



## Reviewing the Recurrent Restrictions of e-Learning among Palestinian Students: A case study of PAU

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Received:12/06/2023

Accepted:26/07/2023

Published:01/08/2023

### Abstract:

This study explores the real challenges of e-learning the Palestinian college learners have already encountered while they are having their classes online during and post COVID-19 pandemic. It aims to quantify these pedagogical emerging challenges, acknowledge the strategic plans the students have already developed to face these challenges, and finally qualify the consequences of e-learning on both autonomy and mastery of learning. The study fits into an interdisciplinary field of studies integrating human, social, educational, and technical aspects of learning. It also deals with the interface between theories and modes of learning and methods of teaching. The study applies a qualitative research method through which the fully structured interview is utilized as an instrument. Data is collected from different categories of learners doing their under- and graduate studies at different faculties and programs at Palestine Ahliya University. The data collected is approached critically and analytically from an insider's perspective in order to unearth the real challenges, prospects, and conclusions of applying an electronic mode of learning on Palestine advanced students during emergencies. It has been found that the real challenges of e-learning are categorized into pedagogical, technical, and ethical ones. Pedagogically, techniques of meaning negotiation, tactics of collaboration, mechanisms of teamwork, and steps of problem solving are all among the shortcomings of e-learning. They are quite poor in the electronic mood -if compared to the outcomings of the traditional one. It has also been found that the e-learning mode is superior in achieving both notions of autonomous and mastery learning. Consequently, it has been suggested that the electronic platform used at PAU should be exploited properly to add certain activities and resources that can scaffold learners' self-sufficiency and proficiency. Actually, both researchers hope that their study contributes to the literature of e-Learning, in general and that of e-Learning and blended learning during and post international crises, in particular.

**Keywords:** *E-Learning; Autonomous Learning; Mastery Learning; Collaboration; Teamwork.*

## مراجعة القيود المتكررة للتعليم الإلكتروني بين الطلبة الفلسطينيين:

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تاريخ النشر: 2023/08/01

تاريخ القبول: 2023/07/26

تاريخ الاستلام: 2023/06/12

### ملخص:

تستكشف هذه الدراسة التحديات الحقيقية التي واجهها الطلاب الفلسطينيون في الكليات بتعلمهم أثناء دراستهم عبر الإنترنت خلال جائحة كوفيد-19 وبعدها. تهدف الدراسة إلى قياس هذه التحديات التربوية الناشئة، والاعتراف بالخطط الاستراتيجية التي وضعها الطلاب بالفعل لمواجهة هذه التحديات، وأخيرًا تحديد تأثير التعلم عبر الإنترنت على الاستقلالية والإتقان في التعلم. تتدرج الدراسة في مجال الدراسات متعددة التخصصات التي تدمج الجوانب البشرية والاجتماعية والتعليمية والتقنية للتعلم. كما تتعامل مع الواجهة بين نظريات وأنماط التعلم وأساليب التدريس. تستخدم الدراسة طريقة البحث النوعي حيث تُستخدم المقابلة المنظمة بشكل كامل كأداة جمع البيانات من فئات مختلفة من الطلاب الذين يدرسون في الكليات الجامعية وكلية الدراسات العليا في كليات وبرامج مختلفة في جامعة فلسطين الأهلية. وعُولجت البيانات التي تم جمعها بشكل نقدي وتحليلي من منظور داخلي من أجل الكشف عن التحديات والآفاق والاستنتاجات الحقيقية لتطبيق طريقة التعلم الإلكتروني على الطلاب المتقدمين في فلسطين خلال حالات الطوارئ. لقد وُجد أن التحديات الحقيقية للتعلم الإلكتروني تنقسم إلى تحديات تربوية وتقنية وأخلاقية. فمن الناحية التربوية، فإن تقنيات التفاوض على المعنى، وتكتيكات التعاون، وآليات العمل الجماعي، وخطوات حل المشكلات، كلها من بين عيوب التعلم الإلكتروني. أي إنهم ضعيفون نسبيًا في التواصل الإلكتروني - إذا ما قُورنوا بمخرجات التعلم التقليدي. وقد وُجد أيضًا أن نمط التعلم الإلكتروني يتفوق في تحقيق مفهومي التعلم المستقل والتعلم المتقن. وبالتالي، فقد اقترح أنه ينبغي استغلال المنصة الإلكترونية المستخدمة في الجامعة بشكل صحيح لإضافة بعض الأنشطة والموارد التي يمكن أن تدعم الاكتفاء الذاتي وتقانة التعلم. وختامًا، يأمل الباحثان في أن تسهم نتائج دراستهما في إثراء أدبيات التعليم الإلكتروني عمومًا وفي التعليم الإلكتروني والمدمج وقت الأزمات الدولية وما بعدها.

