Assessment of Distance Learning in the Algerian Universities during the COVID-19

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Abstract

Like many countries in the world, Algeria has been hit by the Corona virus, and as a result, the Algerian government has taken serious measures to deal with the current situation. In this context, the Algerian ministry of higher education and scientific research has instructed universities to perform online teaching and learning through regular, established eLearning platforms, as a step towards reducing the spread of the Corona virus. The present paper provides an assessment of the online learning electronic system provided by the Algerian universities during the pandemic. Basically, the research relies on students' and teachers' questionnaires as the undertaking tool to gather valid data in order to analyze and highlight the shortcomings of the online learning. The research results indicated that total reliance on online learning was according to strategies and planned learning objectives as it needs a solid platform for its total implementation. The research concluded with some recommendations which should be taken into account for better implementation of online learning electronic system in the Algerian higher education context.

Keywords: Algerian Universities, COVID-19, Electronic system, online-learning.

1.   Introduction

With the beginning of the year 2020, the Corona epidemic has swept the world. The new Corona virus continues to spread in the world, leaving more than one million and nine thousand deaths, in both developed and developing countries. Although many efforts have been done and lot of resources have been exploited by governments and research centers and laboratories, no effective cure has been reached; a factor which indicates that the Corona epidemic will last long. As a matter of fact, the Corona virus has led to unexpected negative consequences; such as a decline in the global economy, therefore, many employees lost their jobs around the world.

Because of isolation policies, people around the world stopped face to face communication, and reduced contact with each other. Also, commerce and other economic activities were severely

hit by the pandemic; as a result, there has been a decline in the global economic. In addition, COVID-19 caused many companies around the world to shut down.

The arrival of the novel corona virus is affecting 210 of the world countries. Actually, there are 2,261,425 reported cases, 154,734 confirmed deaths, and 579,212 being recovered (Regencia, Siddiqui, & Allahoum, 2020). Within this context, The US is the mostly affected country of COVID-19 with the highest rate of infections: 712. 184 reported cases, 32. 823 confirmed deaths, and 59. 532 recovered; followed by Italy which has 127. 434 reported cases, 22. 745 confirmed deaths, and 42. 727 recovered; then Spain which has 190. 853 reported cases, 20. 002 confirmed deaths, and 72. 963 recovered; and France with 109. 252 reported cases, 18. 681 confirmed deaths, and 34. 420 recovered (Corona virus Resource Center, 2020). As the mortality and infections rates increase, research centers and laboratories still challenge to find the appropriate cure to COVID-19.

The worsening corona virus epidemic in most world countries has upended the country's medical system. It has led to system- wide disruptions that doctors and physicians state that it is necessary for combating the immediate, un-ignorable threat of COVID-19 but that may, by default, force patients who do not have corona virus to shoulder a heavy burden. Those with chronic conditions will have to fight harder to get the care they need, not only now but also after the outbreak ends. Moreover, hospitals are still operating smoothly for the most part, but obstacles are mounting. Protective gear and supplies are running short. In a health care system in which routine supply and demand leaves only about a third of hospital beds available on a normal day, medical centers are creeping dangerously close to capacity, particularly in hard- hit countries. Each day in hospitals, raises the chances of doctors getting sick, and passing the virus on to their families.

As COVID-19 outbreak has brought considerable human suffering and major economic disruption, it led policymakers in most world countries to implement confinement and isolation policies so as to contain the spread of the virus by closing the main places of gathering and congestion. It is worth to mention that the educational sector world widely was also affected by COVID-19. As a result, schools, colleges, and Universities were subjected to closure, in a way to contain the corona virus and stop its fast wide spreading.

Algeria, like many world countries, has been subjected to the 2020 Corona virus pandemic spread since Feb. 25, 2020, when an Italian citizen was tested positive for SARS-CoV-2 (Algerian health minister confirms first COVID-19 case', 2020). Then, other cases with Covid-19 were

revealed. However, the number of affected people keeps in increasing and the situation reaches its dramatic climax. As a result to the COVID-19 pandemic, the Algerian President ordered an immediate cessation of study at schools and universities to prevent a possible widespread of the corona virus. This decision also included training institutions, and schools of Quranic education, private educational institutions, and kindergartens. As a result of the presidential order, the Minister of Higher Education called upon to move to the use of online education by using online platforms to ensure the continuity of students receiving lessons during the quarantine period as a precaution because of the outbreak of the corona virus.

The present paper highlights the status of online learning in Algerian universities during COVID-19. Using a survey study, the researchers relied basically on both students' and teachers' questionnaires to deeply analyze how online education- both online teaching and learning, was conducted, and how both students and teachers used and exploited the online electronic systems which were set by Algerian universities.

The present research addresses to the following questions:-

- How did Algerian universities respond to COVID-19?
- How was online learning electronic system implemented in the Algerian Higher Education sector during COVID-19?
- What were the drawbacks in implementing online learning during COVID-19?

1.1. Aims of the Study

The present undertaking reflects the efforts the education communities in general devote in order to raise awareness, responsibilities and consciousness to encounter the multiple dangers the sanitary crisis engenders. Particularly, the Algerian higher education is of no exception. It works towards facilitating access to knowledge and towards successful outcomes. This matter of facts mirrors the present study's importance as it not only brings into light the different barriers to implement Distance education on a sound ground but deploys efforts to make this new trend a feasible alternative for a continuum education. Furthermore, through this study, we most importantly aim at fighting ideologies related to stereotypes of age, gender and skillfulness. We strongly believe that in practicing on such new devices embedded in online platforms for education objectives, we will gradually meet the needs of the teaching/learning higher education communities.

2. Literature Review

2.1.   Definition

The new corona virus is attracting a lot of attention. Health experts are concerned because little is known about this new virus and it has the potential to cause severe illness and pneumonia in some people. The virus that causes COVID-19 is a new corona virus that has spread throughout the world. Corona virus is an illness caused by a virus that can spread from person to person. Corona virus disease is an infectious disease caused by a newly discovered corona virus (Corona virus, 2020).

