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Teaching and Learning in the Digital Era: Changing Roles and Expanded Responsibilities

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ABSTRACT: *Several changes have characterized the teaching/learning environment in the last decade. The growing importance of ICT (Information and Communication Technology) has offered new avenues for teachers and students to deal with content and to ensure practical and effective means of interaction. In addition, the sudden and unexpected events that are taking place all over the globe are urging educationists and stakeholders to seriously think of alternative ways to traditional face to face instruction. The pandemic crisis of COVID 19, the unstable political, economic and social situation in many parts of the world have fostered the idea of migrating to digital (online) learning which guarantees safer and more secured interaction among teachers and students. This paper sheds light on the changing roles and expanded responsibilities of Algerian EFL teachers and students in the 21st Century digital era. Tools of data collection include two different online questionnaires designed for teacher educators and students at the Ecole Normale Supérieure 'Assia Djebar', Constantine, Algeria. Results concluded that the experience with e-learning was challenging but worth endeavouring. Moreover, the subjects have shown a certain degree of awareness about the importance of digital instruction in developing students' autonomous and collaborative learning. On this basis, the study has come up with some suggestions from instructors and learners to make digital learning easier and more effective experience in the future.*

KEYWORDS: Digital era ; E-learning ; ICTs ; Changing roles/responsibilities ; Covid 19 pandemic..

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Introduction

In a constantly changing world, the roles and responsibilities of teachers and students are changing subsequently. Today's students, best described as 'digital natives' (Presnsky, 2001) are born and grown up with technology. The use of the internet and mobile devices becomes part of their daily routine and education cannot be an exception. The new role for teachers, then, is to keep up with the rapid technological progression (Hack, 2021). Nowadays, the teachers' role expands the traditional transmission of knowledge to « nurturing critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators » (Tharama & Sunil, 2020, p. 63).

It is legitimate today to claim that 21st Century learning is learning with technology (Noss, 2012). In higher education, studies have emphasised the positive impact of technology on students' learning. Gegenfurtner et al. (2012) argued that students learn more deeply in complex technological environments. Moreover, Berge (2000) stressed the importance of online education which leads learners to assume more responsibility towards their learning. Teachers, subsequently, are changing their roles from being 'knoweldge gatekeeper' (Meyer, 2021) to learning facilitators, digital instructors, resource providers, and planners for 21 century carrers (Sardar, 2018).

In the Algerian higher education context, the use of technology in teaching and learning was not a very common practice until the coming of Covid 19 pandemic. The latter has pushed teachers and educators to re-think their pedagogical practices and recognise the urgent need for technological integration in instructional environments. The shift was not easy but it proved to be a 'must' and a necessity rather than a choice.

Literature Review

E-Learning in Higher Education

One of the most remarkable changes in higher education over the recent years is the introduction of e-learning. Different names have been given to this technology-based form of instruction including online learning, remote teaching services, and distance education. Though e-learning has been introduced earlier in this century (Berge, 2000 ; Singh et al., 2005; Sharp & Benfield, 2005) and some of its principles were already put into practice by many of world's largest universities (Gorska, 2016), its appearance in most developing countries, including Algeria, is linked with the emergence and widespread of corona virus by late 2019 and 2020.

E-learning is defined by Isman et al. (2004, p. 3) as « a form of education in which the course contents are delivered and the interactions are provided by the technologies and methodologies of the Internet ». In the same vein, Górska (2016) defined distant education as « the education that excludes the physical presence of the teacher. The source of the material to study is in fact a computer connected to the Internet ». The key word in both Isman's and Górska's definitions is 'the internet' which is the major channel through which e-learning is made possible. The internet, according to Ammanni & Aparanjani (2016) offers the best way to learn language other than immersion in an English speaking milieu. In other words, the internet has reduced distances and saved time, effort, and money for many students who are no longer obliged to travel or pay large sums of money to get educational services.