الكلمات المفتاحية: التعلم الإلكتروني؛ التعلم الذاتي؛ التعلم المتقن؛ التعاون؛ العمل الجماعي.

## 1. Introduction

This section aims to introduce background to the study, highlight the statement of the problem, identify some objectives as well as raise some questions to address. It continues to explain why the study counts and what limits it.

### 1.1 Background to the study

In March 2020, the Trustee Board of Palestine Ahliya University (PAU) as well as the administrations of other universities, colleges, and schools in Palestine and the region already converted the mode of learning into an electronic, distant one in response to the protocols of Ministry of Health (MoH) due to COVID-19 pandemic first wave which was hitting severely at that time. Bethlehem was the first Palestinian city to be isolated because of the discovery of a few infections among some tourists.

The administration of PAU, for instance, was very responsive. A suspense to face2face classes was given for one week. An immediate decision of converting into learning was also taken by the trustee boards of Bethlehem University (BU), Hebron University (HU), and Palestine Polytechnic University (PPU) to meet the first wave of the pandemic hitting. During the period extending from the 5<sup>th</sup> to the 12<sup>th</sup> of March, 2020, faculty members were given extensive training on the use of Moodle and Zoom. Most of the instructors were not keen on using these electronic systems because of the traditional mode of learning they used to follow and use before the pandemic. However, the instructors could resume their lectures except for the training courses which remained suspended for a long period later.

As the procedures of isolation, quarantine and long closure continued for the fall, spring and summer of the academic year 2020-2021 due to the successive waves of the virus, e-learning has continued as a potential mode for college students in local universities. Some technical problems related to the Internet connection and the availability of the PCs for both the students and their instructors for instance, have been appeared for a while but overcome. Other hardships relate to teaching and testing have also been raised and discussed. However, the real challenges the Palestinian students have been encountered into at the learning level while shifting and using this new emerging mode have already been fully underestimated by the Unit of Quality Assurance (QA) at PAU and possibly other similar units at local universities.

Although most of the Palestinian higher educational institutions and high and basic public and private schools have already shifted to traditional, face-to-face learning, many aspects of the e-learning have been at work. E-classes are still designed and recommended. They look more convenient on the part of young teachers, in particular for uploading the teaching materials, such electronic course plans and textbooks, for instance. For students, e-classes are also good for downloading and submission assignments. Interactive lectures and video conferences are still used among professors who are attending international conferences or who are teaching in postgraduate programs. Whether for a need or a preparation for an emergency, modes of learning are changing. This inclination towards a blended mode of learning is evolving and being used especially with graduate studies which tend to hire experienced instructors from the regional and international universities to teach specific courses.

### 1.2 Statement of problem

The literature of Information Technology (IT) for pedagogical purposes, in general, as well as that of IT for language learning and teaching (it4elt), such as Computer-assisted Language Learning (CALL), Mobile-assisted Language Learning (MALL) and Technology-enhanced Language Learning (TELL), in particular, is rich in the internal context (Jarvis & Achilleos, 2013; Lindaman & Nolan, 2015; Saidouni & Bahloul, 2016; Kukulska-Hulme, 2018; Almaiah et al., 2020; Alqahtani &

Rajkhan, 2020). In the Palestinian context, most of the recent studies conducted have already explored the excuses EFL instructors and learners' perceptions towards utilization of online applications' (Itmeizeh & Farrah, 2021) or obstacles facing teachers in Palestine while implementing e-learning during the COVID-19 pandemic (Subaih & Sabbah, 2021). *Up to best knowledge, the solid research that has attempted to investigate the pedagogical challenges and proclivities e-learning impose on and encourage Palestinian learners to use is rather poor.*

### **1.3 Research objectives and questions**

Generally speaking, the study attempts to develop a full understanding of the main challenges as well as the consequences of using e-learning as mode of instruction during and post COVID-19 pandemic crisis. In particular, it aims to show these challenges, describe and interpret the outcomes of using this mode of learning, and finally explain the forces lying behind their occurrence in a virtual, educational environment. Thus, the study addresses the following research questions:

1. What general and specific pedagogical challenges does e-learning impose on the college student?
2. What notional outcomes does e-learning develop within the Palestinian under- and graduate student?
3. What strategic pedagogical alternatives does e-learning suggest for enhancing the process of learning?