Corona viruses are a large family of viruses. Many of them infect animals, but some corona viruses from animals can evolve (change) into a new human corona virus that can spread from person-to-person. This is what happened with the new corona virus known as SARS-CoV-2, which causes the disease known as COVID-19. Diseases from corona viruses in people typically cause mild to moderate illness, like the common cold (Novel Corona virus Disease', 2020). Health experts are still learning the details. They are still learning about the range of illness from novel corona virus. Reported cases have ranged from mild illness to severe pneumonia that requires hospitalization. So far, deaths have been reported mainly in older people who had other health conditions (Corona virus, 2020)

Like other respiratory illnesses, such as influenza, human corona viruses most commonly spread to others from an infected person who has symptoms through:

- Droplets produced through coughing and sneezing

- Close personal contact, such as caring for an infected person

- Touching an object or surface with the virus on it, then touching your mouth, nose, or eyes before washing your hands. ('Novel Corona virus Disease', 2020)

At this time, there are no specific vaccines or treatments for COVID-19. However, there are many ongoing clinical trials evaluating potential treatments (Corona virus, 2020).

2.2.   Background of COVID-19

On 31 December 2019, the Wuhan Municipal Health Commission in Wuhan City, Hubei province in China reported a cluster of 27 pneumonia cases of unknown etiology, including seven severe cases, with a common reported link to Wuhan's Huanan Seafood Wholesale Market. The

cases presented clinical features common to several infectious respiratory diseases; such as, fever, dyspnoea, and bilateral lung infiltrates on chest radiographs. Authorities placed all cases under isolation, initiated contact tracing activities and applied hygiene and environmental sanitation activities at the market, which was closed to the public on 1 January 2020. At that time, Chinese authorities reported no significant human-to human transmission and no cases among healthcare workers (Wuhan City Health Committee, 2020).

On January, 9, 2020, China CDC reported that a novel corona virus (2019-n CoV) had been detected as the causative agent for 15 of the 59 pneumonia cases ('News X. Experts claim that a new corona virus is identified in Wuhan', 2020). On January, 10, 2020, the first novel corona virus genome sequence was made publicly available. Preliminary analysis showed that the novel corona virus (2019-nCoV) clusters with the SARS-related CoV clad and differs from the core genome of known bat CoVs ('Holmes E. Initial genome release of novel corona virus', 2020).

Since December, 31, 2019 and as of January, 20, 2020, 295 laboratory-confirmed cases of novel corona virus 2019-nCoV infection, including four deaths, have been reported ('National Health Commission of the People's Republic of China', 2020). It is not clear to ECDC if cases have been hospitalized only due to medical needs, or also for isolation purposes for milder cases. In Guangdong, two of the reported 14 cases had not travelled to Wuhan, China, but had a history of contact with confirmed cases. The onset of symptoms of the laboratory confirmed cases ranges from 8 December 2019 to 18 January 2020, including the travel-related cases. Over half of the confirmed cases were male. Among the reported cases the age range is from 10 to 89 years (Health Commission of Guangdong Province', 2020). The history of exposure to the Wuhan's Huanan Seafood Wholesale Market or other live markets is unknown for the majority of the recently reported cases ('Xi orders resolute efforts to curb virus spread', 2020).

Since the new corona virus was first reported in Wuhan, China, in December, the infectious respiratory disease COVID-19 has spread rapidly within China and to neighboring countries and beyond. The first confirmed corona virus cases outside China occurred on Jan. 20, in Japan, Thailand and South Korea. On Jan. 21, the first case in the US was identified in Washington State.

On Jan. 24, the first two European cases were confirmed in France. By Feb. 1, eight European nations had confirmed cases of COVID-19, and a month later that count had risen to 24 countries with at least 2,200 cases, most of them in Italy. On March 11, Italy eclipsed 10,000

cases and the World Health Organization declared the outbreak a pandemic. That is also when China, the original epicenter, began seeing drops in daily counts of new cases. March also saw exponential spread of the virus throughout the U.S., with all 50 states reporting cases by March 17 (Wood, Adeline, and Talbot, 2020).

2.3. The impacts of COVID-19

Since its outbreak, the Corona virus continues to wreak havoc in the global economy. As a consequence to its global widespread, COVID-19 has paralyzed the global economy, hindered economic production, affected supply and air transport throughout the world, weakened global demand, isolated and placed countries under quarantine, and afflicted the financial, aviation, transportation, and tourism sectors with heavy losses.

According to UNCTAD estimates, the most affected sectors include precision instruments, machinery, automotive and communication equipment. Among the most affected economies are the European Union ($15.6 billion), the United States ($5.8 billion), Japan ($5.2 billion), The Republic of Korea ($3.8 billion), Taiwan Province of China ($2.6 billion) and Viet Nam ($2.3 billion).The estimated global effects of COVID-19 are subject to change depending on the containment of the virus and or changes in the sources of supply (United Nations Conference on Trade and Development, 2020).

In this context, the International Labor Organization has stated that COVID-19 has impacts on global unemployment and underemployment, since they are related to global economy. Initial International Labor Organization (ILO) estimates point to a significant rise in unemployment and underemployment in the wake of the virus. Based on different scenarios for the impact of COVID-19 on global GDP growth, preliminary ILO estimates indicate a rise in global unemployment of between 5.3 million ("low" scenario) and 24.7 million ("high" scenario) from a base level of 188 million in 2019 (International Labor Organization, 2020).

World food prices declined sharply in March, driven mostly by demand-side contractions linked to the effects of the COVID-19 pandemic and the drop in global oil prices due mostly to expectations of economic slowdown as governments roll out restrictions designed to respond to the health crisis. According to Abdolreza Abbassian, FAO Senior Economist, "The price drops are largely driven by demand factors, not supply, and the demand factors are influenced by ever-more deteriorating economic prospects." (UNO, 2020)

2.4. Algerian context of COVID-19

The first corona virus (COVID-19) case in Algeria as confirmed by the country's authorities was on Tuesday, February 25. The patient, who has since been placed in isolation in Algiers, is an Italian national who traveled to Algeria on Monday, February 17. The case in Algeria marks the second on the African continent after the first which was confirmed in Egypt.

COVID-19 has emerged in the Blida region, near Algiers, where sixteen members of the same family were infected with the corona virus following contacts with Algerian nationals in France. The epidemiological investigation made it possible to trace the contamination to an 83-year-old Algerian and his daughter residing in France - who are not among these 16 cases. The man and his daughter stayed with their family from February 14 to 21 in Blida, 50 km south of Algiers, according to the Ministry of Health. Both were confirmed positive for corona virus after their return to France on Feb. 21 (Corona virus: in Algeria, 16 members of the same family infected', 2020).

After patient zero in Algeria was found in the city of Blida, on 12 March 2020, the city soon became the epicenter of the epidemic. Fearing a spread of the virus in other *walleyes*, authorities decided that same day to close nurseries, schools, and universities. On 17 March, the state announced the closure of all the country's land borders, the suspension of all flights to and from Algeria, and a ban on gatherings and markets. On 19 March, 90 cases and nine deaths from COVID-19 were confirmed (Martinez, 2020).

