# Hybrid Teaching during the Corona Pandemic
# Period   at the Algerian University

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**Abstract:**

The world has come to a quasi-complete halt in most sectors due to the spread/outbreak of the Coronavirus (COVID-19) epidemic that spread around the world in early 2020. In fact, countries were obliged to return to normalcy, even if gradually. So, these countries, including Algeria, embarked on taking some measures that would help them get out of this stagnation and stalemate. Among the measures taken at the level of the higher education sector is the resort to hybrid education (the combination of traditional and remote electronic education) and the exploitation of all the advantages provided by the various and different technological means for the sake of taking care of/charge of/sponsoring of students. The current study seeks to find out the hybrid education reality during the Corona pandemic, where the aim is to ascertain the seriousness and effectiveness of the followed strategies from the teachers' and students' viewpoints, and suggest solutions to overcome the obstacles and difficulties that affected the smooth running of the process.

**Keywords :**   Hybrid teaching, Corona pandemic, education,

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## 1. INTRODUCTION

The era, we live in, is witnessing a tremendous spread of modern technologies, as technology has invaded all fields of life, which made it imperative for those in charge of higher education in Algeria to keep pace with reality and to introduce these technologies and employ them in the educational learning process in order to increase their effectiveness. To reach this, the mentalities of all those in charge of it must be changed especially teachers whose role has shifted from merely transferring knowledge to students to interacting and positively with them by utilizing modern means and techniques and employing them in the learning process. Besides, the guardianship authorities must strive to provide an appropriate environment that helps and facilitates its materialization, especially with the increasing number of students every year, it has become necessary to adopt new methods of education, including distance or hybrid education, and work to improve this type of education to represent the most appropriate solution in the coming years. Also, the Corona pandemic that invaded the world had the merit of prompting many countries to find solutions and alternatives to ensure the process of the situation in all sectors. In the higher education sector, many countries, including Algeria, have resorted to hybrid education, which has shown many strengths that should be appreciated/ appraised and weaknesses that should be addressed and reduced/ mitigated, besides, finding solutions to the challenges that constitute an obstacle for those in charge of the educational process.

As the study of Ismail Saleh Al-Farra (2007) showed that:

> Distance learning in its contemporary concept depends mainly on self-learning and continuing education, which led to the emergence of the philosophy of open education and virtual education. It also emphasized that the concept of distance learning in the Arab world complements the traditional system in universities and other institutions and does not subrogate or replace it.

The study relied on the historical descriptive approach with the intent of organizing the presentation of/displaying knowledge connected to or associated with the philosophy of distance learning and open and virtual university instruction.

Rawda Ahmed Omar (2003) conducted a study that aimed to identify the effectiveness of using computers as an educational method in distance education at the level of students' achievement compared to the degree of their accomplishment by the programmed education method and the traditional method, along with identifying their trends towards computer use and its applications in distance education. The researcher used the experimental method and the descriptive analytical approach, and designed a distance learning unit that was applied to (156) students of the College of Science at the Sudan University of Science and Technology through the intentional sample, and also designed a questionnaire distributed to (84) students. The study showed that computer-based distance education is more effective than the traditional method or programmed education. It also clarified that students 'attitudes are positive towards the use of computers and its application in distance education.

As for the study of Nabil Gad Azmy (2002): it aimed to evaluate the effectiveness of the use of the Internet in distance education, its efficiency and the educational attitudes towards it, using the model (Coles 1996) to evaluate technological innovations in the field of education, through their actual use of the network. The targeted sample of the study was formed of one hundred forty-nine (149) undergraduate and postgraduate students and faculty members. The gleaned findings showed the existence of great effectiveness and strong trends in the use of the Internet as a tool for distance learning. Indeed, the study recommended the need to accelerate the development of programs for using the Internet in distance education through Arab universities, with attention to providing training courses on the skills of using the Internet in such type of education.

