From Face-to-Face to Online Learning in the Blink of an Eye: The Impact of Switching to Virtual Education on University Professors and Students' Performance and Emotional Health

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Abstract

The only assertion that can be made about the future of humanity after the global COVID-19 pandemic is that it will never be the same. All aspects of our life, whether personal, social, professional, or academic have been affected. Considering this, teachers, education authorities and students will have to reevaluate our tasks and roles as key participants in the education process. This quantitative and exploratory study aims to know the opinion of a non-probabilistic sample of 46 professors and 43 students of six different majors in a public Mexican university, regarding the change in the teaching modality as a result of the global pandemic, in order to point out the impact this change has had on the teaching and learning processes, as well as on the emotional health of the samples. It was found that teachers introduced new technologies in their courses to interact, present content, and collaborate. Students had to adapt to the new modality and the challenges implied in online learning. Both populations expressed those considerable changes in the daily routines occurred as well as a significant increase in the time dedicated to work and study. Similarly, the study revealed that learners experienced a negative impact of these conditions on their academic performance. It is also concluded that in order to be able to determine the efficacy of the implementation of Information and Communication Technologies and the actual impact of the emotional state of the population on the learning and teaching process, further research will be necessary.

Keywords: online learning, face-to-face learning, emotional health, technology education, COVID-19 in education

1. Introduction

The COVID-19 outbreak has translated into new challenges for education. Teachers and students have recently turned to online learning to carry on with their academic activities and therefore, they have had to adapt to new ways of teaching, learning, and living.

According to data from the United Nations (2020), in May 2020 more than 1.2 billion students at all levels of education in the world stopped attending school and turned to online instruction, more than 160 million of these were students in Latin America and the Caribbean. Due to massive closures of universities and possible subsequent waves of COVID-19, virtual instruction seems to be the path to follow in the coming months.

According to Rosenberg (2001), e-learning refers to the use of internet technologies to deliver solutions that enhance knowledge and performance. Cabero (2006) explains that e-learning is based on ICTs that facilitate the communication between teachers and learners by using synchronous and asynchronous tools. During the COVID-19 pandemic, education activities have been brought online, which means teachers and students have been connected remotely with no face-to-face interaction.

There are well-known advantages of e-learning or online learning, for example, it provides educational opportunities regardless of time and space restraints, it offers a wide variety of resources to support (synchronous or asynchronous) interaction, and the combination of features that might appeal to different learning styles, it promotes learners' autonomy and collaboration, to name a few.

Online learning has proved to be more effective when delivered by qualified and experienced teachers. Therefore, the unexpected switch from face-to-face to online instruction brought challenges for teachers who only performed face-to-face instruction. They have had to address those difficulties and rethink teaching-learning practices, together with adopting new roles to ensure the quality of education.

Some authors have described the roles of students in online learning. For example, Cebrian and Gallegos (2012) emphasize the importance of students being able to select relevant and reliable information from the Web, as well as to organize it, but above all, make it meaningful. Hockly (2016) acknowledges that adolescents and young adults are not automatically effective users of technology. The author mentions that key skills to succeed in online learning include the ability to evaluate resources, filter and synthesize information.

The International Society for Technology Education (as cited in Hockly 2016, p. 36) has drawn attention to the importance of the following digital literacies in learners:

1. Creativity and innovation
2. Communication and collaboration
3. Research and information fluency
4. Critical thinking, problem-solving, and decision-making
5. Digital citizenship
6. Technology operation and concepts

For the purposes of this work, we would like to highlight the following as key roles and skills in online learners:

- Students must be able to develop self-management and self-directed learning; this means, taking a more active role by selecting strategies and techniques to execute their work more effectively, being able to diagnose their own learning needs, setting goals, and assessing their learning outcomes.

- Learners need to put search, selection, and analyzing information skills into action, along with reading, audiovisual and multimedia comprehension.

- Students must show willingness for collaborative work and adaptability to the challenges of the use of technologies.

When delving into the role of the teacher in online instruction, significant changes can be mentioned; firstly, the teacher is a facilitator and guide in the learning process. The teacher does not direct nor control it but gives way to students' autonomy and implements tutorial and guidance actions. These are not new tasks for educators, nevertheless, there is a change in their orientation due to the characteristics of the modality and the time and space variables.

Cabero (2006) states that in online instruction the teacher undertakes more meaningful roles such as designer of learning situations and media and virtual tutoring. The author emphasizes the latter since virtual tutoring is of the utmost relevance to guarantee quality of instruction and learning. It is also pointed out that teachers in this modality perform functions that go beyond academic instruction, such as technical and organizational tutoring.