In a similar context, 'Blended learning' integrates both on-line and face-to-face learning environments as a means of instruction. Blended learning or the 'New normal' as described by Norberg et al. (2011) is gaining increasing importance in higher education due to its flexibility and effectiveness in covering the course content at learners' and teachers' convenience. Caravias (2015) argued that blended learning is most suitable for students who work full time and who may not be able to pursue their degrees following traditional modalities of instruction. In the same vein, Dzakiria et al. (2012) carried out a study

about the experience of a small group of Malysian university students and emphasised the importance of Blended learning and its potential of promoting lifelong learning initiatives in higher education contexts.

Designing online courses

Inevitably, online teaching requires adapting instructional materials to the digital and technological environment. Indeed, this step has been very challenging for most teachers who realized that their digital literacy is not at the expected level and that they urgently need to be trained on the use of computers, and manipulation of different Learning Management Systems which are substituting for physical classroom contexts.

Yengin et al. (2010) suggested a model for the integration of online courses with basic two steps : (1) The implementation of learning strategies which are most appropriate to the digital environment and conductive to successful learning ; and (2). Selecting necessary and appropriate tools for the achievement of teaching and learning goals.

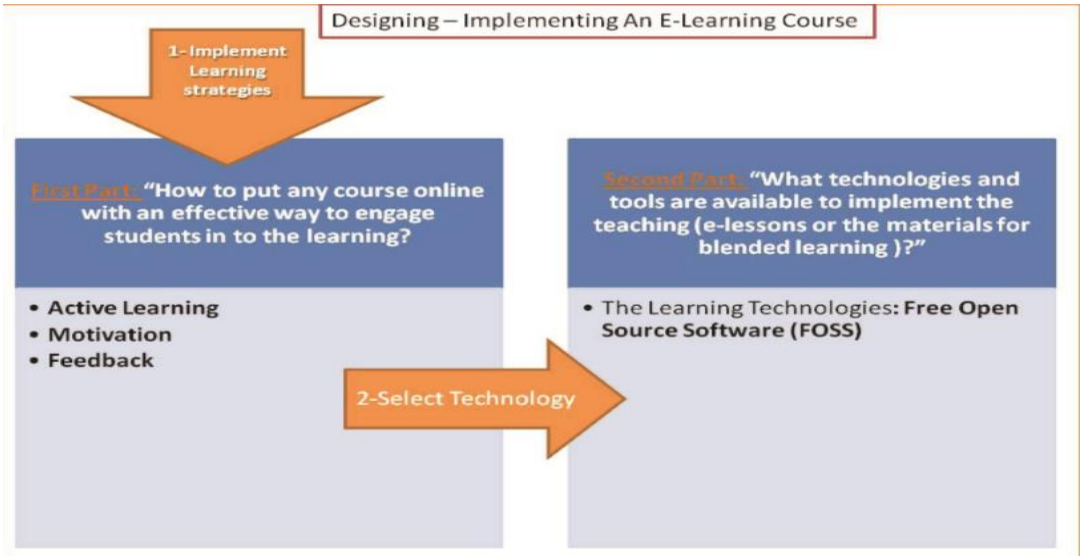

Figure 1. Model for Designing and Implementing an E-Learning Course (Yengin et al. 2010)

The first step in Yengy et al.'s model involves the teacher in planning his course by considering key elements for engaging students in the learning process. This part covers three main issues: Active learning, motivation, and feedback. Here, the teacher sets clear objectives in relation to the three aspects then moves to the selection of technological tools which would help learners get knowledge of content and achieve the set objectives . At this level, the teacher decides about the mode of delivering the lessons by specifying the parts which can be presented online and those which should be better dealt with within the classroom walls.

In addition to course design, 'interaction' is another important issue that teachers have to pay attention to while carrying out an online course (Moore, 1989 ; Isman et al., 2004 ; Terzi, 2005 ; Nguyen, 2009 ; Sason & Kellerman, 2021). Interaction among students and teachers is very important in distance education where the physical contact is not possible. Sason & Killerman (2021) carried out a study with 591 undergraduate students during Covid 19 crisis and concluded that Instructional communication, mainly Q&A, is the most common type of interaction according to his study participants. In addition, Sason and Kellerman identified other forms of interaction among instructors and their students including instructional support (supportive learning materials and feedback from the part of teachers), guidance and facilitation, Instructure presence, and social intimacy.