As the study of Cifuentes and Murphy (2000) highlighted the importance of understanding communication and culture in educational technology during distance learning, as the two researchers studied the dimensions of using advanced technology in the learning process through satellite channels at Arizona State University, and through the

views of 70 teachers. The results show that the development of technology use has an impact as a means of assisting in the educational process, and that distance education helps the distant community to learn according to the advanced devices that represent communication between students and teachers. (Cited Mahdi Saeed Mahmoud Hassanein, 2011, pp. 57-60)

In this regard, Bonk & Graham (2004) believe that the use of information and communication technology (aka ICTs) through various e-learning tools must be combined with traditional education and social interactions with colleagues and with teachers face to face in the traditional classroom to enrich the learning process and develop Skills. Al-Jamal (2005) also recommends using e-learning along with traditional teaching methods so that each method is employed in proportion to the desired goals, and in a way that achieves the greatest return from its use for learning and skills development. (Muhammad Al-Sayed, 2016, p. 429)

## 2. The Statement of the Purpose

At the beginning of last year (2020), the world has witnessed the outbreak of the Corona virus in Wuhan Province in the State of China, and began to spread to affect most of the world countries. Due to the inability to control the virus, the lack of vaccine and appropriate treatment for it was limited to some drugs to mitigate the effects of infection with the virus. For the sake of preventing its swift spread, countries have followed several prompt health measures, represented in the general and partial closure of some activities and sectors while imposing a quarantine on citizens. However, after lengthy period of time and the lack of the vaccine appearance with the worsening of the pandemic effects at various levels, some countries resorted to taking measures to ensure the continuity of institutions while limiting the spread of this epidemic. They resorted to the gradual opening of some sectors and public facilities with the compulsion to respect health protocols, and Algeria, like other countries, followed this methodology.

Where the Ministry of Higher Education and Scientific Research revealed through correspondence No / 288a.kh. and/2020 dated February 29, 2020 (www.mesrs.dz), and directed to the heads of regional seminars for universities and university institutions directors about a pedagogical initiative set by the sector to put an end to the outbreak Corona virus is based on laying a platform that includes students' continued receiving of lessons remotely. This correspondence stated that the exceptional situation that the world is experiencing as a result of the apparent possible outbreak of the global epidemic necessitated the Ministry to take this pedagogical initiative by resorting to preventive measures to ensure the continuity of education. This initiative is represented in taking into account the educational content by replacing face-to-face lecturing lessons, directed works and civil applied works with similar ones or by laying pedagogical supports online, as these supports ensure constant teacher-students interaction and make them also accessible to all students at the national level. The Ministry affirmed its keenness to follow this endeavour and apply these measures represented in placing the educational supports online, through a second correspondence (Correspondence No. / 416: A.K. and/2020 dated March 17, 2020), quoted from (www.mesrs.dz) and addressed to the heads of university institutions, noting that the exploitation of the positive aspects of digitization and the use of information and communication technologies would constitute the basic and prominent elements in the functioning of the University of tomorrow. (Mokini Rayma, 2020, pp. 48-50)

In order to achieve these goals, the guardianship resorted to a combination of distance and attendance/face-to-face teaching in cohorts, and to determine the efficacy of these measures, the researcher posed a set of questions as follows:

1- What is meant by hybrid education followed at the Algerian University during the period of the Corona pandemic?

2- What is the extent of success of hybrid education from the students' and teachers' point of view?

3- What are the obstacles faced by students and teachers during this pattern of university education?

3. **Research Significance**

1- Analyzing the reality of the Algerian university, and working to develop it in order to advance higher education to a better level, according to strategies based on a scientific basis, away from the improvisation, or the monolithic view.

2- Standing on the possibilities available to both students and teachers to make hybrid education succeed.

4. **Research Objectives**: The study seeks to know the following:

1- Standing on the effectiveness of the various measures taken by the guardianship to make university education successful in light of the spread of the Coronavirus.

2- Knowing the viewpoint of both students and teachers towards hybrid university teaching in the period of the Corona pandemic.

3- Identifying the obstacles and difficulties that students and teachers faced during the Corona pandemic period.

4- Providing some solutions and proposals for running university education in difficult circumstances, such as the Corona period.

5. **Research Concepts**

5.1. Hybrid Education: It is the educational system in which different means of delivery are used together to teach a specific subject, and these methods may include a combination of direct delivery in the lecture amphitheatre, communication via Internet, and other techniques related to information in teaching and self-learning. (Ayman Saeed, 2021, p. 345)

5-2- Distance Teaching: What is meant by distance teaching in this study is to use the "Moodle" platform that is specific for each university, and all means of communication that takes place remotely between students and teachers.

5-3- The concept of face-to-face education during the Corona pandemic:

It is that education that takes place inside the rooms or the auditoriums in the presence of both teachers and students face-to-face at a previously specified time and place according to a program prepared by the custodial administration with the

follow-up of the cohort grouping. However, in the Corona period, it will be under certain circumstances represented in an appropriate health protocol approved by the guardianship, as it is programmed in two or three weeks for each cohort, addressing the knowledge and previous topics and evaluating the directed actions (TD) that have been addressed in distance education through explanation and summary.