The reflection on student and teachers' preparedness to switch to online instruction and the changes in their roles has become an important aspect to discuss so as to overcome the challenges faced, ensure ICT competence development and continue to deliver quality in the teaching-learning process. However, there is a factor that cannot be overlooked: the circumstances under which both, teachers and learners, perform online instruction are not ideal. After months of lockdown, the closure of schools and many students and teachers having experienced loss and grief, the academy is not the same.

On March 16th, Universidad Nacional Autónoma de México (UNAM), the most important public university in Mexico, announced that it would suspend face-to-face classes on its different campi due to COVID 19. After 10 months, UNAM is still closed and students have not returned to their classrooms yet. Instead, online instruction has become the new modality to perform academic activities. Unprecedented challenges are being faced during these months and countless members of the community have experienced fear, worry, and stress, in addition to the implications of significant changes in their routines such as working from home, economic problems, unemployment, home-schooling of children, and social distancing from family, friends and colleagues.

The aim of this work is to know the opinion of the teachers and students at UNAM Facultad de Estudios Superiores Acatlán (FES Acatlán), regarding the change in the teaching modality as a result of the global pandemic, in order to

know the impact this change has had on the teaching and learning processes, as well as on the emotional health of the professors and students.

Facultad de Estudios Superiores Acatlán is a multidisciplinary institution that holds more than 21,000 students every semester and has an academic offer of 18 bachelor programs. Students there obtain a solid professional education that can be complemented by artistic, cultural and sports activities.

FES Acatlán offers bachelor programs in both modalities, face-to-face and virtual courses: 15 programs belong to the face-to-face modality, two can be studied in either modality, and just one of them is offered exclusively in the virtual modality. As face-to-face programs used to be prevalent in the faculty, it is understandable that the professors were better prepared to teach in such a modality.

There are more than 2,500 professors in FES Acatlán. They all are specialists in the disciplines and subjects they teach. Some of them have solid teaching training while others begin their training when they are hired in the school for the first time. One would say that they acquire their teaching training by teaching. Despite this lack of preparation at the beginning of their professional activity in education, professors eventually acquire teaching skills that allow them to handle and transmit knowledge effectively in the classroom. This is possible due to the didactic courses that the faculty offers to its community every semester.

As to the face-to-face courses that predominate in the faculty, it can be said that the professors are able to prepare a class and achieve their teaching objectives when they carry out their teaching in a classroom. Nevertheless, the results of this study show that the majority of the faculty did not have any kind of training in ICTs at the moment of the health contingency caused by COVID-19, in March 2020.

Only 250 professors out of the 2,500 that work in FES Acatlán, used to teach in three online programs. ICTs as well as educational platforms that are used in online courses are more familiar to these teachers than to the ones who only used to teach face-to-face courses. But even those teachers that were already providing online classes, were not experts on the platform. They are able, for example, to access a platform, review the contents, handle a discussion forum and post news, but hardly any of them has experience in loading the didactic materials or learning objects in the platform. This is mainly because there is a team of specialists who regularly execute those tasks for them. With regards to the faculty students, the vast majority used to belong to face-to-face syllabi. This means that they had little to no experience in online studies. Due to the pandemic, they were also forced to change from one study modality to the other in less than a week. How did the pandemic change the academic routine of all these professors and students? And how did these major changes affect their performance and their emotional health? These are the questions that our study intended to answer.

2. Method

With regard to the type of research, the authors considered that the most appropriate one so as to conduct the project was quantitative and exploratory research. As it is pointed out by Hernández, Fernández and Baptista (2010), the exploratory design is used when there is little information on the study subject. It helps researchers to get familiar with the phenomenon and to get information about it to be able to conduct more complete projects in the future as it allows the identification of concepts or variables previously unknown.

Due to convenience, a non-probability sampling method was selected for this study. The sample consists of 46 professors and 431 students of six different majors. The most remarkable features of the professors' sample are: 40% are over 50 years old, 70% have more than 15 years of experience teaching face-to-face, all of them work in the face-to-face modality, and 25% work in at least another institution. This data is relevant if we consider that the study intends to analyze the impact that switching from one modality to the other had on a population to whom working with technology is not a natural process; the vast majority does not have any experience in online courses, and have been working the same way (face-to face, no technology) for at least 15 years. They also teach in one or more other institutions concurrently which can result in an enormous workload.

On the other hand, the age of the 431 students that participated in the study fluctuated between 19 and 22 years old, and they all belong to face-to-face bachelor programs: Pedagogy, Mathematics, Graphic Design, English Teaching, Journalism and Civil Engineering.