Furthermore, interaction also involves communication between students themselves and between students and content of learning. In internet-based courses, Student-Student interaction can be synchronous or asynchronous (Bernard et al., 2009). Whereas the former can be achieved through chatting on social media which tends to be the most common and preferred communication channel among students, the latter can simply take the form of email messaging. Student-Content interaction, on the other hand, is more related to 'personal knowledge and 'problem-solving' (Bernard et al., 2009). It involves reading texts, watching videos, and completing assignments.

Changing Students/Teachers' Roles

Technology is changing every aspect of our lives. In education, it is used to facilitate learning and promote students' independence and autonomy. Most importantly, technology according to Norberg et al. (2011) has contributed in 'freeing' students and teachers from the classroom walls and guaranteeing wider context for instruction and interaction namely through online or blended learning. This apparently positive change would subsequently require change in the roles and responsibilities of learners and their instructors. Berge (2000, p. 2) identified a set of characteristics for changing Students' and teachers' roles in digital learning contexts.

Changing Students' roles	**Changing Teachers' roles**
• from students acting as passive receptacles for hand-me-down knowledge, to students who are constructing their own knowledge • students who are more adept at complex problem-solving activities rather than just memorizing facts • students who are involved in more activities in which they refine their own questions and search for answers • More collaborative/cooperative assignments with students working as group members; group interaction and teamwork are significantly increased • students having an increased multicultural awareness. • students working toward mastery and fluency with the same tools and methods that experts in their field are using. • more emphasis on students as autonomous, independent, self-motivated managers of their own time. • discussion of students' own work rather than the work of the textbook author or instructor. • emphasis on knowledge use rather than only observation of the teacher's expert performance. • emphasis on acquiring learning strategies (both individually and collaboratively) rather than learning to "pass the test". • access to resources is significantly expanded.	• Teachers' role changing from oracle and lecturer to consultant, guide, and resource provider • Teachers become expert questioners, rather than providers of answers • Teacher provides structure to student work, encouraging self-direction • From a solitary teacher to a member of a learning team (can also reduce isolation sometimes experienced by teachers) • From total control of the teaching environment to sharing with the student as fellow learner • Teacher-learner hierarchy is broken down

Table 1 : Students' and Teachers' Changing Roles (Berge, 2000).

In a 21st century EFL classroom, learners are mostly involved in problem-solving activities which would foster their critical thinking and active involvement in the learning process. They are autonomous and independent while at the same time collaborating and cooperating with each other in the direction of

their own goals. Teachers, on the other side, are 'fellow' learners and facilitators. They are members of the learning team, providing support and guidance for their learners' self direction.

For their part, Tharama and Sunil (2020) argued that higher education teachers have to lay more emphasis on their students' 'learning to be' rather than 'learning about'. The 'learning to be' aspect, according to Tharama and Sunil is more related to the outcome of instruction. It implies proper involvement of the learner in the subject area by being exposed to concrete knowledge and immersed in meaningful and realistic learning environments, rather than giving wide range of theoretical and abstract information.

Advantages of Technology in Education

Throughout history, new technology has caused new social, cultural, and political change (Berge, 2000). Likewise, the importance of technology in education cannot be overlooked as it brings a plethora of benefits which contribute in improving the quality of instruction and subsequently achieving better learning outcomes. Though technology can be seen as a source of distraction for students (Hack, 2021), there's no doubt that it revolutionised the educational scene in many ways, and its integration in everyday teaching and learning environments is inevitable. Some of the many advantages of technology in education are summarised by Tharama and Sunil (2020) in the following points :

- Improves quality of student work and practical examples through visualisation
- Improves poor handwriting and languages skills through word processing
- Facilitates self-pacing with increased capacities to deal with individual learning styles as students can work at the pace and intensity suitable to their needs.
- Enables collaborative learning with little indication of the isolated learner
- Encourages use of peer coaching and peer reviews
- Develops communication skills and awareness of different audiences
- Enhances information consistency and accuracy adding to authenticity of learning tasks, with pragmatic and advanced information
- Augments learner motivation through practical activity, visual demonstrations and improved modes of presentation.
- Promotes independent learning and individual preferences for process, outline, method and design.