5-4- Corona Pandemic: A pandemic is an epidemic that spreads on a very wide scale that exceeds international borders, affecting - as usual - a large number of individuals. What is meant in this study is the Corona epidemic.

## 6. Theoretical Framework:

6-1- Corona Pandemic:

Pandemic (noun), and its plural is pandemics, and it is said: it was struck by a pandemic, meaning it was afflicted by: calamity, perdition, shrewdness. (Dictionary of Contemporary Arabic Language, 2008)

Corona pandemic: A pandemic is an epidemic that spreads on a very wide scale that exceeds international borders, affecting - as usual - on a large number of individuals. What is meant in this study is the Corona epidemic.

Coronavirus: Coronavirus is a broad type of virus that may cause disease to animals and humans. It is known that a number of corona viruses in humans cause respiratory diseases ranging in severity from common colds to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The recently discovered Coronavirus causes Covid-19 disease.

Covid-19 disease: Covid-19 disease is an infectious disease caused by the last discovered virus of the Coronavirus strain. There was no knowledge of the existence of this new virus and its disease before the outbreak began in the Chinese city of Wuhan in December 2019. Covid-19 has now turned into a pandemic affecting many countries of the world (from the WHO website). Upload date: 04-01-2021 at 14:30

https://www.who.int/ar/emergencies/diseases/novel-coronavirus-2019/advice-for-public/q-a-coronaviruses#

The disease caused by the new coronavirus that first appeared in Wuhan, China, was called Coronavirus Disease 2019 (COVID-19), and the English name for the disease is derived as follows: "CO" are the first two letters of the word corona, and "VI" they are the first two letters of the word virus (virus), and "D" is the first letter of the word disease in English, and this disease was previously called "novel coronavirus 2019" or "nCoV-2019". The "Covid-19" virus is a new virus that is related to the same family of viruses as the virus that causes severe acute respiratory syndrome (SARS) and some types of common cold (Atab Younes, 2020, p. 339).

On March 21, an executive Decree 20-69 was issued aimed at defining the measures to prevent the spread of this epidemic, represented by social distancing aimed at exceptionally reducing physical contact between citizens in public spaces and in workplaces, applied on all national territory for a period of (14 days). It can be raised or extended when necessary, as the activities of the air services for public transport of passengers, road transport and all other means of transport have been suspended, with the exception of the transportation of employees. (Official Journal of the Algerian Government, 2020, Issue 15, pp. 6-7)

6-2- Hybrid Education

6-2-1- Definition of Hybrid Education

Hybrid education is considered as one of the learning styles in which pure online education merges with traditional classroom education in one framework. Where e-learning tools, whether based on educational software or on the Internet, are employed in lessons inside computer laboratories or smart classrooms, and the teacher meets with the students face-to-face most of the time, where he knows and is distinguished by the following points:

- Hybrid education is defined as an education that incorporates both traditional education in the classroom and e-learning in order to benefit from the advantages of both methods.

- It is also known as: "A type of education in which e-learning integrates its elements and characteristics with traditional education face-to-face with its elements and characteristics in one framework, so that e-learning tools, whether computer-based or internet-based, are used in learning activities for lectures, practical lessons, training sessions in traditional and virtual classrooms.

Thus, it is an integrated system that aims to assist the learner during each stage of his learning, as it is based on the integration between traditional and electronic education in its various forms in the classroom. (Dhaif Allah, Nassima, 2017 p. 146)

6-2-2- Hybrid Education Models

A group of educators and others interested in electronic and blended learning have developed a set of models that can be used in the field of blended education, namely:
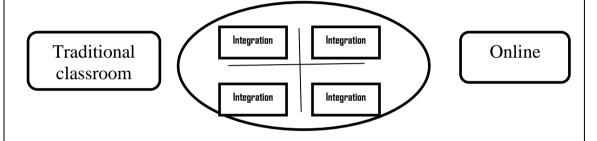
6.2.2.1. Sriwong Kolol Model

This model is derived from the development of the (AAA) model, i.e., (analysis-activities-evaluation) for designing learning to suit hybrid education based on the sufficiency economy philosophy, and this model has been prepared according to the following:

1- Building a model for designing learning by hybrid education. This is done through three dimensions: analysis, activities and evaluation. Each dimension includes a set of tasks.