### **1.4 Significance of the study**

The proposed study counts for some good reasons. First, it gives a good background knowledge about some pedagogical practices during crises. Educational policy-makers may decide to utilize the findings of the study when deciding on shifting to e-learning under urgent circumstances or when deciding on switching to blended learning in the near future. Instructors can also have a good idea about the real challenges their students face when they use a virtual mode of learning. Researchers might also investigate the impact of e-learning on other social domains, such as family, health and even business aspects of the student and instructor's life. Learners might also be aware of the consequences of using e-learning in contrast with the traditional learning in the domains of autonomy and mastery of learning.

### **1.5 Limitations of the study**

This small-scale study is limited by time, demographic, pedagogical, and scope factors. First, it has been carried out in a successive period that follows using e-learning as mode of instruction necessitated by emergencies for the purpose of examining the cons and prospects of this fresh mode. Demographically, it is a case study which deals with two categories of subjects: instructors and learners at two levels of instructions BA and MA doing their degree in two faculties: Arts and IT all studying or working at PAU. Though the study attempts to classify the challenges of e-learning, it highlights only the pedagogical ones due to the scope factor.

## **2. Literature Review**

Maatuk et al. (2022) contended that the spread of COVID-19 posed a threat to humanity because it had caused numerous international activities, especially educational ones, to be suspended. Despite the difficulties posed by that abrupt shift, educational institutions had been forced to switch to e-learning using the existing educational platforms in order to lessen the spread of the virus. The study focused on e-learning from the viewpoints of students and instructors on adopting and deploying e-learning systems in a public institution during the COVID-19 epidemic in order to further explore the potential obstacles facing learning activities. The study's target audience was the University of Benghazi's Information Technology (IT) faculty's student body and faculty members. The

descriptive-analytical approach was used, and statistical tools were used to assess the outcomes. The student survey and the teacher survey were the two different sorts of questionnaires that were created and delivered. To achieve the desired outcomes, four factors had been highlighted: the level of e-learning use during the COVID-19 pandemic, benefits, drawbacks, and challenges of integrating e-learning in the IT faculty. The researchers were able to obtain optimistic results by evaluating the data, which had shed light on some of the problems, difficulties, and benefits of employing e-learning technologies in higher education generally and during emergency situations rather than traditional classroom instruction.

Nguyen and Duong (2021) argued that higher education tended to use e-learning extensively, which was slowly gaining popularity throughout the world. Microsoft Teams were a program included in the Office 360 software collection, according to Rouse (2020). File sharing, texting, video conferencing, and video calling were a few of its noteworthy features. Topics pertaining to online education in COVID-19 have been covered in earlier research articles. Even yet, there could not be a topic relating to a specific piece of software like Microsoft Teams, thus the study would just analyze the challenges faced by EFL students at Van Lang University. They also participated in a Microsoft Teams-based online course called COVID-19 at the same time. In order to uncover the solutions to the issues, 144 EFL students at Van Lang University conducted research using both quantitative and qualitative methodologies. One of the most intriguing aspects of the study was that it was conducted following the outbreak of corona illness, which required all survey respondents to complete their research online. In conclusion, it was argued in this research that recognizing these difficulties might aid English teachers and academics in effectively constructing their instructional strategies.

Vershitskaya et al. (2020) argued that the e-learning industry is globally growing in popularity. Increased funding for e-learning initiatives, an increase in the use of e-learning across a variety of global markets, and emerging patterns in contemporary technology and tools were all indications of this. The purpose of the study was to assess how prepared university administration and students were for active online learning. When implementing e-learning, the goal was to determine the benefits and drawbacks of information and communication technology in educational administration. The researchers performed a survey using a questionnaire among the first-year graduate IT students from three Moscow institutions who were directly involved in e-learning efforts in order to meet the research objectives. One representative from each of the three universities participated in the poll, along with 135 teachers, 19 ICT/e-learning professionals, 6 university managers, and 3 heads of university management. Despite the promise of a learning management system to enable both blended learning and e-learning, the research revealed that the majority of e-learning projects were not fully realized; they either wholly or partially failed. Some of the most common reasons for failure were poor marketing techniques, poor customer service strategies, and inadequate technical assistance.