Challenges Facing Teachers in the Digital Era

Certainly, the shift to a digitalized instructional environment is challenging for both teachers and students. Teachers, according to Amin (2016) are not only expected to handle a good mastery of technological tools, but also to be responsible for their teaching as well as their students' learning. In addition, the changing needs of students, expectations from parents and stakeholders, and demands of job market all place teachers in a cross-roads position where they have to think of several factors that depend in one way or another on the outcomes of instruction. Sharma (2017) underlined some of the challenges facing instructors in the digital age :

Diverse students : teachers have to deal with various learning styles, needs and preferences. The hetrogeneity of most EFL classrooms may be very challenging for teachers while designing learning activities and proceeding with material selection and implementation. In addition, teachers have to create a learning environment which encourages collaboration and cooperation among students despite their differences.

Pupil teacher ratio : large classrooms are a common problem in several countries where the student-teacher ratio is sometimes up to 1/60 (Sharma, 2017). This issue may have negative consequences on the

quality of education as well as on teachers' and students' well being. Moreover, oversize classrooms seem to be very challenging with regard to technology implementation which often requires rigid order and organisation.

Digital natives : today's students are very keen on technology. They are born with it and tightly attached to it. Teachers then have to keep at least at the same level of their students' digital literacy to be able to satisfy their needs and curiosity.

Knowledge based job market : modern education no longer focuses on 'intellectual growth', but involves the mastery of certain skills including 'critical thinking', 'problem solving' and 'communication and collaboration skills' (Kai et al. 2017) which are all required skills for any job position. Teachers' responsibility is then extended to preparing students for life and for being active and productive citizens.

Life long learning : the rapid advancement of technology and the need of getting updated with both subject matter knowledge and professional development involve teachers in a continuous process of learning, training, and keeping in touch with the latest academic and pedagogical innovations.

Job issues : teachers have to act within institutional regulations controlled and sometimes imposed by local or higher authorities. Very often, teachers are involved in administrative obligations (preparing reports, attending meetings, correcting and submitting scores, participating in school events) at the expense of their initial work with students. Moreover, the availability of technological instruments inside the classroom like projectors, internet, interactive boards is very restricted if not impossible. So, even if teachers are willing to change and improve they are faced with administrative and logistic obstacles.

Method(s)

Two Survey questionnaires were administered with teachers (N= 31) and students (N= 88) at the English department of l'Ecole Normale Supérieure of Constantine. The survey has three main aims :

(1) To investigate Algerian university students' and teachers' awareness about the importance of technology implementaion in the teaching/learning process.
(2) To check their readiness for assuming new roles and responsibilties.
(3) To explore the challenges facing students and teachers while converting to technology based instruction.

The questionnaires were administered online via Google forms. This has further allowed the researcher to measure teachers' and students' accessibility to computer-based tools as well as the extent of their response and interaction with technology. Most questionnaire items took mutliple choice format with some open-ended questions to collect data about teachers' and students' attitudes towards the use of technology and their beliefs about assuming new roles to fit the requirements of the digital age.

Context of the Study

The present study was conducted at the English department of l'Ecole Normale Supérieure 'Assia Djebar', Constantine (ENSC), Algeria ; one of the oldest and biggest teacher education institutions in Algeria. The school's primary mission is to provide its pre-service teachers with both academic and professional training which allow them to assume teaching responsibilities at elementary, college, and high school levels. As far as the English department is concerned, the requirement is to complete eight (08) semesters of academic training followed by a practical training course in the last two semesters for middle school teachers, and ten (10) semesters of study crowned by a practical training course and a research paper submission during the final two semesters.