2- Measuring each student's achievement by building a conceptual map from the academic course that he sends weekly through e-mail for a period of 15 weeks.

3- Surveying students' opinions about the model based on hybrid learning, by using concept maps and e-learning technology. (Dhaifallah Nasima, 2017, p.150)

6.2.2.2. Picciano's Multiple Model

The multiple model deals with characterizing performance in traditional classes and through electronic learning and the shift between them, which is evident in the figure below:

Teacher-students face-to-face meeting
Teacher uses simple technology.

Teacher-students online meeting
Teacher uses simple technology.

| Traditional classroom | Integration | Integration | Online |

| | Integration | Integration | |

-Teacher-students' meeting in the classroom
-Teacher uses technology in the classroom as Interactive simulation

Students interact with their teacher online
Teacher uses advanced technology as interactive meetings

students meet face-to-face the teacher and use simple technology, as well as interactive simulation as a model for face-to-face education in the classroom. They also meet the teacher online (remotely) using advanced technology such as interactive meetings, thus realize benefits from embodying the two styles. (Deif Allah Nassima, 2017, p.153)

### 3- Khan Model

Al-Fiqi (2011, p. 39) defined Khan's model as "an eight-dimensional model used for planning blended learning, and each dimension in this framework represents a class of issues that need to be addressed. These issues help to organize thinking and create self-learning." These dimensions include the following:

3.1. The Institutional Dimension: The institutional dimension addresses issues related to academic, administrative, and organizational affairs, and student services. Those responsible

for educational program planning ask about the institution's readiness to provide content and infrastructure.

3.2. The Educational Dimension: In this aspect, the merging between the content that is taught through (content analysis), the learners' needs (the analysis of the needs of the learners), and the educational objectives (the analysis of objectives and besides the design, the strategy of e-learning, is done in this dimension, the scenario is determined, where all the educational objectives of the program are determined, the best application methods are then chosen, as well as the evaluation patterns.

3.3. The Technological Dimension: After the method of presentation has been determined as one of the elements of blended learning, technology must be taken into account, including the educational environment design and educational program presentation tools. This dimension is concerned 26 to determine the appropriate education management systems (LMC) that can control different delivery methods and LCMS that determine the general framework for the actual content of the educational program. Other issues must be taken into consideration such as: technical requirements that include the server (which supports the educational program), and infrastructure issues.

3.4. Interface Design Dimension: This dimension relates to the factors related to the design of the user interface for each element in the blended learning program, and to ensure that the user interface supports all the elements of the program. It must be well-prepared so as to achieve integration between the various elements of the program, enabling the learner of the use of each method separately, and the shift between the different types. This dimension deals with building content, fees, assistance, for example in a higher education course, the student can study over the network, then attend the lecture with the teacher, and the blended learning must allow the student to absorb learning across the network and by way of a lecture likewise.

3.5. Evaluation Dimension: This dimension relates to the applicability of the blended learning program. The latter must have the ability to evaluate the effectiveness of the educational program in addition to evaluating the performance of each learner. In fact, in

such blended learning program, the appropriate evaluation method must be used for each type of presentation.

3.6. The Administrative Dimension: This dimension deals with issues related to managing the blended learning program, such as infrastructure, supplies that control the various delivery methods. Actually, blended learning program requires more effort than presenting the entire course in one way. This dimension also deals with issues such as registration, advertising and scheduling of various blended learning elements.

3.7. Resources Supporting Dimension: This dimension deals with the availability of various types of educational resources (online and offline). In addition to organizing them on the network, the support of the resources can also be a mentor, or an available teacher via e-mail or chat room.

3.8. The Ethical Dimension: This dimension defines the ethical aspects that must be taken into account when building a blended learning program, such as equality and parity, and in general, the learners' feelings should be taken into account when designing blended learning programs. Alternative options that address the individual differences between learners and that help them should be taken into account; on gaining similar experiences, while not neglecting learners with special needs. (Elham Harb Muhammad Abu Al-Rish, 2013, pp. 25-27).

6-3- Advantages of Hybrid Education at Universities

- Increasing the flexibility of students' online learning.
- Maintaining the students' presence inside the classroom.
- Saving time and effort among faculty members.
- Learning more about the educational level of each student.
- Raising the level of interaction and creativity among students.
- Spreading the applications that allow new methods of teaching away from traditional methods.