Shafiei et al. (2019) claimed that the development and application of e-learning in education had been one of the most significant successes of higher education, and it had the potential to solve many of the system's difficulties. Addressing the challenges of e-learning was one of our society's worries and problems. The study's objectives were to examine how students at Shiraz University of Medical Sciences' Virtual School responded to difficulties with e-learning (SUMS). They used the phenomenological method, so the research design was qualitative. Students from the Virtual School of SUMS were among the potential participants. A conventional strategy was used to choose 10 students from a purposive sampling procedure. Semi-structured interviews were used as the strategy for gathering data. After the facts had been thematically analyzed, basic, coordinating, and inclusive.

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Ten organizational challenges, such as the non-diversification of online courses, the high availability of academic personnel who worked online but lack e-learning experience, 9 ethical issues included a lack of an acceptable culture for implementing this discipline, a bad reputation for e-learning, and 8 technological issues, such as a slow internet connection and a lack of physical classroom space, 5 enabling obstacles, including a lack of infrastructure, an inability to use the university cafeteria 5 evaluation issues, such as the requirement of in-person tests in e-learning courses, the failure to provide in-person exams a fair share of the final grade, 3 managerial issues, including ineffective instructional content, the head of virtual faculty rejected students because of time constraints, and two communication challenges, including little interaction with.

Shahmoradi et al. (2018) claimed that University teaching and learning had been changed as a result of the use of information technology (IT) in education. Extensive research was needed to implement e-learning programs at Iranian universities and evaluate learners' readiness for e-learning settings in terms of prerequisites and level of preparedness. As a result, the study looked into the difficulties with Tehran University of Medical Sciences' electronic learning system. This 2016–2017 study was descriptive and cross-sectional in nature. All of the students enrolled in E-learning courses at Tehran University of Medical Sciences made up the statistical populations, and 300 of those students were chosen at random to take part in the study. The study used a questionnaire created by the researcher. Software called SPSS was used to examine the data. According to the study's findings, only 26.4% of the participants had adequate preparation for using an e-learning system, and about half of the participants (40%) had trouble using the technology.

### **3. Methods and Materials**

#### **3.1 Theoretical framework of the study**

Theoretically, the study fits generally into the general aspect of applied sciences. In relevance to Applied Linguistics, it contributes to the theory of learning, the main concern of Second Language Acquisition (SLA). It also applies to learning with modern technologies, the main concern of CALL, MALL and TELL. Though relevant, SLA is highlighted only by a psych-theory, the other aspects are facilitated by a social theory of learning. This explains why technology is related to social media programs attempting to socialization and informing rather than teaching and learning. Therefore, the study fits into human, social and educational domains of investigation.

#### **3.2 Methods and Materials**

Methodologically, the study applies a qualitative research method. It uses the structured interview as an instrument for data collection. The interview would enable the researcher to be an insider rather than an outsider. It also enables the instructor to be a researcher at the same time. This action research would help the researcher understand and explain what is going on with the lens of an expert, too. Data were collected from different categories of (6) instructors and (20) learners either teaching or doing both undergraduate and graduate programs at both faculties of arts and IT. The content of the data collected was analyzed critically; the critical approach suggests an integrative approach of categorizing, describing, interpreting, and explaining of what has been observed. Description is intended to acknowledge the challenges of e-learning (RQ1); interpretation is meant to unearth the learner's practices to meet these challenges (RQ2); explanation will help strategies e-learning encourage among learners (RQ3).

## 4. Discussion and Analysis

### 4.1 Challenges of e-learning

Most of the instructors and students interviewed have experienced the e-learning mode for a considerable period of time. They reported that they took or taught (5) to (15) courses from the period extending from March 2020 to February 2023 at the first honor degree (BA, BSc) or the master's level.

The responses of the subjects interviewed varies considerably among three types of challenges: pedagogical, technical, and ethical. *Pedagogically*, problems related to poor participation, lack of interaction and reception of information, weak opportunity to participate, difficulty in communicating information most of the time, lack of concentration, lack of focus and difficulty in communicating the idea, distraction, dispersion of focus, difficulty in conveying information and serious engagement are all reported.