During the research, two instruments were applied, one questionnaire for each sample. They intended to collect data regarding the following main aspects: respondent's identification data, such as genre, age, and major, the use of ICTs before and after COVID-19, teachers and students' performance during the semester in which the change took place,

as well as the emotional impact the sudden change had on them. The questionnaires were validated by three university professors.

The data was collected in October 2020, through a Google online questionnaire. By that time, the samples had been working on virtual environments for seven months at that point. Once the information was systematized the next step was the interpretation of the findings which are summarized in the following section.

3. Results

Very interesting results were obtained, but we will only point out some of the most remarkable ones. Each of them can be used to develop further research as they raise important reflections on the teaching and learning processes during pandemic times.

Both samples used different technology tools since before the pandemic; nevertheless, it is worth mentioning that 25% of each group did not use them at all to carry out their academic, as well as personal, activities. Before the pandemic, the most used technology tools were e-mail and the generation of presentations through PowerPoint or Prezi. Today, most of them implement videoconferences, educational platforms, digital libraries, and the use of discussion forums.

It is also noteworthy to mention that 75% of the teachers had taken ICT courses before February 2020. In spite of the fact that they had prior knowledge, 78% of them looked for further training. On the other hand, only 15% of students had previous knowledge about the use of ICT for education.

After seven months of online instruction, 76% of teachers who answered the questionnaire felt confident about their online teaching skills and performance and only 41% of students expressed being confident about their new roles and skills for learning online.

The data analyzed also showed that 35% of teachers and 16% of students agree on the fact that the learning results obtained in their online courses were not as successful as those achieved when teaching face-to-face.

The study was also able to identify some negative experiences that the samples have had these last past months: they feel anxious and tired most of the time, they have distanced themselves from loved ones and people they care, they feel they are dedicating an exaggerated amount of time to work and study (80% of each group), and their daily habits (sleep, exercise, feeding) have changed significantly not always for the better.

There is an interesting contrast in the answers provided by the samples in a question that is related to the impact that the emotional state might or might not have on their academic performance: 66% of the students stated that the emotional state affects their academic performance, while 34% of the professors said that it did not. It is not possible for us to explain such a result, as further investigation and analysis would be needed.

Despite the negative experiences the samples are facing, they were also able to identify some positive elements the change of modality has brought along with it. On one hand, professors believe that the interaction with their students has improved and that the response they get from them is very positive, that they have acquired new abilities and, most importantly, they were able to continue teaching, which implies that they managed to achieve their teaching goals. On the other hand, students believe they have learned to be autonomous and autodidactic; they can now use ICTs to do anything anytime; they are saving time and money and they also achieved their learning goals.

4. Discussion

First of all, we would like to mention that the faculty and students have been confronted with a series of experiences for the first time in their lives. They were forced to change the academic habits of a lifetime in a very short period of time and it is worth mentioning that they lack any kind of training on online courses or the use of ICTs. The sudden change has challenged the community to learn how to use the most basic ICTs to accomplish their academic goals. It is necessary to highlight the fact that both teachers and students considered that the results from the online courses were not as successful as if the courses were delivered face-to-face. This raises questions about the accuracy in the methodology, strategies, and technologies selected,

This also makes us wonder how vulnerable they might feel regarding the fact that today and in the following months it will be necessary to continue using technology to achieve learning and teaching goals. It is necessary to mention that this forced change has had an impact on the well-being of both the professors and students. Furthermore, not being able to reach their academic goals the way they usually do has also had a negative impact on their attitude towards their jobs or studies as well as on their personal lives.

Should academic performance prevail over the well-being of individuals or should we do the exact opposite? How can teachers and students overcome a situation that has become unbearable, in some cases, for some of them? It is time to stop and reflect on this situation, but above all, it is time for directors, professors and managers to come to an agreement on what is really important in schools at this moment.

As a general conclusion, we believe that institutions need to conduct studies like the one we presented in order to learn about the needs of the community and propose ways to fulfill them. A new world has arisen, therefore, new ways to approach teaching and learning processes are needed. There is no way to know what professors or students need if we do not give them the opportunity to express their thoughts and feelings through research exercises of this sort.

The first results of this project have given a clear perspective about the incorporation of new technologies and tools such as video conferences, educational platforms and digital resources in the teaching-learning process. However, the authors have also found that further research is needed concerning the efficacy of their implementation. In order to be able to discuss further on this topic, it will be necessary to collect data through a detailed evaluation and follow-up process in the future.

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