- Reducing the student density inside the lecture rooms and auditoriums or the student attendance rate, which limit the pandemic spread

6-4- Challenges and Hindrances to Hybrid Education at Universities

a) Students may lose their enthusiasm for learning if there is no easy way of communication between each student and his lecturers.

b) Blended or hybrid education may lose its value if there is no permanent development in their use.

c) Correct planning on the part of faculty members is required for the success of this new system. It is necessary to take sufficient time to prepare the academic content before the beginning of the year and to prepare appropriate references and resources for students to suit their thinking and needs and require their interaction and attendance. It is also imperative to clarify what tests students will take from the start. Therefore, the lecturer must set specific goals before the beginning of the year and follow up on their development, and these goals may be modified if necessary.

d) Student activities must also be selected that are commensurate with distance education and face-to-face education.

e) The lecturer should guide students on how to manage time and rely more on self.

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7- Field Study:

7-1- Study Methodology: To achieve the objectives of the study, the two researchers relied on the descriptive and analytical method, through collecting data, analysing them and drawing conclusions qualitatively from them, in order to identify hybrid education, as well as the teachers' and students' viewpoints towards this type of education.

7.2. Study Tools

The study was based on a questionnaire (prepared by researchers), which was applied to faculty members and students at the Universities of Khemis Miliana and Mostaganem; on a sample consisting of sixty-four (64) teachers and ninety-seven (97) students.

7.2.1. The Psychometric Properties of the Study Tool: To calculate the psychometric properties of the study tool, it was applied to a sample of forty teachers.

7.2.2. The Test Validity: We followed in it the discriminatory honesty, which is:

The validity of the terminal comparison: To calculate the validity of the test (discriminatory validity), a terminal comparison was used, where twenty-seven per cent (27%) of the scores of the primary study sample (the upper third) were withdrawn, and those who obtained the highest scores were estimated to be eleven (11) individuals. While the second group represented twenty-seven per cent (27 %) of the scores of the primary study sample (the lower third), and those who got the lowest scores were eleven (11) individuals, after which the difference between the two averages was calculated through the "T" test, and the results were as follows:

Table No. (2): Results of the "T" test to calculate the validity of the peripheral comparison of the test.

Referring to table n° 2, it is noticed that the value of "sig" is equal to zero (00) and it is less than alpha (0.05). Therefore, the value of "t" (10.768) is a statistically significant function,

| Comparison samples | N | Average | A.   Stand ard | T. Calculated | D. Freedom | Statistical |
|---|---|---|---|---|---|---|
| The top third 27% | 11 | 53.54 | 1.63 | 10.768 | 20 | 00.00 |
| The lower third 27% | 11 | 45.18 | 1.99 | | | |

meaning that there are differences between high and low scores on the study tool, which indicates that the test is honest and distinguishes between individuals.

2. Scale Stability: The half-segmentation method is used for the reliability calculation, and the covariance method using the Cronbach alpha equation.

a) Half-segmentation Method: The stability coefficient was 0.61, corrected by the Spearman-Brown equation, using the 2.0 SPSS statistical program.

b) Stability Method using the Cronbach Alpha Equation: The value of the stability coefficient, using the Cronbach alpha equation (0.60), has thus shown that the scale has acceptable stability and allows us to use the tool in the study.

## 8. Study Limitations

- Spatial Boundaries: The study was carried out at the universities of Djilali Bounaama at Khemis Miliana and Abdul Hamid Ibn Badis at Mostaganem.
- Human Limits: The study was applied to a random sample of teachers and students in both universities.
- Temporal Boundaries: The study was conducted from December 2020 until February 2021.

## 9- Presentation, Interpretation and Discussion of the Findings

9.1. Teachers' Findings

| Gender | | Living | | | Standard of Living | | |
|---|---|---|---|---|---|---|---|
| Male | Female | urban | Semi-urban | Rural | High | Medium | Low |
| 01 | 61 | 02 | 04 | 10 | 50 | 25 | 39 |
| 01.56 | 95.31 | 03.13 | 06.25 | 15.63 | 78.12 | 39.06 | 60.94 |

