emerged two days after the end of face-to-face classes<sup>12</sup> :

- The Mohammed V University in Rabat has put 580 courses online, in addition to videoconferences broadcast remotely.
- The University of Sidi Mohamed Ben Abdellah (USMBA) of Fez has begun broadcasting courses on the airwaves of the regional radio of Fez.
- The launch of a toll-free number to respond to requests and questions regarding distance education platforms.
- The University of Sultan Moulay Slimane in Béni Mellal has 3,639 courses online.
- The University of Mohammed the First (UMP) and Oujda Radio join forces to serve students by broadcasting four lessons per day.
- Mohammed VI Polytechnic University makes its digital platform available to students in preparatory classes.
- The University of Fez has more than 4,700 educational resources online.
- The University of Cadi Ayyad in Marrakech supplies distance education platforms with 8,893 digital resources.
- The University of Meknes offers more than 6,300 educational resources online.
- The Federal Polytechnic School of Lausanne (EPFL) and the Mohammed VI Polytechnic University (UM6P) are launching a new online course platform for engineering schools.

---

<sup>11</sup> Ministry of National Education, Vocational Training, Higher Education and Scientific Research.

<sup>12</sup> La MAP. Mapexpresse.ma/ April 20th, 2020 <http://www.mapexpresse.ma/actualite/societe-et-regions/mois-denseignement-distance-au-maroc-film/>. Consulted on May 17th, 2020.

All these events and initiatives show that a dynamic has emerged in order to consolidate the operations undertaken during the pandemic crisis. It is also the sign of a strong consolidation of distance education in our country and the establishment of an irreversible movement aimed at establishing its foundations and called upon to generate synergies for its sustainability.

### B. The implementation review of online courses and digital resources

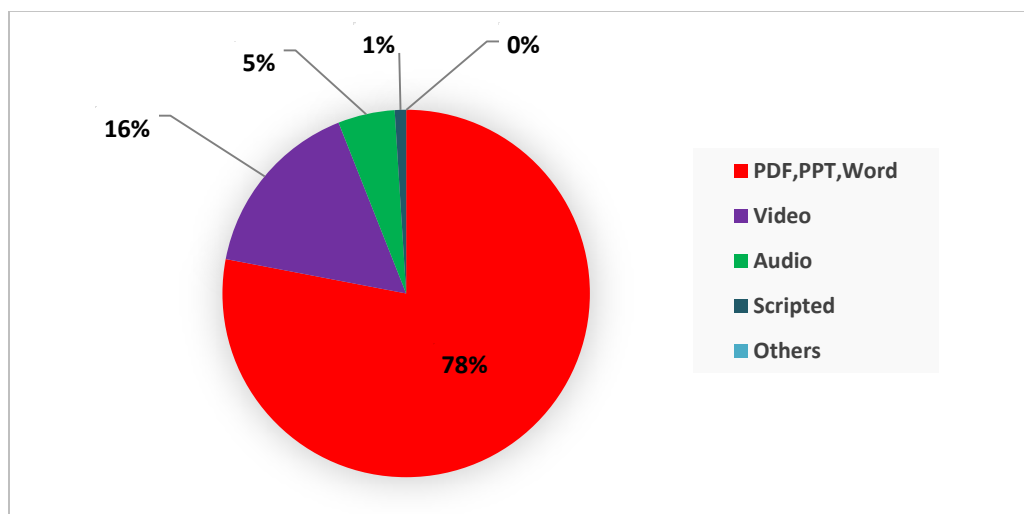
In addition, we can establish the state of production of digital educational resources until May as we obtained through an interview guide. The information was obtained from the people responsible for the implementation and the monitoring of the implementation of digital courses subject to distance training. The table below summarizes the information inherent in the courses given by all the universities.

**Table 1:** Online courses and digital resources from Moroccan universities

Universities	Ressources (PDF, PPT, Word)	Vidéo Resources	Audio Resources	On Live Resources	Other Resources
Mohammed V University of Rabat	10175	1022	396	2895	200
Hassan II University of Casablanca	8275	693	154		
Sidi Mohammed Ben Abdellah University of Fes	9817	1518	791		
Cadi Ayyad University of Marrakech	10293	1930	643		
Sultan Moulay Slimane University of Beni Mellal	4609	2866	1700		
Mohammed I University of Oujda	15971	782	60		276

Abdelmalek Essaâdi University of Tétouan	7375	1518	396	269	
Chouaïb Doukkali University of El Jadida	4370	1160	1008	3050	150
Hassan I University of Settat	2942	51	44		6
Moulay Ismaïl University of Meknès	6176	834	537		96
Ibn Tofaïl University of Kenitra	6284	850	227		
Ibnou Zohr University of Agadir	7588	1656	354	297	428
<b>TOTAL</b>	<b>93875</b>	<b>14880</b>	<b>6310</b>	<b>6511</b>	<b>1156</b>