The system of study follows face-to-face classes in all courses, which corresponds to the overall situation in most Algerian universities. With the spread of Covid 19 pandemic ; e-learning, integrated as a

first step during the second term of 2019-2020 academic year, then Blended learning (in the following two years on) becomes an official form of instruction following the decision of the ministry of higher education and scientific research. This abrupt change has urged both teachers and students to get out of their comfort zone and endeavour in an all new experience. This made the issues of readiness, awareness, and aptitude for undertaking new teaching and learning roles worth investigating topics.

Population of the Study

The study population includes 31 full-time teachers of English representing 72,09% of the total population to whom the link to the questionnaire was sent via email. In addition, 88 students from different grade levels and geographical backgrounds participated in the study. The participants were invited to answer the questionnaire as part of an evaluation survey about their first experience with digital learning. It is also worth mentionning that most participants in the study, among teachers and students, are females. This is the case of the whole institution (ENS school) where the greatest majority of teaching staff, students, and even administration are women.

Results

The study is based on both quantitative and qualitaive presentation and analysis of the reults. It is organised around four main sections corresponding to the above stated aims : Awareness about the importance of technology integration namely through e-learning, readiness for assuming new roles and responsibilities, implementation of online teaching and learning strategies, and the encountered challenges from students' and teachers' perspectives.

A preliminary step consists of a presentation of some demographic information about the respondents as shown in tables 1 & 2. For space limitations, it was not possible to account for all options in multiple choice questions except for the first section dealing with demographic information. Therefore, the displayed results account for the highest percentages in MCQ items, and the most common answers in opinion and open questions.

Participants' Demographic Information

The collected information about teachers relates to their teaching experience, their academic title, the field of specialization, and the assigned classes. For students, two questions about gender and grade level were posed. Results are displayed in tables (1) and (2) respectively.

Teaching Experience		**Academic title**	**Field of Specialization**	**Assigned classes (2020)**
0-5 :	25,8%	MAB : 25,8%	**Didactics : 64,5%**	**1st year : 61,3%**
5-10 :	**35,5%**	**MAA : 41,9%**	Applied Ling : 45,2%	2nd year : 41,9%
10-15 :	22,6%	MCB : 29%	Civilisation : 12,9%	3rd year : 41,9%
Above 15 :	16,1	Professor : 3, 22%	Literature : 9,7%	4th year : 51,6%
				5th year : 16,1%

Table 2. Teachers' Demographic Information

As displayed in table 2. The majority of teachers in the sample population (35,5%) have an experience of 5-10 years, which is good enough for being familiar with teaching curricula and content information. 41,9% of the respondents belong to MAA rank, which implies their involvement in doctoral research, and

64,5% are specialized in didactics. These teachers mentored almost all grade levels during the actual academic year with 61,3% teaching 1st year level.

Gender	**Grade Level (2019-2020)**
Male : 5%	2nd Year : 27,27 %
Female : 95%	3rd Year : 26,13%
	4th year : 22%
	5th year : 18,18%

Table 3. Students' Demographic Information

Concerning students, the above table shows that the majority of respondents are females which, as mentioned earlier, is a common characteristic in Algerian teacher education institutions which tend to be more appealing for girls than for boys. These students are distributed among four (04) grade levels ensuring more variety and diversity of the collected data.

Readiness for e-learning

The degree of teachers' and students' awareness about their changing roles depends to a large extent on whether or not they are well prepared for it. For teachers, this involved gathering data about any previous experience with e-learning, whether they have participated in training programs or professional development workshops, and subsequently if it was easy for them to migrate to online teaching. A concluding question in this section targeted teachers' opinion about their experience with e-learning which can give some hints about the impact of their degree of readiness to online instruction on their actual experience. Results of this section are presented in table 4 below.