*Technically*, obstacles and problems of the Internet and the lack of knowledge of doctors in technology, the instability of the Internet, and the difficulty of using the Zoom application, the difficulty of communication between the teacher and the students and the difficulty of obtaining information, lack of sufficient experience in technology, unavailability of devices, lack of direct communication with the professor, lack of experience of some teachers or students in dealing with electronic technologies, training on the platform, and poor internet infrastructure for students and teachers are all identified.

*Ethically*, lack of credibility of grades (due to cheating), grades are unfair (because some students cheat), lack of reliability in attendance and absence, failure to evoke dialogue and body language in e-learning and the evaluation mechanism is not clear, are all referred to among concerns.

#### 4.1.1 Negotiation of meaning

Negotiation of meaning is a method by which individuals come to a complete comprehension of one another (cf. Canals, 2021; Beers et al., 2019; Zhu & Carless, 2018). It is characterized as an effort to resolve understanding issues in second language acquisition. It is also identified as an exchange of information between speakers in which each one expresses how much of what they have understood and the other is being understood, followed by clarification or rephrasing. In relevance, the overwhelming majority of the respondents agree that negotiation of meaning in e-learning is rather poor when compared to the face-to-face mode due to serious interactions and lack of body language.

##### 4.1.1.1 Repetition

Repetition suggests that agreed meanings can be signaled and confirmed by repetition, where the listener repeats the speaker's lexis (cf. Lester et al., 2022; Helfer et al., 2018; Lambert et al., 2017). Repetition, whether it be of vocabulary, grammar conjugations, sounds, or phrases, is highly prized by many learners (and their teachers). Many people struggle to imagine learning without this technique because it is so engrained in their beliefs and behaviors. However, most of the respondents agree that they tended to repeat their instructors' words in order to negotiate meanings in the few cases they were exposed to.

##### 4.1.1.2 Relexicalization

Relexicalization is a notable feature of conversation. It refers to the the way speakers often trade approximate synonyms, rather than repeating one another (cf. Bello, 2020; Baihui & Fengjie, 2017). Relexicalization is the process of expanding a language's vocabulary by introducing new words, predefined phrases, or word patterns. There is, however, disagreement in the linguistics community on whether word formation and lexicalization refer to the same process. The majority of the

respondents, however, tend to borrow or translate a foreign expression literally from their L1 instead of giving another synonym when conveying meaning due to lack of competence.

#### **4.1.1.3 Converting lexical meaning**

Insstantial lexical meanings is another feature related to the negotiation of meaning. It is related to the display of antonyms or opposites in the same utterance, which enables speakers to focus lexical meaning (cf. Acquaviva et al., 2020; Brochhagen et al., 2018). It refers to the meaning of a word in relation to the physical world or to abstract concepts, without reference to any sentence in which the word may occur. A few respondents confirm that they tended to focus on meaning by using an opposite probably due to lack of linguistic competence when negotiating meaning online.

#### **4.1.2 Collaboration**

The two main components of collaborative e-learning are (a) the collaborative process itself, where students use a variety of communication channels to learn, and (b) the interactions that occur between group members, such as negotiation or cooperation. According to Calder et al. (2021), students can be actively involved in their own learning through collaborative learning activities. Students can take shared ownership and responsibility for their learning while also being helped to develop community and combat potential feelings of isolation or detachment. In relevance, the respondents agree to a good extent that collaboration via e-learning is quite poor due to lack of shared understanding, inclusion, and trust.

##### **4.1.2.1 Shared understanding**

A new body of information produced by participation and cooperation transforms individual knowledge into group knowledge and results in the emergence of a shared perspective through group efforts. Individual and group ownership of a novel viewpoint that the group accepts is what is meant by shared understanding (Gomes et al., 2016). Thus, changing from individual perspectives to a joint perspective emerges from collective contributions. Having a common understanding of a topic or idea can have many different interpretations within the same context. However, most respondents suggest that they rely heavily on adopting only the ideas of the both instructors and good learners.

##### **4.1.2.2 Inclusion**

According to Ansell et al. (2020), inclusion is defined as the action or practice of including and accommodating individuals who have previously been marginalized. Giving each person what they need to succeed at work is how inclusion in the workplace is now more frequently understood. Collaboration is easier and more effective when everyone on the team feels like they belong. The idea of inclusion is frequently connected to diversity. As the learning culture where all viewpoints and experiences are not, however, welcomed and appreciated, the vast majority of the participants prefer to be included withing other homogeneous bigger groups. They also tend to agree with more active collaborators' ideas and claims.

