

## The psychological impact of students' online learning performance during Covid-19

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### Abstract

In the period of the COVID-19 pandemic crisis, e-learning became a necessary feature in all educational establishments such as schools, colleges, and universities. Teachers and students were required to adapt to the online learning method to ensure learning was carried out as usual, even though they had difficulties in various ways. Some of them faced depression and anxiety. This paper reviews the psychological impact of students' online learning during COVID-19 in Algeria. Past studies determined students were affected psychologically by online learning during COVID-19 and showed symptoms of depression and anxiety. Nevertheless, many studies presented opposite results. This review recommends that the government sector take the lead in assisting students who have limited access to technology and the internet, which are prerequisites for participating in online courses. It also suggests that the government sector increases student engagement in online learning.

**Keywords:** Anxiety; Covid-19; motivation; online learning; psychological impact; students.

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## 1. Introduction

Due to the Coronavirus which has affected many lives, most countries announced a lockdown and everyone is required to work from home including those who are in the education sector. Students have gone through a roller coaster from attending physical classes every morning to studying online. The rapid spread of the COVID-19 pandemic has impacted students and lecturers in higher education institutions critically; Teachers and students around the world have faced many challenges using online platforms for teaching and learning (Mohammed et al., 2023; Soliman et al., 2022).

The effects of this pandemic are unpredictable and it impacts the education system, therefore, most countries had to adapt to the new teaching and learning methods. These sorts of rapid changes could somehow affect their mental health or well-being. Although it is undeniable that online learning is considered the best solution to ensure consistency of learning in the era of the “new norm”, there may be certain setbacks such as loss of human presence, detecting the incomprehension of students by facial gestures, cracking small jokes to light up the mood, student participation and communication that can be achieved more effectively in class. On the bright side, this pandemic has opened opportunities for many people in various fields including teachers and students.

Most Algerian education sectors chose to conduct online teaching-learning as a way to prevent the virus from spreading. Within this situation, the Algerian students showed positive and negative attitudes. The negative emotions included anxiety about the possibility of catching COVID-19 while traveling between home and university or at the school itself and anger due to not being able to hear or take the entire class during the weeks in which they were learning remotely because of the failures of the school's internet connection. Another negative emotion that the students may have experienced was boredom during online classes due to the aforementioned technical problems related to the lack of a fast internet connection. Fortunately, positive emotions also arose, such as the joy of obtaining a satisfactory grade or the hope of reaching a planned level of success and the pleasure of seeing their classmates in physical form again. These emotions play a fundamental role in student motivation, learning, and performance and, crucially, in the degree of engagement (Brachtl et al., 2023).

### 1.1. Purpose of Study

Due to the interference of COVID-19 disease in the entire world, it was nearly impossible to pursue the educational system and there was an urgent call for e-learning which was empirical to maintain the continuity and vitality of the educational Objectives and to explore the efficiency of the online courses to satisfy the needs of the learners. Yet the question being asked is:

- Do Internet courses have a psychological effect on students' performance

This led to hypothesize the following:

- Online learning may positively or negatively affect the learners' Performance

### 1.2. Related Studies

There are many significant studies tackled the same issue and have proven psychological impact on students due to COVID-19 and the changes from traditional classrooms to an online environment. This is in line with Sujarwo et al. (2019) who believe that learning practices can be conveniently carried out by learners anywhere as they are not constrained by time and space. Online learning seems to be the best choice for teaching and learning during the pandemic Covid-19, particularly for students who have good internet facilities. However, online learning has a negative effect (Aboagye et al., 2021; Sufian et al., 2020).

For instance, students have trouble accessing online learning due to an insufficient network and have to use their mobile phones on an ongoing basis. This causes them to be left out of the lessons that were conducted and it affects their academic achievement. These factors lead students to have depression and anxiety (Kalok et al., 2020; Odriozola-González et al., 2020; Ghanim et al., 2022). It is

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suggested that the government sector must take steps to assist students with poor internet connectivity and gadgets which are the key prerequisites to be eligible to enroll in online courses. It will also serve to decrease the percentage of mentally impaired students due to their academic achievement. In short, this review paper highlights issues encountered by students and educators during the coronavirus pandemic. They were not prepared for a full online experience, internet issues, lack of gadgets, and social support due to depression and anxiety.