Table_____: Teachers' Personal Data

| N° | Question | Yes | No |
|---|---|---|---|
| 1. | Have you received any training on how to use the Moodle platform? | 46.9 | 53.1 |
| 2. | Have you been able to log into the "Moodle" platform of your university? | 81.3 | 18.7 |
| 3. | Is the Moodle platform of your university always available and not disabled? | 57.4 | 42.6 |
| 4. | Do you have an account on the Moodle platform of your university? | 82.8 | 17.2 |
| 5. | To access the platform "anonym" do you exclusively use the | 20 | 80 |

| | | | |
|---|---|---|---|
| | formula? | | |
| 6. | Have you interacted with students from the platform? | 17.5 | 82.5 |
| 7. | Do you interact with students using other means of communication? | 87.5 | 12.5 |
| 8. | Do you have an internet line Asymmetric Digital Subscriber Line (ADSL)? | 69.8 | 30.2 |
| 9. | Do you have a subscriber identity/identification module (SIM) card with internet access? | 87.5 | 12.5 |
| 10. | Are you constantly supplied with the Internet? | 75 | 25 |
| 11. | Do you own a computer? | 95.3 | 4.7 |
| 12. | Do you own a smart phone? | 87.5 | 12.5 |
| 13. | Distance education fulfils my ambitions. | 30.2 | 69.8 |
| 14. | Distance education is not feasible. | 48.4 | 51.6 |
| 15. | I am not convinced by the distance learning formula adopted at the Algerian University during the Corona pandemic. | 76.2 | 23.8 |
| 16. | I use all the icons available on the Moodle platform (chat, forum, etc.) | 12.9 | 87.1 |
| 17. | Have you used (zoom, Google meet) other applications with your students or teachers to communicate for the purpose of teaching? | 46 | 54 |
| 18. | Have you participated or attended a class, a forum, or a seminar using a video lecture technique? Across various applications available. | 65.6 | 34.4 |
| 19. | Are you ready to use distance education after the Corona pandemic? | 76.6 | 23.4 |
| 20. | Do you see that this strategy (distance education and attendance) achieves the objectives of flipped learning? | 32.3 | 67.7 |
| 21. | Have you ever used the Moodle platform before the period of the Corona pandemic? | 18.8 | 81.2 |

| | | | |
|---|---|---|---|
| 22. | Distance education has caused me pressure with my students & administration | 51.5 | 48.5 |
| 23. | Distance education improves the learning process. | 45.3 | 54.7 |
| 24. | Are the health measures against COVID-19 in the university respected? | 16.1 | 83.9 |
| 25. | Face-to-face education in the period of the Corona pandemic is not feasible | 29.7 | 70.3 |
| 26. | The period allocated to face-to-face education is insufficient | 89.1 | 10.9 |
| 27. | The lack of transportation prevented me from attending the university during the Corona pandemic. | 38.7 | 61.3 |
| 28. | Fearing infection prevented me from attending university during the Corona pandemic. | 46.9 | 53.1 |
| 29. | The lack of educational effectiveness during the scheduled classes prevented me from coming to the university during the period of the Corona pandemic. | 22.6 | 77.4 |
| 30. | Distance education is sufficient and you do not need an in-attendance education. | 3.1 | 96.9 |
| 31. | It is worthwhile to stop teaching during the Corona pandemic. | 18.8 | 81.3 |
| 32. | The distance education that was adopted during the Corona pandemic achieved most of the established goals. | 12.5 | 87.5 |
| 33. | I see that using the Internet is only successful in administrative transactions. | 46.9 | 53.1 |

Table _____: Teachers' responses as regards distance learning during the pandemic otbreak

The statistical data in the table above reveal that fifty-three point one per cent (53.1%) of the targeted population of teachers assert that they have received no training on how to use the Moodle platform, and forty-two point six per cent (42.6%) found difficulties to access the platform. Besides, seventeen point two per cent (17.2%) attest that they have no accounts to access the platform; some of them might be contract teachers. Yet, eighty-two point five per

cent (82.5%) stipulate that they do not interact with students based on the icons provided by the platform, i.e., they do not use the platform in an effective way, and some teachers report that they are not regularly connected to the Internet. Some others state that they do not even have an ADSL line, computer or smart phone. This may be attributed to the high costs of these devices and their occasional breakdown. In fact, five-one point six per cent (51.6%) of the questioned teachers believe that distance education is not feasible, and sixty-nine point eight per cent (69.8%) feel unconvinced by distance education, because it does not achieve and respond to their aspirations. The gleaned answers also demonstrate that eighty-one point two per cent (81.2%) certify that they have never used the Moodle platform before Corona pandemic, and fifty-one point five per cent (51.5%) of them acknowledge that distance education caused them pressure with students and the administration. Therewith the heavy majority of the respondents, i.e., eighty-nine point one per cent (89.1%) believed that the time duration allocated to face-to-face education is quite insufficient, in addition to the entailing consequences of the lockdown for fear of infection; lack of transportation...etc. many teachers could not join their workplace. For eighty-seven point five per cent (87.5%) distance education that was adopted during the pandemic did not achieve the stated goals, and forty-six point nine per cent (46.9%) believe that using the Internet is successful only in administrative transactions.