On 22 March, the government suspended all means of public transport and on 23 March it placed the town of Blida in total lockdown. With only 450 intensive care beds for a population of 42 million inhabitants, Algeria seems powerless to fight against COVID-19. An extensive awareness-raising campaign through social networks and loudspeakers in the streets and mosques was rapidly implemented. On 4 April, all shops, restaurants and cafés closed and taxis were banned. A curfew from 7 p.m. to 7 a.m. was gradually imposed and extended in all the *wilayas*. For the *wilayas* considered to be most at risk (Algiers, Oran, Sétif, Tizi Ouzou, Tlemcen, Médéa, etc.) the curfew was extended from 3 p.m. to 7 a.m. On the therapeutic level, Minister of Health Abderrahmane Benbouzid, validated, on 23 March, the protocol of treatment with chloroquine associated with azithromycin, praised by Professor Raoult in Marseille. The Algerian strategy to

fight COVID-19 also includes a ban on the dissemination of "any statistics other than those of the Minister of Health" (Martinez, 2020).

Actually, the situation in Algeria is serious since the number of affected COVID-19 keeps increasing every day. It has been announced that one hundred and eighty-five confirmed cases with Corona virus (Covid-19) and seven deaths have been recorded over the last 24 hours, bringing the number of confirmed cases to 5182 and that of deaths to 483 ('Corona virus: 185 new confirmed cases, 7 deaths in Algeria over last 24 hours', 2020).
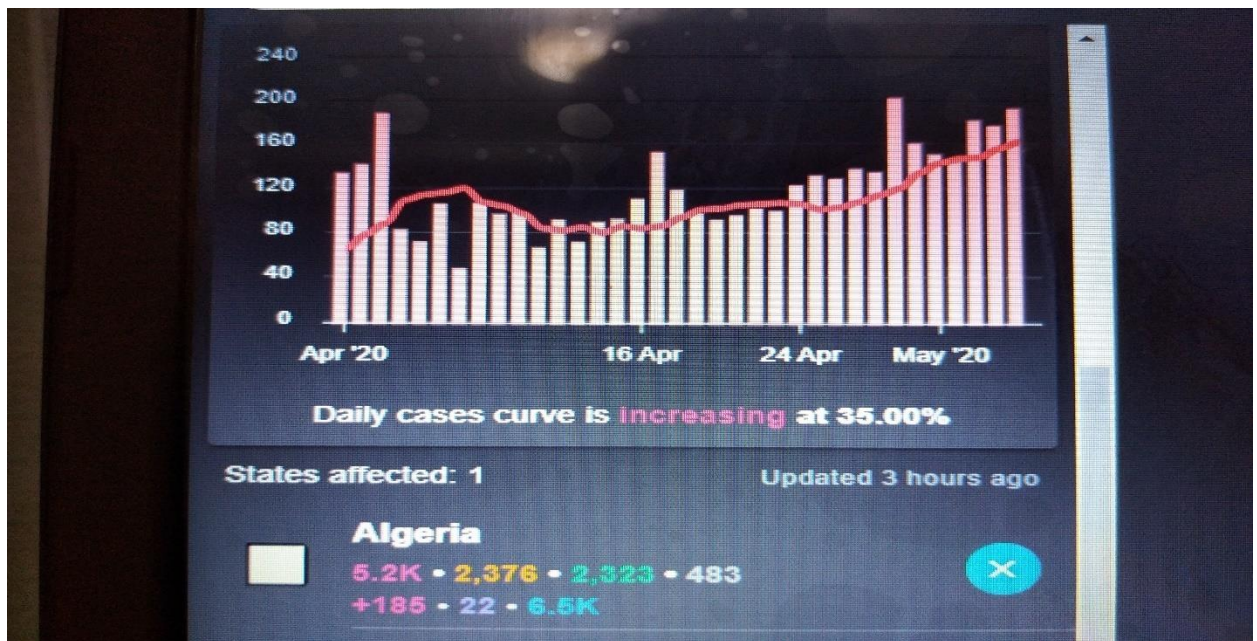

Fig. 1: adapted from: Algeria Corona virus status tracker. (Source : https://visalist.io/emergency/coronavirus/algeria-country).

It is worth to mention that Algerian universities had a valuable contribution in the fight against the spread of Corona virus. Several university institutions across the country have rushed to contribute to the broad campaign of solidarity in which various segments and bodies of society participate to encounter the spread of COVID-19 that swept throughout the whole world, by converting university laboratories into factories to produce sterilizers and distribute them to a number of hospitals.

2.5.   Online learning in Algerian universities during COVID 19

The Corona virus pandemic did not affect only on the economic field, but also affected educational systems in all countries of the world, which led to the suspension and closure of schools and universities, as a preventive measure to contain the spread of the pandemic that hit the whole world.

In Algeria, like in most countries in the world, COVID-19 has altered the higher education system. In response to the measures taken by the Algerian President, the Ministry of Higher Education resolved to on- line education in light of the Corona virus crisis, as the Ministry of Higher Education approved an educational plan for Algerian universities that includes details of carrying on on-line courses and completing studies.

The Algerian Minister of Higher Education and Scientific Research, called on the directors of university institutions to lay the ground to ensure the continuity of students receiving the lessons remotely for a period of not less than a month. The Minister set the 15th of March 2020 as the first day for launching the implementation of the initiative in practice, pointing out the importance of strict application of the contents of the memo. Also, he stressed in a note addressed to the directors of university institutions on the need to take into account all the necessary technical measures to maintain remote communication between teachers and students (Ministry of Higher Education, 2020).

As a result to the aforementioned ministerial instruction, Algerian university institutions has set up MOODLE electronic systems to start on- line education so as to complete studies, and link between teachers and students online. Taking parallel measures that guarantee the minimum in terms of working career and studying is of great importance in this time crisis. Also, it must be emphasized that the importance of eLearning would make students, teachers, and researchers carry on their tasks virtually, because of the closure of all educational and university institutions.

3.   Methodology

In order to analyze the status of online learning in Algeran universities during the corona virus pandemic, the researchers relied on two questionnaires: students' and teachers' questionnaires. As for students' questionnaire, it is divided into three sections. The first section contains personal information about students' ages, gender, English study period at the University, number of on- line courses taken at the University, time spent using computer for educational purposes, time spent for exploring the net. The second section contains basically Yes/ No questions

about online education. The third section contains questions about statements of online learning. The questions vary from Likert Scale, multiple choice, Yes/ No format, and open- ended questions.