#### 1.2.1. *Issues with online learning during the pandemic*

E-learning or online learning refers to the usage of modern information and communication technologies to deliver educational content to students. This learning mode can overcome physical distance. The phenomenon of e-learning became popular in the early 1990s due to the rapid evolution of the Internet. Despite the many benefits that e-learning brings to the educational landscape, some drawbacks yet need to be addressed. Muilenbug and Berge (2005) conducted a study to explore barriers to online learning; this is one of the earliest explorations of the topic. The context of the study was the United States. The study results identified eight barriers: a) administrative issues, b) social interaction, c) academic skills, d) technical skills, e) learner motivation, f) time and support for studies, g) cost and access to the Internet, and h) technical problems (P.2.)

Baticulon et al. (2021) studied the barrier to online learning in the context of medical students in the Philippines. The authors collected data using the electronic survey in mid-2020 from 3670 medical students. Their survey includes various questions ranging from multiple choices on the Likert scale to open-ended questions. The majority of participants own smartphones and laptops or desktop computers. Less than half (41%) of the students were “physically and mentally capable of engaging in online learning”. The barriers identified are adjustment to the online learning style, balance with family responsibilities, and communication issues between learners and instructors. First, since the pandemic came very suddenly, students, faculties, school administrators, and the curriculum were not yet ready to switch the delivery mode. Second, studying at home made it harder for students to balance family responsibilities.

In another case in Southeast Asia, the study conducted by Octaberlina and Muslimin (2020) explored the barrier to online learning for English as a Foreign Language (EFL) students in Indonesia. The authors conducted a mixed-method survey of 25 EFL students. The identified barriers include unfamiliarity with e-learning, slow internet connection, and physical conditions such as eye strain. The geographical nature of Indonesia can explain the issue with an internet connection. The country's population is spread out over a large number of islands.

Regarding the Learning Management System (LMS), many students were unfamiliar with Google Classroom, which was used at their institution. A proposed solution is to have training of the LMS before actual learning, reduce the file size for the learning materials to accommodate the slow internet connection, and ensure breaks during online learning sessions. Regarding reducing the file size of learning materials, a suggestion is to use audio instead of video since students can listen to the audio lecture while doing other things. Moreover, text and audio transmission will be better compared to videos with a slow internet connection. Participants in this research pointed out several distractions, such as online games and YouTube. Indeed, this might not be the case with students with a slow internet connection. The authors also discussed physical conditions such as eye constraints when looking at the computer screen for a prolonged period.

According to Moore (1989, as cited in Anastasakis et al., 2023), effective education will require three types of interactions: learner-content (LC), learner-instructor (LI), and learner-learner (LL). However, due to the sudden switch to online learning, these interactions are either not met or merely met. According to the findings, several subjects that require lab work might not be appropriate to be fully online.

### 1.2.2. Psychological impact on students during Covid-19

Students are required to change their learning method from in-class to online learning. As stated by Sutarto et al., (2020) the learning process, initially was conducted face-to-face in the classroom, but has been shifted to home learning using the online system or distance learning through the use of various existing media (Nasir et al., 2018). Online learning was used for their daily lesson and to assess their academic performance and it somehow causes the students to get stressed. It is supported by Irawan et al. (2020) who mentioned one of the contributing factors to students' stress rate is the pressure of online lecture tasks, which requires them to use online media that they have only learned and must comprehend instantly.

This pandemic does not only mentally affect adults but also students. Corresponding to Chang et al., (2021) they pointed out the psychological effect of the public health crisis is long-lasting. The worries about the pandemic usually will dissolve after some time. However, the impact of normalizing new things might affect students' academic achievement as well. Kamaludin et al. (2020) stated that fear and the risk to the health of a person can gradually dissipate as the pandemic reaches its tail end. Nevertheless, the idea of the disease itself and the desire to switch to a "new normal" will have a long-term psychological effect on the students. In exchange, this can influence the academic performance of the students.

#### 1.2.2.1. Motivation

Motivation is one of the important aspects in every individual it is needed for students and it can occur in various ways. Irvine (2018) stated that motivation is a meta definition of well-researched theoretical frameworks such as expectation-value with intrinsic-extrinsic, and involves, among others, a multitude of similar theories such as self-efficacy, objective theory, knowledge theories, preference theory, the theory of self-determination, among other things. However, many students around the world had to transfer from face-to-face teaching to an online learning system in the middle of the semester due to the COVID-19 pandemic.

In general, students have limited capacity to absorb information, and combinations of learning modalities can likely result in cognitive exhaustion, undermining the ability to learn new information adequately (Aguilera-Hermida, 2020). Mental well-being problems remain the biggest barrier to academic achievement. It can impair students' motivation, attention, and social interaction which are the main reasons for students to excel in education. Dogan (2015) suggests that the best factors of academic achievement include; teachers must have constructive verbal motivation to promote students' academic achievement; teachers must display a positive mindset that helps inspire students, behaviors that are important to cognitive engagement in learning environments. It would be able to inspire students to succeed academically.