Students' Results

As regards students' responses, the following numerical data have been collected.

| Gender | | Living place | | | Living standard | | | Educational level | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Male | Female | Urban | Semi urban | Rural | High | Average | Low | L1 | L2 | L3 | M1 | M2 |
| 24 | 73 | 66 | 19 | 12 | 3 | 87 | 7 | 15 | 15 | 15 | 15 | 30 |
| 24.74 | 75.25 | 68.04 | 19.59 | 12.37 | 3.09 | 89.69 | 7.21 | 15.46 | 15.46 | 15.46 | 15.46 | 75.25 |

Table ____: students' personal data

| N° | Question | Yes | No |
|---|---|---|---|
| 1. | Have you received any training on how to use the Moodle platform? | 5.4 | 94.6 |
| 2. | Have you been able to log into the "Moodle" platform of your university? | 68.4 | 31.6 |
| 3. | Is the Moodle platform of your university always available and not disabled? | 33 | 67 |
| 4. | Do you have an account on the Moodle platform of your university? | 40.9 | 59.1 |
| 5. | To access the platform "anonym" do you exclusively use the formula? | 37.8 | 62.2 |
| 6. | Have you interacted with students from the platform? | 18.7 | 81.3 |
| 7. | Do you interact with students using other means of communication? | 56.8 | 43.2 |
| 8. | Do you have an internet line Asymmetric Digital Subscriber Line (ADSL)? | 62.1 | 37.9 |
| 9. | Do you have a subscriber identity/identification module (SIM) card with internet access? | 62.8 | 37.2 |
| 10. | Are you constantly supplied with the Internet? | 60 | 40 |
| 11. | Do you have a computer? | 56.8 | 43.2 |
| 12. | Do you have a smart phone? | 93.7 | 6.3 |
| 13. | Distance education fulfils my ambitions. | 22.3 | 77.7 |
| 14. | Distance education is not feasible. | 62.1 | 37.9 |
| 15. | I am not convinced by the distance learning formula adopted at the Algerian University during the Corona pandemic | 19.1 | 80.9 |
| 16. | I use all the icons available on the Moodle platform (chat, forum, etc.) | 17.4 | 82.6 |

| 17. | Have you used (zoom, Google meet) other applications with your students or teachers to communicate for the purpose of teaching? | 35.5 | 64.5 |
|---|---|---|---|
| 18. | Have you participated or attended a class, a forum, or a seminar using a video lecture technique? Across various applications available. | 21.7 | 78.3 |
| 19. | Are you ready to use distance education after the Corona pandemic? | 38.7 | 61.3 |
| 20. | Do you see that this strategy (distance education and attendance) achieves the objectives of flipped learning? | 31.5 | 68.5 |
| 21. | Have you ever used the Moodle platform before the period of the Corona pandemic? | 9.9 | 90.1 |
| 22. | Distance education has caused me pressure with my students & administration | 61.5 | 38.5 |
| 23. | Distance education improves the learning process. | 32.6 | 67.4 |
| 24. | Are the health measures against COVID-19 in the university respected? | 26.4 | 73.6 |
| 25. | Face-to-face education in the period of the Corona pandemic is not feasible | 49.5 | 50.5 |
| 26. | The period allocated to face-to-face education is insufficient | 90.2 | 9.8 |
| 27. | The lack of transportation prevented me from attending the university during the Corona pandemic. | 52.7 | 47.3 |
| 28. | Fearing infection prevented me from attending university during the Corona pandemic. | 52.2 | 47.8 |
| 29. | The lack of educational effectiveness during the scheduled classes prevented me from coming to the university during the period of the Corona pandemic. | 50 | 50 |
| 30. | Distance education is sufficient and you do not need an in-attendance education. | 15.4 | 84.6 |

| 31. | It is worthwhile to stop teaching during the Corona pandemic. | 33.7 | 66.3 |
|---|---|---|---|
| 32. | The distance education that was adopted during the Corona pandemic achieved most of the established goals. | 19.8 | 80.2 |
| 33. | I see that using the Internet is only successful in administrative transactions. | 39.8 | 60.2 |