Types of Question	Highest Rate Answer (percentage)
experience with e-learning	first experience (90,3%)
Participation in professional development programs	No (66,66%)
Assistance to upload lessons	Yes (81,8%)
Opinion about e-learning experience	Challenging (74,2%)

Table 4. Teachers' Readiness to e-learning

Results in the above table about teachers' preparation and readiness to e-learning show that the majority of teachers in the population of the study (90,3%) experienced e-learning for the first time in their career during the pandemic crisis. In the ENS context, e-learning officially took place during the second semester of 2019-2020 academic year. That was an unprecedented experience for almost all teachers at the English department and the school as a whole. In addition, teachers have also clarified that they received no previous training about e-learning or anyother form of professional development workshops. This further confirms the little or lack of preparation to go through the e-learning mode of instruction. The consequences of this situation are clearly reflected in the teachers' answers to the third question where 81,8% of the respondents confirmed that they sought assistance from the technical staff of the school to post their lectures on Moodle. Logically enough, 74,2 % of teachers in the study population described their first experience with e-learning as being 'Challenging'.

As for students, the gathered data tackled their previous experience with e-learning, the average time devoted to online courses, their interaction as well as opinion about the posted lectures, and their point of view regarding their overall experience with e-learning (table 5).

Types of Question	Highest Rate Answer (percentage)
experience with e-learning	First experience (90%)
Average time devoted to e-learning	Less than 4 hours per week (54,5%)
Interaction with online lectures	Average (73,3%)
Opinion about online lectures	Long and ambiguous (60%)
Opinion about e-learning experience	Challenging (53,3%)

Table 5. Students' readiness to engage in e-learning

The situation is not very different for students. 90% of respondents indicated that the 2020 online learning was indeed their first experience with e-learning. 54,5% of students in the population of study answered that they devoted less than four (04) hours per week to their online courses which can be described as very little compared with the usual time devoted to face to face learning. This result is further confirmed in their answers to the third question where 73,3% of respondent students judged their interaction with online lectures to be 'average'. A possible reason for this lack of interest from the part of students resides in the fact they find the posted lectures 'Long and ambiguous' according to 60% of the students. Given all the previous circumstances, it's not surprising to have more than half the population of the study (53,3%) describing their experience with e-learning as being frustrating and 'challenging'.

Teachers' and Students' Awareness about the Importance of Technology Integration.

Despite all the negative aspects associated with the pandemic crisis, it is legitimate to claim that COVID 19 has contributed in the implementation of e-learning in Algerian higher education institutions. Though teachers and students were not prepared for it, as displayed by results in the previous section, e-learning has become a reality and a necessity at the same time. Teachers were morally and professionally responsible for ensuring the trasmission of knowledge to their students, who, on the other side were obliged to assume more independent and active learning. At the ENS context, Moodle platform was recommended as the only official medium of instruction. The platform offered a virtual space for carrying out the different teaching and learning tasks including the upload/download of lectures as well as ensuring a kind of interaction among teachers and students within the possible measures. Results of this section are dispalyed in tables 6 and 7 respectively.

Types of Question	Highest Percentage
Posting lectures online	Yes 100%
Platform	Moodle (100%)
Interaction with students	Yes (61,3)

Table 6. Teachers' awareness about the importance of e-learning.

Teachers' answers in this section indicate a positive reaction towards the integration of e-learning in their teaching practices. All teachers (100%) in the population of study (and we can confirm it was the case

for all teachers in the English department at l'ENSC) have posted their lectures on Moodle platform. That was mainly because the school administration set an obligation and severe instruction for teachers to do so. Though all teachers posted their lectures on Moodle, not all of them engaged in online interaction with their students. While 61,3 % of teachers, according to the above table, have ensured a kind of interaction with their learners, the rest did not. It may be argued that 61,3% is a good portion, but compared with the total percentage of teachers who posted their lectures on the platform, we can say that many teachers did not attempt to get in touch with their students. All in all, we can conclude that English department teachers at l'ENSC showed some degree of awareness towards the implementation of e-learning and the necessity to convert to technology use despite the challenges.