**Source:** Author construction based on data from the 2020 interviews



**Figure a.** Distribution of digital resources

A simple reading shows that digital resources in the form of DOC, PPT, PDF files... represent more than 76% of the content offered by universities. This number could be justified by the fact that these courses were already available; they simply had to be adjusted and integrated on the

appropriate platforms for the students to access them. However, audiovisual courses only represent the rate of 17%. We explain this low rate by the fact that the teachers were keen to make the courses available to the students to ensure urgent pedagogical continuity. So, all the efforts undertaken were focused on this task and therefore venturing into the creation of audiovisual documents was certainly not a priority for the teachers, especially because they are neither equipped nor trained for this task.

Our survey shows also that teachers have used other resources to stay in touch with students for example: YouTube, web links, Facebook, WhatsApp, Messenger...

Classes are also delivered through virtual classes (classroom) and social networks. Students can also benefit from course materials with explanations and video clips in Arabic and French available on different platforms such as :

- Moodle platform<sup>13</sup> ;
- Microsoft Teams platform<sup>14</sup> ;
- Zoom<sup>15</sup> & Google Classroom platform<sup>16</sup> ;
- Mail, WhatsApp, Facebook ;
- Open edX platform<sup>17</sup> ;
- The sites of establishments belonging to universities.

This way of working remotely shows that both the research professors and students are obviously very active in online systems. Their participation rate varies from 60% to 100% depending on the fields and institutions with open or limited access. We present below the results of the analysis of the reports of the vice-presidents of the academic poles and the general secretaries of the universities interviewed :

---

<sup>13</sup> UNESCO. Distance Learning Solution. <https://en.unesco.org/covid19/educationresponse/solutions>. Consulted on May 01st, 2020.

<sup>14</sup> ibid

<sup>15</sup> ibid

<sup>16</sup> ibid

<sup>17</sup> ibid

- Teachers at Mohammed First University in Oujda use Moodle devices with an average of 89% and 11% on Google Classroom and on social networks ; on the other hand, students represent rates ranging from 33% to 67% on the same devices<sup>18</sup>.
- For Hassan The First University in Settlat, 75% of students, on average, take courses online<sup>19</sup>.
- 60% of the students of Moulay Ismail University are active on Moodle platforms and 17% of them follow the practical work of virtual physics on a platform dedicated to this end<sup>20</sup>.

UM5R students are active on different platforms with a rate of more than 80%; on the other hand, the teachers are revealed at a rate of around 38%<sup>21</sup>.

- At Sidi Mohammed Ben Abdellah University in Fez teachers are active with a rate of 78% while students are at the rate of 54% on the Moodle platform.
- Abdelmalek Essaâdi University in Tetuan presents teachers on Moodle, Classroom-meet, Website and Social Networks at a rate of 98% and students at the rate of 34%.

In this regard, it is important to note that all universities with their open or limited access institutions have embarked on this unprecedented experience by moving from traditional face-to-face education to a new form of so-called distance education. The universities were all engaged in thinking and looking for skills to develop their digital projects and better adapt the platforms to distance education.

Despite the high degree of urgency, the special experience envisaged in terms of distance learning and the pandemic danger of Covid-19 to be incurred, Moroccan universities and their staff have mobilized alongside the Ministry, the Conference of Presidents of Universities and all partners to succeed in the challenge and to ensure educational continuity. In this respect, Khadija Essafi, president of Hassan I University in Settlat says: “We understood that we had to move up a

---

<sup>18</sup> [www.ump.ma/fr/notes/bilan-dimplmentation-des-cours-en-ligne-et-ressources-numeriques](http://www.ump.ma/fr/notes/bilan-dimplmentation-des-cours-en-ligne-et-ressources-numeriques). Consulted May 17th, 2020

<sup>19</sup> Bref review of the achievements of the UHP-S on May 01st, 2020. [Online]. URL adress : <http://www.uh1.ac.ma/node/5928>. Consulted on November 05th, 2020.

<sup>20</sup> Review of the Digital Resources made available to students on May 05<sup>th</sup>, 2020 by the UMI-M). [Online]. URL adress : <http://umi.ac.ma/>. Consulted on May 27th, 2020.

<sup>21</sup> <http://www.um5.ac.ma/um5/sites/default/files/inline-images/avis13.pdf>. Consulted on May 17th, 2020.

gear quickly. We have digitized our resources and maintained contact with our students in every way possible. Casually, we have done a colossal job,”says Khadija Essafi, president of Hassan I University in Settat<sup>22</sup>.