#### 1.2.2.2. Anxiety

Anxiety is a dynamic emotional state of tension, uneasiness, concern, and other uncomfortable feelings induced by the coming and potential danger of a person (Bauer, 1965). anxiety decreases the interest of students in learning and academic success. For example, in a recent study focused on Chinese medical college students, higher levels of anxiety were correlated with factors closely linked to COVID-19, such as a COVID-19-diagnosed patient (Cao et al., 2020).

Anxiety among students occurred during the lockdown because everyone was required to stay at home and all teaching and learning platforms took part virtually. Students lose connection with human presence therefore it affects them mentally and emotionally. The factors analyzed: are attitude, effect, motivation, perceived behavioral control such as each use of technology, self-efficacy, and accessibility; and cognitive engagement. The researcher has listed a variety of scholastic variables and participants were asked to gauge their understanding of how each inspired them to seek schooling before introducing the stay-at-home order. In terms of their understanding of how each inspired them

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to seek schooling after the stay-at-home order was enforced, participants then ranked the same variables.

## **2. Methods and Materials**

### **2.1. Participants**

Random sampling techniques were used for selecting the 60 participants. The present sample under investigation in this study is M1 learners who have generally a high level of network connectivity and access to resources.

### **2.2. Data collection instrument**

To meet the objective of answering the above Question and hypotheses and gather the information required for this study, the researcher tends to conduct a quantitative measurement of multiple-choices questionnaire distributed around 60 students of M1 in the English department aiming to determine their attitudes towards web-based learning and interpret perspectives from the other side of the learning/teaching experience.

### **2.3. Analysis**

An exploratory case study was conducted to obtain an environmental triangulation. Statistical analysis was used to interpret the data collected from students.

### **2.4. Ethical consideration**

Every participant's confidentiality was guaranteed by the study. Every participant was asked for their informed permission. This study did not cause any harm to people, organizations, or the environment.

## **3. Results**

To meet the purpose of the present study, the investigator opted for qualitative and quantitative methods in analyzing the data gathered through the questionnaire aiming to answer the above Question. Furthermore, the findings are summarized and interpreted as follows:

### **3.1. Students' perception of online learning**

Results on students' perception of preparing themselves before joining the learning activities found that (30%) of learners stated it is easy to prepare for e-learning activities, (30%) of students argued the learning material was sufficient, (20%) of them stated the teaching material for the online class were provided and (20%) of the students mentioned the lesson plan aspect was adequate. The results are important as it allows the lesson to be conducted as planned. Students will have problems attending classes if any one of the criteria is lacking. All these criteria help students to get encouraged and allow them to participate in the online learning class and to achieve their online learning. Additionally, Students find that learning using online tools is interactive despite always having network connection problems, and using online tools is not difficult. It shows a positive outcome on the use of online learning tools among students.

Students have found that online learning is beneficial for them, as they can get ample access while listening to lectures and doing assignments. Based on prior experience with technology, students gain self-efficacy with online learning and may need preparation and assistance to use learning resources and platforms before beginning an online course

### **3.2. Students' attitudes towards online learning**

The attitude of learners towards web-based learning varies between oppositionists and supporters. Based on the present findings, nearly the majority of students (60%) hold a positive attitude towards web-based learning due to its effectiveness. They find it more interesting than regular

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traditional classroom learning and 40% of students have less satisfaction with web-based learning due to the difficulties and the challenges they encounter they prefer traditional classroom learning.

However, the majority of Students appreciated the experience of using online learning and it improved their skills in finding information. It also helps them to become independent and responsible in completing their task at home. Students have also mentioned it is a challenge because it requires more reading on their own. On the other hand, it also showed that even though most of them had a poor internet connection and ample internet data/quota at their home, the students were committed to joining the online course. This is because they can get access to the resources used in the class anytime.

From the results gained, the use of mobile devices in online learning courses was widespread. In addition, Findings revealed that (50%) of learners have enrolled in their online classes using mobile devices (smartphones, tablets laptops...etc.). Furthermore, it is noted that a group of learners nearly (50%) are relying on a smartphone or a tablet to complete most of their course work.

The use of mobile devices in online classrooms is gaining a lot of popularity due to the circumstances along with the preferences of many learners and educators who saw these tools as more convenient for their needs. In return, many educational systems are proposing the idea of implementing mobile-friendly courses online at all levels starting from the universities.