The teachers' questionnaire is built on two sections. The first section contains personal information about teachers' ages, gender, their degrees obtained, teaching experience, their teaching positions, and which department they exercise at the University, and their expertise in working with technology. The second section contains basically questions on the status of on- line education at the University. The questions range from Yes/ No, Likert Scale, multiple choice, and open- ended questions.

4.   Data Analysis

4.1.   Students' Questionnaire

According to the data gathered, Algerian universities are characterized by the Youth generation. As illustrated above, the students' ages rang from 18- 20, 20- 22, 22- 25, and above 25. Also, students get their BAC certificates at an early age (from 18 to 20 years old), and this enables them to enroll in University studies in their young ages. Moreover, female students represent a high percentage than their male counterparts. All students have been studying English at the University for five years. This; in fact, the actual study period, as they pass from undergraduate level (3 years) to graduate level (Master degree) studying for two years.

According to students' answers, the number of on- line courses that students have taken vary from 0 to more than 10 hours of on- line study attendance. This can be explained to a number of factors; such as, Internet availability and Internet access in students' locations. i. e. students who live in fully served areas are able to get access to online courses most of the times. However, students who live in underserved areas find it difficult to get access to online courses most of the times. In addition, Internet debit is a crucial factor which determines Internet access and Internet availability. Within this context, too, students explore technology and use computers for educational purposes from three to more than ten hours per week. Moreover, most of the students spend more than ten hours per week exploring the Internet, since it is a valuable tool for research. Through the Internet, they look for e-books, articles, and tutorial videos.
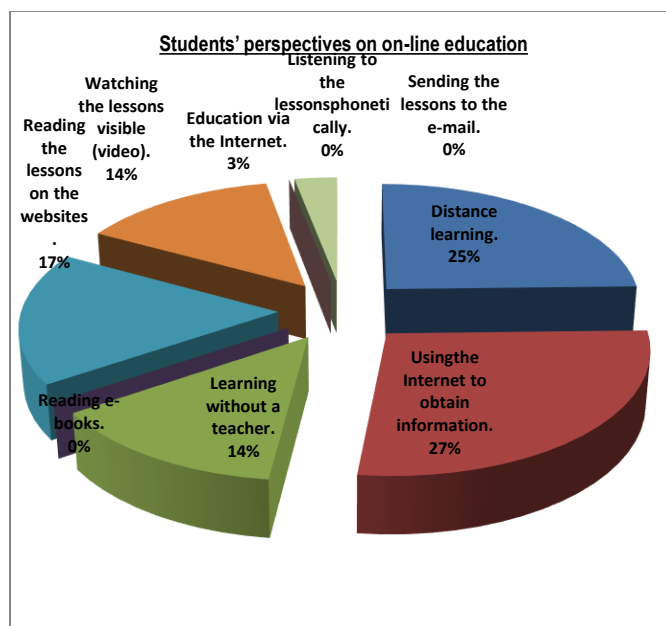
According to the other collected data, most of the students have a broad understanding of what online education means, as they are accustomed to using technology anytime and anywhere. Their answers approached the overall definition of on line education which covers distance learning, using the Internet to obtain information, reading lessons of the websites, watching the lessons visible, and education via the Internet.

Unfortunately, most of the students did not register to an online education program offered by their Universities, or provided by other Universities, whether local or foreign. This; in fact, can be explained to several factors; such as, the lack of online study programmes offered by their original Universities, total reliance on normal education by their original universities, which emphasizes on physical attendance, and Internet access and availability. Also, the students were not able to register into online study programs at foreign universities because they are costly.

In relation to technology use, most of the students use e-books since they are available online and downloadable. 56% of the students believe that online education is more flexible than normal education because it is them to get in touch with their counterparts and their teachers anytime and anywhere. It also provides them with interactivity. However, 66% of the students believe that online education is not better that normal education. This can be explained to the fact that they totally rely on normal education which offers better communication tools with their teachers. Also, they have never experienced online education programmes. 46% of the students

believe that that teachers are able to adapt to online education since their university offers them with available tools to engage in online education. In addition, the Ministry of Higher Education and Scientific Research has made online education compulsory in time of COVID-19.

Despite the fact that Algerian universities were obliged to rely on online education because of health protocol and confinement policies, 89% of the students agreed that it is not the right time to fully implement online education in the Algerian higher education context. According to them, lots of obstacles still exist and need to be resolved; such as, the lack of full online infrastructure implementation in the universities, low Internet debit, Internet access and availability, the mastery of educational technology, and online education.

According to these reasons mentioned, 98% of the students believe that schools and universities are not currently able to move to online education. Also, 88 % of the students believe that eLearning does not motivate them for better education for the above reasons cited, and eLearning does not help both teachers and students develop their critical thinking skills. Moreover, 88 % of the students believe that eLearning, unfortunately, does not motivate them for education. Many students from low-income families lack the basic technology they need to study online and proceed with eLearning, including access to a laptop and a reliable broadband connection, along with a quiet place in which to work and complete assessments. However, as Algerian universities started to gear up to deliver their courses online in time of COVID-19, with social distancing measures continue, students are worried about how they will cope.

As for eLearning effects of developing creative thinking for both, teachers and students, 83 % of the students believe that eLearning cannot help both teachers and students develop critical thinking abilities for the following reasons:

- E-Learning cannot build a lot of discussion potentials between students and teachers.

- No ways to introduce story- telling/ writing into the course.

- Teachers and students are distant from each others.

- Impossible to plan tasks, or projects for students.

- Cannot create scenarios with problems to be solved.

Within this context, 79 % of the students believe that eLearning does not play an important role in improving the quality of teaching. Also, it does not increase productivity, compared to traditional education. These students believe that they consistently perform worse through online learning than they do in face-to-face classrooms. Therefore, taking online courses increases their likelihood of dropping out, as they assume. As they struggle with feelings of belonging, these students are more likely to drop out of university.

Totally, all students agree that there exist lots of barriers for achieving an ideal eLearning. These can be summarized as follows:

- Lack of Internet access to learners;

- Very low debit of Internet which hinders learners to use the World Wide Web appropriately.

- Learners are addicted to use social media during online class, which affects their learning outcomes.

- Universities need to adopt eLearning gradually, and this takes lot of time.

- Lack of computers to most of the learners.

- The mastery of technology tools to most of the learners.