### **The conclusion:**

The Moroccan university is not letting itself be disarmed by the Coronavirus pandemic in this year of 2020. Faced with the obligation to close the establishments of education, it has opted for distance education in order to ensure the continuity of its training.

In this study, we tried to approach the actions of our university education system, based on ICTs as essential tools, to carry out this unprecedented and urgent experience. In this respect, a set of supports have been put forward such as the establishment of an educational policy. The latter was based on evaluative approaches of the techno-educational platforms used, the integration of technology into the overall system and the rehabilitation of the entire structure of the school. Conceptual engineering of the educational environment must be taken into account to achieve a better potential for ICT in the education system and promote better integration of digital technology.

In addition, other supports have also been set out to overcome the various obstacles linked to the difficulties of developing educational software, or linked to the good management of human and financial resources, or even better to bypass all the obstacles related to the development of educational software and the infrastructure for a better implementation of technologies in general (Mastafi, 2014).

All these events and initiatives reveal that a dynamic has emerged in order to consolidate the operations undertaken during the pandemic crisis but which seems to be the basis of a consolidation of distance education. Such operations also constitute the basis of the creation of an irreversible movement intended to establish its definitive bases and generate synergies for its sustainability. However, the distance education system requires reflection and evaluation as to the way in which learners and teachers are equipped in order to cope with this new mode.

---

<sup>22</sup> <https://www.leconomiste.com/article/1061745-l-universite-de-settat-fait-son-bilan-post-crise>. Consulted on April 25th, 2020.



Finally, the experience we have just had, although it was done in emergency and in pain, has made it possible to observe the effects of ICT in practice. Much has been done, but it must be admitted that the level of ICT use in higher education remains relatively low. The implementation of an effective "distance training" mechanism remains difficult up to now despite the significant efforts that have been made.

Ultimately, the lived experience has brought out the concrete problems that we will have to face by a total overhaul of current concepts of teaching both at the level of teachers and that of didactics and pedagogy.

## Bibliographical and sitographical references

- Abbassi Mustapha (2005). La formation à distance : dispositif et gestion, Télévision Interactive, Rabat, Maroc.
- Bouyzem, M. Maroc : Étude sur les pratiques TICE dans l'enseignement supérieur et la Formation Professionnelle. Octobre 2015. Edupronet, le réseau pédagogique du Maghreb, [online]. URL address : <http://edupronet.com/maroc-etude-sur-les-pratiques-tice-dans-lenseignement-superieur-et-la-formation-professionnelle/>. Consulted on february 2020 .
- Dieuzeide, H. (1994). Les nouvelles technologies. Outils d'enseignement. Paris : Nathan Edition.
- Djebbari Nassima (2013). L'enseignement à distance : de l'autonomie vers l'interaction ; Master's Thesis in French.
- El mendili, S. (2004). Impact de la Qualité dans le domaine des Technologies de l'Information et de la Communication en milieu éducatif. PHD Thesis in SIC, under the direction of Pr. Isabelle Pouliquen, Marseille, University of Paul Cézanne - Aix Marseille III, 2004, 200 p.
- El mendili, S. (2016). Usage des outils numériques par les étudiants et les enseignants : the case of The University of Mohammed V in Rabat. Colloque International « Médias numériques & Communication électronique », University of le Havre - France 1st-2nd and 3rd of june 2016. Pp 275-284.ISBN/ 978-2-9557005-0-1
- Guttman, Cynthia. L'éducation dans et pour la société de l'information.Geneva : UNESCO publications for the World Summit on the Information Society.
- Haughey, M. (2013). L'enseignement à distance. [online]. URL Address : <https://www.thecanadianencyclopedia.ca/fr/article>.
- Lameul, G. (2000). Former et échanger par les réseaux : ingénierie de formation à distance. Intervention given during the seminar inter-IUFM of Nantes in april 2000.
- Mangenot, F. (2000). L'intégration des TIC dans une perspective systémique. Les Langues Modernes, (3). 38-44.
- Mastafi, M. (2015) Intégrer les TIC dans l'enseignement : Quelles compétences pour les enseignants? [online]. URL Address :

[http://formationprofession.org/files/numeros/11/v23\\_n02\\_294.pdf](http://formationprofession.org/files/numeros/11/v23_n02_294.pdf). Consulted on february 2020.

- Mastafi, M. (2014). « Barriers to integration of information and communication technology (ICT) in Moroccan education system ». Frantice.net, Number 8 – april 2014 Les TICE dans l'enseignement et la formation. Quels usages pour quelles pédagogies ?