In recent times, all institutes and departments started using the e-learning Moodle platform to publish courses for all degrees of study and establish online sessions, especially for PhD students. Nevertheless, many students and teachers prefer online lecturers and virtual classrooms to be via Zoom, Google Meet/classroom, and Microsoft Teams. While relies on collective E-mails to be a way for sharing PDFs, and formal emails, and as a means of communication between the teacher and learner. Ninety-five (95%) participants have been using these three platforms such as Zoom, Microsoft Team, and Google Meet.

#### **4. Discussion**

From the results obtained one may conclude that the emergence of the COVID-19 pandemic led to the shift from face-to-face traditional learning to web-based learning. Working with online communication tools were essential for communication among students while sending reminders and providing rubrics for assignments represented the most important benefit in student-teacher interactions. It also will enhance their participation by involving in all the activities conducted by teachers. Implementing online learning resources can contribute to enhancement in critical thought, maximization of student learning, and the quality of students' participation.

Learners whose desire to learn is triggered by external factors such as rewards, grades, compliments are extrinsically motivated learners. Learners whose desire to learn is triggered by internal motives such as personal interests, curiosity, and enjoying the learning journey are known as intrinsically motivated learners (Jin et al., 2023; Ingkavara et al., 2022). It is worth noting that online learning influences learners' motivation. Some learners were highly motivated to attend online classes while others lacked this motivation to learn online learners with intrinsic motivation are highly motivated to attend online classes since they have an internal drive to learn without the influence of external factors.

Schrum and Hong (2002) list seven including access to tools, technology experience; learning preferences; study habits and skills; student goals and purposes; lifestyle factors; and, personal traits and characteristics. Students who have access to mobile devices and the internet tend to have a positive attitude toward web-based learning in comparison to students who lack access to these materials.

#### **5. Conclusion**

Since the COVID-19 pandemic spread over the world and measurements were taken, there was an urgent educational shift from traditional classrooms to online learning. Therefore, universities have been forced to use online training tools irrespective of students' and teachers' competencies in using technological resources. In the same respect, the phenomena of online learning come with its pros and cons. Therefore, there are many reasons associated with resistance or acceptance of change in the online context. In this vein, negative experiences of both learners and teachers, besides technical issues, in addition to the gap between the theory and practice of e-learning are among the highly contributed reasons for online education resistance. On the other hand, teachers seek to maintain the same teaching environment as a traditional classroom and apply similar control to online learning, whereas students show appreciation by using online tools to control their learning process. In other words, learners take advantage of online learning since it provides a comfortable, less stressed environment and it stands as a facilitator since nowadays learners are pre-exposed to technology; therefore, they find online context least challenging and easy to cope.

Therefore, online learning requires prior awareness of using online platforms and tools, since the latter differs from traditional learning in teaching methods, learning strategies, and ways of communication. Therefore, extensive and intensive training is needed for both teachers and learners to improve the online learning context. In the same respect, skill development is needed for teacher training to promote flexibility toward online learning in addition to maintaining technological capabilities. On the other hand, the ability to effectively use technology and successfully interact with learning context in addition to self-regulate learning are among the needed training for learners. Therefore, the ability to effectively communicate, manage technology, and deliver and assess content becomes especially important in intensive online environments, where there is less available time to acclimatize to new tools and operating environments. In other terms, the aforementioned abilities and responsibilities are contributed as part of extensive and intensive training addressed to both teachers and learners to enhance and improve the effectiveness of online learning.

Competence or Self-efficacy is considered fundamental for a student to achieve learning goals and to be able to face the different situations that arise during their life. In the learning environment, the effects demonstrated by a student's self-efficacy in meeting goals are crucial as the perception that the student has about their capacity and ability to solve the situations that arise is decisive. Likewise, the control that students have over emotional reactions to success or failure is a strong predictor of effort and persistence in student activity. It has been found that self-esteem, self-efficacy, and expectations are some of the elements that could be involved in student engagement, which in turn would have a considerable effect on the quality and level of engagement. Every person innately needs to feel effective within the environment in which they work, and the more that students, within their school environment, feel this sense of dominance, the better the quality of their involvement is. Even today, inconsistent results are shown regarding the effects of self-efficacy and academic engagement in hybrid and face-to-face environments.

Finally, what is apparent to educators transitioning to online learning in early 2020 is that learning could no longer be just about getting through the curriculum. Online learning favors depth over breadth, with educators having to "Marie Kondo the curriculum" and make decisions about the "essentials" and the "nice to haves." With clear goals in the form of competencies and learning outcomes governing the universe of a particular course, content becomes the vehicle by which competencies are developed. Educators make decisions around content selection based on key threshold concepts. Threshold concepts ask us to curate content according to the skills that mastering the content helps students develop, not according to the subjective criteria of what we think students should know.

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