Section III: The actual state of on-line education

As the data show, students are able to:

- Easily access the Internet for their studies (85%) since it is a useful tool for research;

- Be able and comfortable to communicate electronically (90%) as they are accustomed to communicate with their colleagues and friends using emails, messenger, Viber, Skype, and Whattsapp;

- Actively communicate with their classmates and instructors electronically (45%), while 55% are not able to do so;

- Feelthat their background, expertise, and experience will be beneficial to their studies (67, 50%),

- Be comfortable with written communication (100 %);

- Be able to easily access the Internet as needed for their studies (87, 50%);

- Be able to interact with their instructors and /or teaching assistants (90 %);

- Possess sufficient computer key boarding skills for doing online work (88, 75%);

- Be comfortable to compose text on a computer in an online learning environment (100%);

- Be comfortable to communicate online in English (100 %);

- Ask teacher questions and receive a quick response during Internet activities outside of class (100 %);

- Feel that face-to-face contact with my instructor is necessary to learn (100%);

- Be motivated by the material in an Internet activity outside of class (100%);

- Discuss with other students during Internet activities outside of class (27,50%), while 72,50% cannot do so;

- Work in a group during Internet activities outside of class (96, 25%);

- Collaborate with other students during Internet activities outside of class (20%), while 80% cannot do so;

- Believe that learning is the same in class and at home on the Internet (27, 50%);

- Practice English grammar during Internet activities outside of class (87, 50%);

- Believe that learning on the Internet outside of class is more motivating than a regular course (100%);

- Believe a complete course can be given by the Internet without difficulty (27,50%), while 72,50% do not believe so;

- Pass a course on the Internet without any teacher assistance (37,50%), while 62,50% cannot do so;

- Believe an Internet course is possible but for learning English it would be difficult (10%), while 90% believe it is not;

The current state of on-line education
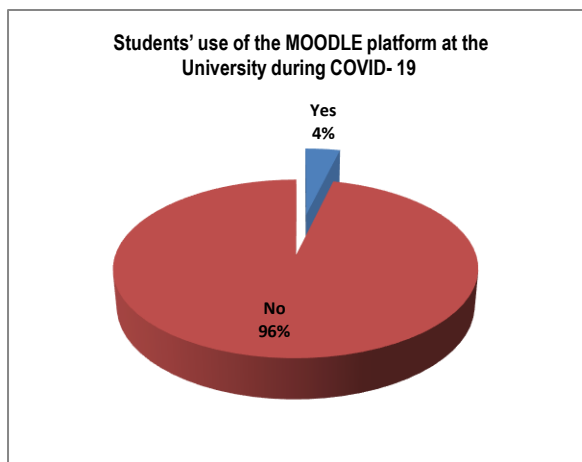
The following data demonstrate students' views and opinions about online education and the methods used in providing on- line education services in their university. As a matter of fact, 53, 75% of the students believe that eLearning technology used in their university did not make any difference to the success of the educational process effectively. Moreover, 46, 25% believed that there were no noticeable outcomes in on- line education at their university. These students complained about Internet access to university's platform reserved for on- line education because of the fact they live in an underserved areas. They lacked Internet access, in addition to the difficulty to log in the on- line education platform. Therefore, because of technical problems they were unable to benefit from eLearning technology.

In relation to skills of using the techniques of online education process, all students confirmed that their skills range between advanced (48, 75%) and intermediate skills (51, 25%). Although Algerian universities implemented online education platforms, 27, 50% of the students believed that it looks good since it enabled them to get in touch with their teachers who lectured online. However, 72, 50% believed that it was acceptable, but it needed to be developed. In another context, 55% of the students believe that the fact students to be able to move from traditional education to online education is not suitable for all categories, and 45% believe that they are not able for some technical, educational, and pedagogic obstacles.

Since universities implemented MOODLE platform to proceed with online education in time of corona virus pandemic, 41, 25% believed that satisfied and stated that it was good, but

needs improvements. 25% stated that is was somewhat acceptable, and 33,75% believed that it was not satisfactory at all. Moreover, 96,25% of the students confirmed that they did not learn satisfactory using the MOODLE platform at their universities and were not in contact with their colleagues and teachers for the following reasons:

- Lack of Internet access;

- Lack of motivation;

- Lack of organization in posting lectures, which made students confused;

- Lack of feedback from the part of teachers in the MOODLE platform;

- Lack of teachers' role;

In stating, the students' opinions about both the advantages and disadvantages that they encountered when using the MOODLE platform at their Universities, theses can be summarized as follows:-

Advantages	Disadvantages
- The platform offers reliable sources of information; - It helps teachers to post their lessons in a well secured and more reliable on-line platform; - The students need just to log on the MOODLE platform in order to get the lessons and get in touch with their teachers; - Protecting students from direct contacts with classmates and people in time of COVID- 19, which can be harmful; - Having access to lessons and study materials out of University.	- Students and teachers do not use the MOODLE platform effectively because of technical problems and the mastery educational technological tools; - The MOODLE platform is badly implemented; in other words, students face difficulties to access the platform; - No feedback from the part of teachers in the MOODLE platform; - Not available to all students; - Lack of motivation and sensibilisation from the part of the administration; - Lack of organization of the study materials in the MOODLE platform; - Lack of guidance from the teachers and administrators.

6.2. Teachers' Questionnaire

Section I: Personal Information

The data in the above tables show that the majority of the Algerian university teachers' ages range from (25-30) to (40-45). Also, the Algerian universities' staff is now being rejuvenated

due to the LMD system that enables young students to graduate with their Ph D and get recruited as university teachers. Male teachers are more present than their female counterparts, and most of them hold their Ph D's, and are experienced teachers with more than 10 years teaching at the university.