Types of Question	Highest Percentage
Advantages of e-learning	Promoting learners' Autonomy (70,5%)
For or against the adoption of e-learning	For (61,4%)

Table 7. Students' awareness about the importance of e-learning

For their part, students seem to recognize the importance of e-learning since 70,5% of them argued that e-learning pushed them to be more autonomous and responsible for their learning. In the same context, a good portion of respondents opted 'For' the adoption of e-learning, which according to their answers in a subsequent question about the reason of their opinion was the fact that e-learning allowed them to study at home which is a great advantage for students who used to travel long distances and live far away from their families for the sake of their study.

Online Teaching and Learning Practices

With the adoption of e-learning, there was a necessity for applying specific teaching techniques and learning strategies. Teachers are now required to have all their lectures typed and well aranged in order to be posted ; whereas in the past, they could be satisfied with some handwritten notes about the lesson. Moreover, teachers have to engage in online interaction with their students, answering their questions or giving feedback on their performance. This means that they have to spend more time in front of their computers and work on adapting their teaching methods and computational skills to fit the digitalized learning environment. Students on their part have to show more independence and self reliance to substitute for the lack of face to face explanation from the teacher. Another available option is to engage in group discussions with their peers and colleagues.

Answer	Percentage
Lessons on Moodle	PDF documents (74,2%)
On-line interaction with students	Zoom, Moodle (31 %)
Frequency of interaction with students	Sometimes (47,1%)

Table 8. Online Teaching Practices

According to teachers' answers in this section, 74,2% of subjects posted their lectures as PDF documents on Moodle. They have also been involved in both synchronous and asynchronous interaction with their students mainly through zoom, Moodle, and via email. This interaction, however, is not done on a regular basis since 47% of teachers answered that they 'sometimes' engage in online discussion with their students.

Answer	Percentage
Self-dependent learning	54%
Interaction with other students	21,7%
Ask their teachers	15%

Table 9. Students' Online Learning Strategies

For students, the majority of respondents (54%) answered that they relied on themselves to understand the posted lectures and perform the given assignments. This is a good sign of learners' autonomous and self regulated learning. In addition, 21% of students answered that they collaborated with their colleagues while studying or performing online learning tasks. This is an additional positive sign of the improvement of students' collaborative and cooperative skills which have shown to be of great benefit for effective learning. 21% of students, on the other hand, answered that they contacted their teachers for more assistance and guidance.

Challenges

Any new experience would certainly be frustrating and challenging. E-learning has suddenly made its way to Algerian higher education institutions and become the only choice for teachers and students. The lack of preparation and training on technology use was a great obstacle for them. In addition, e-learning requires 'comfortable' learning environment at home where students and teachers have to work on their personal computers and have easy access to internet services, something which is not possible for many of them.

Answer	Percentage
Lack of training	71%
Technical problems	41%
weak involvement from students	45.2

Table 10. Challenges of e-learning from the teachers' perspective

As shown in table 10, lack of training was a great obstacle for teachers according to 71% of the respondents. Neither teachers nor university authorities expected to be obliged to use e-learning at any time. Though Moodle platform was introduced two or three years before the crisis (in the ENSC context), it was not operational until the coming of the pandemic. In addition, 41% of teachers in the population of the study faced technical issues which made their task even harder. The low internet flow was a major problem in addition to challenges with managing some computing and software skills. Another challenge for teachers as indicated by their answers to this question is related to lack of involvement from the part of students. 45.2% of teachers argued that they were making efforts to post lectures on the platform and give assignments, but the rate of students' response was very low, which according to them was discouraging and disappointing at the same time. This result is confirmed by students' answers in the previous section where most students answered that they spent less than 4 hours per week on their online courses.

Answer	Percentage
Lack of interaction with teachers	71,7%
Abstract and ambiguous lessons	65%%
Connectivity problems	60%

Table 11. Challenges of e-learning from students' perspectives

Students, on their part, mentioned three main challenges as indicated by table 09. Lack of interaction with their teachers was described as the major problem for 71,7 % of students in the population of study. This result stands in opposition with teachers' answer about lack of students' involvement, which raises further questions about the degree of teachers' and students' involvement in e-learning. Another possible interpretation is that students got the habit to rely on their teachers to explain the lesson in face to face learning this is why they were seeking help and interaction from their teachers. An additional challenge for students is related to the nature of the posted lectures which they found 'long and ambiguous'. This may justify their lack of engagement with the lectures as shown by their teachers' answers in table 10. Similar to their teachers, students also mentioned the poor internet services to be a major challenge facing them while studying online as reported by 60% of the respondents.