Table _____: Students' responses as regards distance learning

Referring to the gleaned data in the above table, it is worth noting that ninety-four point six per cent (94.6%) of the targeted students have received no training on how to use the Moodle platform, and thirty-one point six per cent (31.6%) found difficulties to access the platform. Besides, fifty-nine point one per cent (59.1%) confirm that they do not have accounts to access the platform, and eighty-one point three per cent (81.3%) of them have never interacted with their teachers though necessary icons are provided by the platform, i.e., the Moodle platform was not exploited effectively. Less than the half (40%) affirmed that they were not constantly connected to the Internet, and more than the half of the targeted students (62.1%) believe that distance education is not feasible. Besides forty-nine point five per cent (49.5%) consider that face-to-face education in the Corona period is not workable. Yet, the heavy majority, i.e., 80.9% of the questioned students are unconvinced by such education formula/protocol because distance learning during the Corona period does not achieve their ambitions. Almost all students (90.1%) had never used the Moodle platform before the Corona pandemic. For sixty-one point five per cent (61.5%) of them consider that distance learning is a source of pressure with teachers, and ninety point two per cent (90.2%) believe that the period allotted to face-to-face education is not sufficient. Due to the lockdown- fearing the spread of the coronavirus- the lack of the means of transport, especially between the country provinces, impeded students' reaching the university to attend face-to-face lectures and TDs. Though insisted on, seventy-three point six per cent (73.6%) attest that the health measures against Covid-19 are not firmly respected at the university. For eighty point two (80.2%) estimate that the distance education that was adopted during the pandemic has not achieved the intended goals. Above and beyond,

thirty-nine point eight per cent (39.8%) assume that using the Internet succeeds only in administrative transactions.

**10- Interpretation of the Results**:

The results obtained in this study do not mean at all the ineffectiveness of distance education, with evidence that everyone admits that it offers us many advantages and great benefit if it is used in the right and beneficial way. Indeed, this is also confirmed by previous studies that were presented in the introduction to the study. Nowadays, it is noticeable that it has spread very quickly, but today we find some international universities, even Algerian ones, which have adopted full cohorts through distance education and have achieved great success. Nevertheless, what is experienced today in most Algerian universities reveals to us the deteriorating situation we are enduring in terms of taking charge of this aspect. As it is imperative to plan training sessions for the benefit of both students and teachers in this field, and work to find formulas that facilitate students' and teachers' to obtain computers, devices and appropriate applications, and increase the flow of the Internet for the success of this type of education and its adoption along with face-to-face education after the Corona pandemic. Besides, the guardianship should strive to change the teachers' and students' negative attitudes towards this type of instruction, especially in light of the spread of technological innovations among the various segments of society. Also it should work to achieve teachers' and students' psychological and cognitive adaptation to deal flexibly with them and employ them well to achieve the quality of higher education.

11- Conclusion and Recommendations

The Algerian Ministry of Higher Education has taken some measures with the aim of containing the epidemic through multiple measures that can be commended, such as decision No. 633 of August 26th 2020, which specifies the exceptional provisions authorized in the field of educational organization and management, evaluation and transfer of students during the period of Covid-19 under the title of the academic year 2019-2000, especially what was mentioned in Article 02. The latter states that distance education and/or online are

a recognized pedagogical method of higher education for students, but many deficiencies and lapses that need to be highlighted have been recorded, and priorities must be rearranged for the CoViD 19 post period. This should undergo a deep reform of the entire university system in a way that benefits the Algerian state and its prosperity, especially if we know that it is the locomotive for the rest of the other sectors.

From the foregoing, we conclude that the Algerian university faces great challenges at the formative, professional and planning levels in order to increase the effectiveness of distance education and therefore it should:

- Work to spread the culture of digitization by including it in all daily administrative and educational dealings.

- Link education with technology and computers.

- Plan courses, seminars and forums on modern technologies and encouraging teachers and students to use them.

- Integrate e-learning into teaching programs, and the development of teachers 'skills in this field.

- Provide an appropriate climate that encourages the development of e-learning from a distance.

- Work to find a partnership between the university and the telecommunications and electronics companies in order to extend a helping hand to all university employees.

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