Most of the teachers interviewed (41% and 31%) have a period of one to ten years of integrating technology with their teaching activities, which include using PPT in delivering lectures, using visual aids, using YouTube tutorial videos, using emails, … etc. This; in fact, illustrates that teachers succeeded to keep up with technological revolution of the new millennium. Therefore, using ICTs in both their life activities and teaching activities has been apparent.
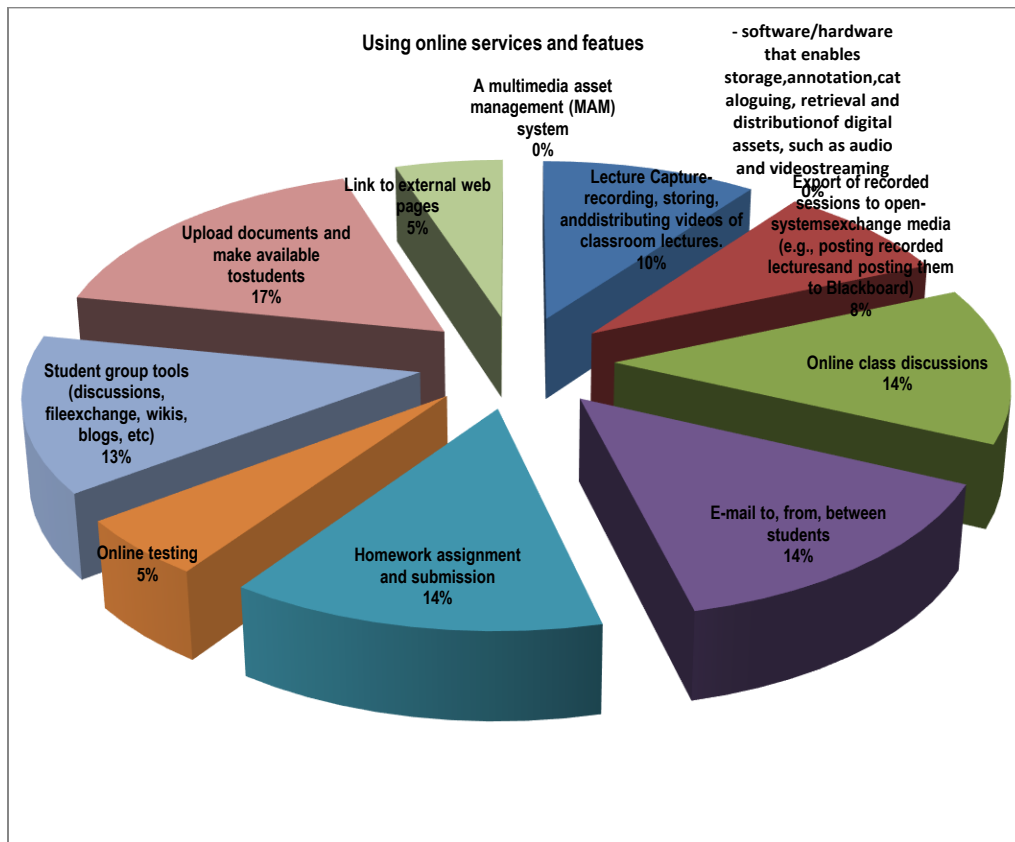
Section II: The status of on-line education

85% of the teachers believe that their university offered online courses. In fact, Algerian universities acted accordingly to the Ministry of Higher Education's instruction which ordered all universities to start implementing MOODLE platforms to be fully exploited by teachers and students for delivering online courses. Unfortunately, 73% of the teachers did not proceed with online teaching, or delivered online lectures to their students. This can be explained to the fact that these teachers lack the mastery of educational technology tools for online teaching/ and learning. In contrast, 27% of the teachers confirmed that they delivered online courses whether at their universities, or at anther.

In their process of online courses delivery, 45% of the teachers assumed that they contacted ITS Help Desk either by email, or by phone because they needed necessary feedback to proceed with online course delivery in time of COVID-19. According to these teachers interviewed, ITS Help Desk's intervention was crucial to determine the success of online courses' delivery. Fortunately, ITS Help Desk was reachable, and he provided them with the needed help they were looking for. Also, all the problems, questions, and issues were satisfactorily resolved.

As for the mastery of technical and educational tools, 67% of the teachers confirmed that they attended IT workshops on online teaching which was provided either their university, or by other institutes. Moreover, 34% of the teachers believed that they were not prepared for delivering online courses because their universities were not prepared, too. They just rushed in the process as the ministry and the university ordered them to do so. As a matter of fact, this is one of the drawbacks of online education in the Algerian context. In addition, students, too, were not fully

prepared for online education experience, and received no technical support or IT workshops from their universities.

Using online services and featues

A multimedia asset management (MAM) system
0%

Link to external web pages
5%

Upload documents and make available tostudents
17%

Student group tools (discussions, fileexchange, wikis, blogs, etc)
13%

Online testing
5%

Homework assignment and submission
14%

- software/hardware that enables storage,annotation,cat aloguing, retrieval and distributionof digital assets, such as audio and videostreaming sessions to open-systems
0%

Lecture Capture-recording, storing, anddistributing videos of classroom lectures.
10%

Export of recorded exchange media (e.g., posting recorded lecturesand posting them to Blackboard)
8%

Online class discussions
14%

E-mail to, from, between students
14%

In delivering online courses to their students via MOODLE platform, teachers confirmed that have used the following online services and features, whether at their universities, or at other universities:-

- **Lecture capture-recording, storing, and distributing videos of classroom lectures (45%):** Teachers used lecture capture, with lectures recorded, for the purpose of distributing resources to students who were either absent from sessions and courses delivered in the MOODLE platform. Teachers assumed that they used lecture capture for three potential streams of capture: (1) audio from the lecture and class discussions, (2) visual resources including slideshows, and (3) video of the classroom. These recordings allow students to review material they missed, and can help them prepare for exams. Also, lecture capturing promotes self study where students can play back and interact with recorded lectures;

- **Export of recorded sessions to open-systems exchange media (37%):** Although this feature enables both teachers and students to open session recordings in the session recording player, most of the teachers were not able to use it in the MOODLE platform because it was not provided. Also, most of the teachers interviewed do not master this online technological tool. Few of the teachers who used this online feature assumed that it was available in other universities' online platforms;

- **Online class discussions (60%):** Most of the teachers exchanged online discussions with their students because MOODLE platform, which was provided by their universities, enabled them to do so, either synchronically, or asynchronically. Through online discussions, teachers were able to provide the necessary feedback to their students. Moreover, some of the teachers interviewed believed that online discussions included online supervision. i. e. Teachers supervised their master students online in time of COVID-19. In fact, both teachers and students believed that it was a valuable experience;

- **E-mail to, from, between students (93%):** Nearly, all the teachers interviewed used to exchange emails with their students. This; in fact, is the primary means of communication available using the Internet. Through emails, both teachers and students exchanged information, and, on the other hand, students got the needed feedback and help;

- **Homework assignment and submission (60%):** During COVID-19, university teachers, instructors, and administrators had many things in common: homework submission. In fact, conducting homework is a crucial part in students' assessment and evaluation. In time of the corona virus pandemic, online homework submission was the simplest way for both students and teachers to handle. The teachers who were interviewed believed that their universities enabled them with the opportunity of students' homework assignments submission: Online Homework Submission Form was the solution that teachers been searching for. This basic online form works for all subjects, making it an ideal solution for university teachers, students, and administrators;

- **Online testing (22%):** Unfortunately, only few of the teachers proceeded with online testing for their students. This can be explained to the fact that not all universities provided this online feature for teachers in the MOODLE platform. Also, the emphasis was put only delivering online courses, and for online testing. The teachers who conducted online testing asserted that

they tested their students online in only subjects that needed this online feature; such as, oral skills and phonetics;

- **Student group tools (discussions, file exchange, wikis, blogs, etc) (60%):** Most of the teachers confirmed the use of this device. However, using the MOODLE platform was redistricted to teachers- students discussions and students- students discussions, and file exchange between teachers and students;

- **Upload documents and make available to students (74%):** In fact, most of the teachers interviewed assumed that the MOODLE platform implemented by their universities enabled them with this online feature, and helped them to get in touch with their students. Also, teachers were able to provide their students with several documents uploaded in the MOODLE platform.