##### **4.1.2.3 Trust**

Bond-Barnard et al. (2018) argue that leadership establishes trust, which spreads. It serves as the glue that holds together people who have varied abilities, skills, and interests yet have similar core beliefs. Making ensuring that people share/have a common set of values is one of the most crucial strategies to develop trust. You and they are both more likely to trust one other when you have similar moral principles. Your team will respect you if they believe you will act morally, fulfill your commitments, and follow through on your leadership stance regardless of what is simple or convenient. In this sense, it sounds that the participants -due to individual differences, entrust to a great extent the leaders of the groups, such instructors and good learners when collaborating online.



### **4.1.3 Team-work**

Lee and Todd (2018) argue that traditional life is undergoing fast change due to new technologies. The researchers also add that the same thing is taking place in the realm of education; e-Learning training is a prime example. Traditional ideas of studying are being challenged by this new method of learning. The combination of technological and digital instruments used in this strategy facilitates knowledge acquisition. However, because the lectures are not delivered in person, it has a drawback in that it promotes individualism among students. Because of this, there is no longer any direct communication between them or team interactions.

New digital technologies that remove the barriers of the computer and bring students together have been added as a result of this reality. The following points are appreciated highly in effective team work: The leadership style in your work environment is full of fair decision-making and effective communication; members of the team feel confident contributing their ideas and skills; feedback is welcome, not discouraged; it is not a complete disaster if someone makes a mistake because others are there to support them and help the entire team learn, and people are patient, especially with team members who are learning new or early teamwork skills.

The overwhelming majority of the subjects interviewed have already reported that they participated in a teamwork via Zoom which allows for break rooms. They, however, contend that the team was not effective due to both lack of participation among members of the same team or domination of one team over the others. Others have added that communication within the same team was not effective because of lack of confidence and patience, fear of making mistakes, and reluctance to accept feedback and peer evaluation.

### **4.1.4 Problem solving**

According to Malik et. al (2019), the ability to solve problems is fundamental to human evolution. It refers to the techniques we employ to comprehend what is happening in our surroundings, identify items we wish to change, and then determine what has to be done to get the intended result. All new technologies, social and cultural advancement, and market-based economies all stem from problem solving. It serves as the foundation for learning, communication, and ongoing growth.

Problem-solving is the process of observing what is happening in your environment, identifying things that could be changed or improved, diagnosing why the current state is what it is and the factors and forces that influence it, developing approaches and alternatives to influence change, making decisions about which alternative to select, taking action to implement the changes, and observing the impact of those actions in the environment. It includes the following procedures: Stating the problem as clearly as possible, generating possible solutions, evaluating alternatives, deciding on a solution, implementing the solution, and finally evaluating the outcome.

Most of the subjects interviewed have indulged in an activity to solve a problem online. To some extent, they were also able to solve the problem assigned for them. They also add that they were able to solve the problem with the teacher's assistance, teamwork as well as collaboration among members of the team. Except for stating the problem clearly by the instructor, the respondents have already failed to signal for the other procedures that they already took to solve the problem online.

## **4.2 Outcomes of Using e-Learning as a Mode of Instruction**

### **4.2.1 Autonomous learning**

According to Lee (2016), autonomous learning is a condition in which students are in charge of their education. They actively participate in their education and take charge of it, making choices on their own based on their preferences or needs and keeping an eye on the objectives they must accomplish. It describes a scenario in which students are in charge of their own education. They take responsibility

of their education and actively participate, making independent decisions based on their preferences or needs and keeping an eye on the objectives they must accomplish. It refers to the method via which people assume accountability for their learning.

In relevance, the overwhelming majority of respondents agree that this mode can (to some extent) lead to autonomous learning. E-learning can help students depend less on their teachers but more on themselves to develop strategies and skills of learning. Some respondents argue that they do not believe that e-learning can replace face-to-face mode of learning. It can only integrate the traditional mode.

#### **4.2.2 Mastery learning**

According to Ritter et al. (2016), the most innovative approach to education now is mastery learning. At its core, mastery learning gives students the freedom to advance at their own rate as they master concepts, abilities, and attitudes. The way that children learn, teachers teach, and schools operate will all be dramatically altered by effective implementation at scale. The labor market, educational research, and state testing will all be revolutionized. It will change the way that curriculum are created, learning is assessed, and teachers are educated.