Discussion

Many lessons can be drawn from students' and teachers' reflection on their experiences with digital learning. The following points put together the major findings of the present study.

Neither teachers nor students were prepared for the change in their roles. COVID 19 has put them in a 'to be or not be' situation where they had no other choice than moving forward and making extra efforts to keep things going on. This raises an important question about the role of the pandemic in the implementation of e-learning in most Algerian universities. It is safe to argue, then, that the integration of E-learning in Algeria was rather an Emergency than a planned and organised Electronic form of learning. In the post Covid period, however, higher education authorities have shown awareness about the importance of e-learning and the role it plays in providing solutions for many old problems linked with the availability of learning spaces and pedagogical materials. Blended learning is then officially declared a formal type of instruction in all Algerian higher education institutions.

Teachers' answers in the first section confirmed the lack of training workshops which led them to seek assistance from technical staff to make their teaching materials available online. The same situation was emphasised by students who indicated that they have never gone through an online learning experience before the pandemic. Therefore, both teachers and students described their first experience with e-learning as 'frustrating' and 'challenging'.

Despite the lack of previous preparation, both parts have quickly recognised the importance of e-learning and the benefits it brings to them. Students' answers emphasised the role of e-learning in developing their learning autonomy in that it obliged them to rely on themselves in understanding the content, monitoring their time, and organizing their learning. In addition, students were also engaged in cooperative learning with their peers and benefit from the advantages of academic and social networks provided by the internet.

Teachers' answers have further confirmed that they have all ensured the availability of their lectures on Moodle platform. In addition, many of them have made efforts to interact with their students and provide assistance and guidance for them.

Online interaction is another important point which has been revealed by the results of this study. Students have raised the issue of lack of interaction with their teachers whereas at the same time teachers

complained about the weak response from their students. Though both teachers and students indicated an average rate of presence online (table 5 for students and table 8 for teachers), they seem to mutually blame each other for lack of interaction. Yengin et al (2010) argued that having immediate feedback is a major disadvantage with e-learning. As a solution, teachers can give synchronous or asynchronous feedback depending on their availabilty and nature of the given assignment.

Interaction was not the only obstacle described by the subjects of the study. Students have also mentioned length and complexity of the posted lectures, whereas teachers emphasised the lack of training which was a major challenge for them. Both parts agreed about the weak internet services and lack of digital literacy which greatly contributed to the complexity of their tasks.

Suggestions for Future Improvement

A final question in both teachers' and students' questionnaires was related to the provision of some solutions which can make the e-learning experience more fruitful and beneficial.
Teachers' suggestions are summarized in the following points :

- More training for teachers and students.
- More coordination and collaboration among teachers.
- better internet services.
- program revision to make it fit online learning.
- More involvement from students.
- Raising students' awarness about the importance and the need for e-learning,
- Setting regulations and rules to organize this process which should be respected by all actors in the edcational scene.

Students, on the other side made the following suggestions :

- Better internet services.
- More concrete lesson presentation ; mainly through videos rather than relying solely on PDF texts.
- more synchronous interaction.
- more assistance from teachers, mainly in answering their questions.

Conclusion

The integration of technology in teaching and learning environments is no longer a choice, but rather a requirement for students and teachers if they want to be effective and productive. Certainly, the change is not easy and requires more efforts and awareness from both parts. It also demands a « cultural change within higher education that is both necessary and painful to teachers and learners » (Berge, 2000). Colleges and universities are called, then, to establish comprehensive plans for training teachers in technolgoy use, whereas stakeholders and decision makers have to work on facilitating access to digital tools and internet services.

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