- **Link to external web page sand multimedia asset management (MAM) system (22%):** As a matter of fact, the teachers interviewed confirmed that the MOODLE platform in their universities' websites did not include this online feature.

  o In relation to the fact whether online education helped the teaching/ learning process at their universities, 37% of the teachers interviewed believed that it was ineffective because of lots of technical and organizational problems; such as, Internet broadband connection which was crucial to the success of online courses delivery in the MODDLE platform. Also, because of Internet availability, most of the teachers and students could not get in touch with each other in the MODDLE platform. Within this context, teachers believed that the most effective online methods used in delivering online courses were audio and video learning materials (37%), video- conferencing (30%), and MOODLE and MOOC electronic systems (19%). 71% of the researchers who rated the MOODLE and MOOC electronic systems confirmed that it needs more development. However, electronic online system lacks many online features, and other technical issues need to be resolved to improve the working mechanism of both systems.

  o As a matter of fact, using technologies which were available in the MOODLE electronic system, urged teachers to restrict activities to *Asynchronous Discussion Forums* (45%), *Instant Messaging and Synchronous Chat Tools* (26%), *Learning Object Libraries* (26%), *Web- Based Video- conferencing* (52%). In addition, the teachers interviewed believed that only the online services/ and features worked well for them: *E-mail to, from, and between*

students (60%), *Student group tools* (37%), *Upload documents and make available to students* (45%). Accordingly, Teachers mastered these online technological tools, and using them appropriately helped them to be in daily touch with their students.

o When exploiting and using extensively the MOODLE platform of their universities' websites, the teachers interviewed confirmed that they were familiar in using the following web conference tools: Voice/ or video- conferencing (30%), text chat (37%), document exchange (52%), and real- time communication among participants (30%). Also, in using the web- conferences tools, teachers confirmed that only document change and multicast communications from one sender to many receivers (52%) worked well for them.

o In another context, the interviewed teachers unfortunately, indicated that they received no instructional support at their university for the online course activity, whether in structuring your course for best online experience(45%), or running discussion forums effectively (61%), structuring learning activities that foster student-faculty interaction (70%), structuring learning activities that foster student- student interaction (63%), giving students constructive feedback in a timely manner(72%), ensuring that students understand what it takes to succeed online (52%), structures on how to use MOODLE, ZOOM, or other technological devices for online communication with students (56%).

o Teaching online and delivering online courses, most of the teachers interviewed (65%) confirmed that they spent between five to ten hours per week teaching their students using the MOODLE platform during COVID- 19. This is because of lots of issues and problems which hindered them to teach their students online. These include the lack of broadband connection, the lack of expertise in using and exploiting technological tools effectively, the non- mastery online technological tools in delivering online courses and teaching online.

o As a matter of fact, the online education, through MOODLE platform system provided by the Algerian Higher Education sector in time of COVID- 19 is transformed into a visible, debatable subject. An evaluation of the subject leads to cite both advantages and disadvantages. As for the advantages, it has been found that online education provided university teachers with:

• It is a modern, advanced, necessary and an effective means of education, with the research means and various methods it provides, especially in time; such as, the Corona virus pandemic, but it must be consistent with modern teaching methods; such as, teaching with

competencies, in order to be effective and contribute positively to the sustainable development processes that the LMD education system aims at;

- Easy online communication between teachers and students, on one hand, and, on the other hand, students- students communication through chat, or discussions because of the corona virus pandemic;

- Sharing files between teachers and students;

- Tracking and supervising students' skills and quarterly activities;

- Providing students with the ability to self- registering, attending, and withdrawing from the course according to time and situation;

- Setting assignments where teachers posts links to submit home works and tasks electronically;

- Gaining time and effort and providing both students and teachers, especially in the light of critical time of COVID-19, or other environmental catastrophes or crises;

- Continuous students' follow- up;

- Interaction between teachers and students;

- Easy access to thousands of several sources and documents;

- Online education is available anytime and everywhere;

- Providing contribution to the progress of the lessons and the completion and the delivery of lessons;

- Providing students with the opportunity to benefit from these lessons by browsing and reviewing them easily and easily;

- The Moodle platform allows providing integrated lessons through the use of many available means; such as, video clips, instant chat, and direct questions, downloading electronic books, and helping to build an entry and exit test according to a correct scientific methodology that provides the student with many techniques to help understand and comprehend the materials provided by their teachers.

  o Assessment of online education through MOODLE electronic system as a Distance education used by Algerian universities shows an important scarcity and un-skillfulness

> may be because universities are not yet ready for online and distance education. The situation can be summarized as follows:

- It is complicated in some features and practices; therefore, both students and teachers need training workshops;
- Some courses are difficult to deliver online, while others require more face- to- face interaction;
- The lack of students' computer skills;
- Most of the teachers did not MOODLE electronic system. They used personal emails and Facebook, instead, where they posted lots of courses and assignments without details and explanations;
- Not all subjects can be taught online using MOODLE electronic system;
- Lack of Internet access and broadband connection, which made it difficult to access the MOODLE electronic system;
- Online education is not available to all students because of their social status and geographic locations which are underserved;
- Lack of interaction between students and teachers;
- The MOODLE electronic system does not allow teachers to post other related materials to students because of the small size space available to them in their MOODLE account;
- Lack of online testing, assessment, and examination;
- Interruptions which sometimes impede students' interaction;
- Lack of IT workshops in the use of technology and online technological tools for both students and teachers;
- Unequal opportunities among students by virtue of those had access to the MOODLE electronic system and those who had not;
- Students' inability to comprehend the lessons offered to them because of the lack of face-to- face interaction with their teachers;
- The absence of teachers' feedback to answer students' questions and inquiries;
- The extent to which the teacher is able to encourage students to enter the floor and interact correctly and continuously without interruption, and here the challenge for students to pay attention to technology, or perhaps the technical problems related to Internet Broadband

connection, the access of the Internet, or the unavailability of computers that are the keys to accessing to the MOODLE electronic system.