The subjects interviewed also indicate that the electronic mode also enhances mastery learning. Throughout time passage, it sustains that learning must take place gradually by time passage. Therefore, it tends to impart learning activities into short interactive lectures that can be recorded and referred to many times for the purpose of learning according to the pace of each learner.

#### **4.3 From e-Learning to Blended Learning**

Despite the shortcomings of the e-learning mode, the shift from e-learning to the traditional, face-to-face one post COVID-19 pandemic has resulted in making use of advantages of the electronic mode itself. In reference to this blended state of learning, the instructors as well as the students interviewed have already listed the learning activities and teaching materials that they can benefit from most. They include uploaded electronic books, weekly teaching materials, slides, contents and summaries of the materials, assignments, projects, worksheets and handouts, course plans, recorded lectures, supplementary audio and visual materials, links for research papers, quizzes, and office hours.

### **5. Conclusions and Implications**

To conclude, three types of challenges are identified in e-learning among students and their instructors at PAU: Pedagogical, technical, and ethical. Pedagogically, negotiation of meaning is among the challenges of e-learning. It sounds poor in the e-learning mode if compared to the traditional mode in which face-to-face interaction and body language play a major role in facilitating the real meaning. Techniques of meaning negotiation are very limited to word repetitions in the few cases the student is exposed to approach meaning via e-learning.

Another challenge of e-learning is collaboration. The subjects interviewed agree to a good extent that collaboration via e-learning is quite poor due to the lack of certain tactics including the shared understanding, inclusion, and trust. Such mechanisms of collaboration are almost constrained by the fact that most participants depend mainly on the good learner with whom they show a great deal of inclusion, understanding, and trust in such online learning activities.

A third challenge is teamwork. Most of the participants have attended and participated in a teamwork online. To a great extent, they agree that the teamwork was not effective due to some facts associated with lack of participation among members of the same team or domination of one team over the others. They also add that lack of effectiveness is contributed to the communication process within the same team which looks rather weak due to lack of confidence

and patience, fear of making mistakes, and reluctance to accept feedback and peer evaluation among the various rooms.

A final challenge is the ability to solve problems online. Though the subjects interviewed have indulged in a few activities to solve a problem online, they reported that were able (to some extent) to solve the problem assigned for them. With some assistance from their teacher, teamwork and collaboration, they could solve a few problems assigned for them in some courses. However, the respondents only list the first procedure of problem solving relate to stating the problem as clearly as possible by their teachers. Other procedures, such as generating possible solutions, evaluating alternatives, deciding on a solution, implementing the solution, and finally evaluating the outcome have not been referred to.

There are two outcomes for using e-learning: Autonomous and mastery learning. The former suggests being independent to some extent from the instructor. Because of the availability of the teaching materials online, the ability to record these materials, and the possibility to access this mode of learning at anytime and anywhere, most respondents agree that e-learning encourages independence from teachers much more than the traditional mode. Some respondents, however, suggest that e-learning can only enhance both learners and teachers. It does not lead to a clear-cut independence from teachers especially at lower levels of learning.

Besides, mastery learning conceives the notion that learning often take place gradually by time passage. Thus, e-learning maintains that imparting the learning activities into short meetings of interactive lectures that can be recorded and presented in a multimodal approach in which all text, audio and video can be integrated, will be pivotal to learning. Students can refer to these electronic copies and recorded materials anytime later for the purpose of reading and comprehending.

The shift from e-learning to the traditional, face-to-face mode has already facilitated the use of Moodle platform for some pedagogical purposes. Amongst these, students benefit most from the electronic copies of course books, plans, supplementary materials, assignments, recorded lectures.. etc. Therefore, instructors at PAU are supposed to encourage the notions of both autonomous and mastery learning within their learners via submitting their materials on the electronic platform used in the university. Uploading the teaching materials should be carried out systematically. Instructors can add up to five activities and resources as follows:

Activity (1) Instructor's details: It might include topics, such as interactive lecture, schedule & office hours, links to webpages and publications.

Activity (2) Course plans and books: It includes topics, such as an electronic copy of the book, syllabus.

Activity (3) Weekly teaching & supplementary materials: It includes sections and units, slides, contents, summaries, visuals, multimodal ..etc.

Activity (4) Assignments & projects: It may also include electronic copies of hand outs, work sheets .. etc.

Activity (5) Assessment: It includes quizzes, tests results, out of 60%, monthly presence reports ..etc.

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