Improving online learning in the Algerian higher education context: Lessons for future implementation and success

With the technological revolution that affected several fields in our life, embracing technology- enhanced learning at Algerian universities was challenge undertaken by the Algerian higher education sector in time of the crisis of COVID-19. Although the Algerian university staff was ready for full e-learning to take place since the situation worsened, the reality was different, and it was difficult to convert classes of more than 40 into eLearning in the middle of the semester.

While it was necessary for university closures in Algeria during the quarantine to reduce contact between students, online learning electronic systems were set up across the entire universities for all large classes. While some faculty members already had competencies in online or remote teaching in (1) live streaming, (2) pre- recorded teaching sessions, (3) facilitating discussions in a digital platform, and (4) providing assessment and receiving feedback, much background preparation still had to be done to ensure academic staff, students, and infrastructure ready for lessons to transition seamlessly into online learning.

Establishing online learning as a basic, consistent approach

Since flexibility was needed to ensure different learning outcomes to be achieved in different programmes, consistency across the university was important during the crisis of COVID-19. It should be taken into consideration that classes with more than 40 students have to be switched to online learning. However, not all subjects have to be converted into online learning. Some classes that needed to remain face-to-face, such as laboratory sessions, have to be broken into smaller groups. Therefore, individual departments have to decide how to implement a consistent approach of social distancing across the university.

Access to online technology tools has to be made available to all teaching staff and students. It allows lecturers to choose what worked best for them and their students. The key tools provide some consistency so that students will be neither confused, nor rushed into learning different tools.

Ensuring Learning Outcomes

While implementing certain assessments, alternative methods are necessary to assess the learning outcomes in the online learning electronic system. Degree programs must be recognized

and; therefore, all learning outcomes must be achieved. It should be emphasized that online electronic systems must be viewed as learning environments that enable effective learning to take place. Also, they are important to engage learners. These electronic systems should provide opportunities for teachers to upload lecture recordings, conduct live streaming classes, and use polls and quizzes to engage learners, as a part for the positive learning outcomes.

Remaining Student-centric

Because there were students who had contact with COVID-19 patients, it was important to consider the ones who could not come to campus. Implementing the quarantine during the time of the crisis was to prevent students' contact to avoid COVID-19 cases in the university environment. Therefore, taking universities' closures into account, the academic staff should provide support to students with alternative learning plans and make arrangements to ensure they receive the learning content and have questions answered. It is important to ensure that they did not miss out on learning. With technology available, it allows them to participate in discussions with their teachers.

Providing clear feedback through Online Electronic System

It is a key of importance to understand students' concerns while engaging in online learning. Students' feedback should be consolidated and communicated to all teaching staff. Common concerns included effectiveness of online lectures, changes in assessment, and self-discipline when learning online. Therefore, to improve the online learning experience, online meetings should be conducted with program directors and teaching staff to share experiences and rectify common mistakes.

More communication channels are important to ensure the fact that regardless of the physical absence of teachers, students, and program directors, concerns and experiences have to be shared. Moreover, communication is also important to check in with students with special needs, as well as those who are academically weak, to see if they are transitioning smoothly into the online mode of learning.

Making Trainings and IT Workshops available

In order for the online learning to succeed in the Algerian higher education context, it is important to create many types of trainings and IT workshops for lecturers to provide online learning. The issues should cover: (1) how to create narrated slides, (2) how to run effective live streaming classes, (3) how to design alternative assessments, and (4) the use of online proctoring tools for assessments. In addition to teaching staff, students should also be provided with guides

to use the technological online tools so as to get themselves ready to learn in an online environment.

The use of Hybrid models in Online Learning

Hybrid models can be used in online learning environments. However, one important point to remember is timetabling. If students are expected to participate in live streaming online environments, they need quiet locations to do so. Unless the university has adequate quiet spaces, it can be tricky for students to rush from attending an online class at home to coming in physically for laboratory classes.

If individual lecturers are to run hybrid classes, it takes extra skills and effort to ensure that whatever is communicated in the physical environment is clearly articulated to those at home. Unless the staff member has a device, such as a portable microphone, that allows them to walk around and still project their voices through the laptop, students, who are logged in online, can struggle to hear what is being said in the classroom. Presetting certain features in online learning tools can help prevent several problems. Zoom, for example, has features that can be preset, such as auto-mute upon entry or auto-record.

5. Conclusions

The present paper has dealt with the online learning system implemented by the Algerian universities to provide online courses in time of the corona virus pandemic. Since the electronic learning system was totally reliable during COVID- 19 for the first time in the Algerian higher education context, it was necessary to analyze the experience, rectify the mistakes, and improve the practice.

As a matter of fact, the academic staff is aware of what online learning means. i. e. A teaching and learning procedure which relies on the use of several technological tools. However, they feel that they are still not ready for engaging totally in the online learning electronic system because of the lack of solid infrastructure, the lack of effective training and IT workshops for teachers, and other obstacles and related issues.

In the present study, it has been found that conversion from traditional learning to online learning should be smooth according to strategies with planned learning objectives. As online learning needs a solid platform for its implementation, it also needs to make sure that the elements of the teaching/ and learning process succeed with the mastery of the technological tools.

Therefore, the following recommendations should be taken into consideration for better implementation of online learning electronic system in the Algerian higher education context:

- The need to interact and deal with universities in the homeland and universities of other countries that have succeeded in using these platforms and electronic media in the teaching and learning processes;

- The need for intellectual protection for teachers' lessons and materials;

- Establishing training courses for teachers on the proper use of electronic platforms and media, and modern teaching methods that use these media and interactions;

- Organizing students according to their academic level, special needs, and to the learning outcomes reached;

- Simplifying the online learning electronic system's technologies;

- Increasing Internet broadband connection;

- Facilitating access for students to the Moodle online learning electronic system in the reading halls;

- Making improvements in the examination system: Adding protocols to prevent students from leaving, or switching the exam window, and adding some webcams monitoring which detects students' activities while keeping their privacy;

- Using multiple media to communicate with students through audio and video, which enables to send documents;

- Providing laptops and other media devices of good quality for free;

- Encouraging academic staff to use the Moodle electronic system and suggest competitive strategies to promote creativity among academic communities.

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