

The Impact of COVID-19 Pandemic on Education: Case Report

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Abstract

In this article, we report on the transformation from face-to-face learning to online virtual learning in the Libyan International Medical University (LIMU). Due to the widespread of COVID-19 worldwide, the Libyan government has enforced a full lockdown on higher education institutions without providing any solutions. This lockdown involved all public and private schools, and universities. Consequently, LIMU transformed its education strategy from face-to-face learning to virtual learning. The learning management system “Moodle” was already used in LIMU since its establishment which made the transformation to online learning much easier to students. Virtual learning is represented by audio and video recording of lectures, and laboratory lessons, live interviews, and interactive sessions for seminars, PBL, and lectures. Students’ assessments, both formative and summative assessments were applied using Moodle quizzes and Safe Exam Browser. During the whole process of change, we faced many challenges and limitations. In conclusion, because of the COVID-19 pandemic, we had the opportunity to experience online education which is the best platform to keep safe and to continue their learning.

Keywords: COVID-19 pandemics, education, learning management system, online learning

INTRODUCTION

Technological developments throughout the last few decades permitted widespread use of online education particularly that it surpasses traditional face-to-face teaching in terms of its flexibility, availability, and individuality. Some higher education institutions (HEI) have adopted online learning and even produced programs fully dependent on online teaching and learning and degrees were offered and accredited. However, many governments and teachers were resisting the adoption of online learning and looking at it with an eye of suspicion, leave aside the stand of the public on online learning. The ministry of education (MOE) of Libya has legislated distance learning in 2009 but no relevant regulations were released since then to allow its adoption. The political turmoil that erupted in Libya in 2011 and the civil war that accompanied it might have contributed to the delay till date.

COVID-19 outbreak has evolved since December 2019, showed up first at Wuhan in China. It spread rapidly worldwide in short period.

The World Health Organization has announced Corona infection as a Public Health Emergency of International Concern and on March 11, it declared the novel coronavirus a pandemic.^[1]

Due to the widespread of COVID-19, governments responded swiftly by locking down almost every mass activity such as universities, schools, industries, tourism, and private and public events. Many HEI worldwide have experienced lockdown.^[2] From the concept of nonstop education, most universities changed from the traditional face-to-face learning in class to online education through the Internet.^[2,3]

Since March 2020, the Libyan government has enforced a full shutdown on all HEIs. As such, the learning process of all academic years in educational institutions was hold similar to other countries.^[4] This closure involved, public and private schools, as well as universities for undergraduate and postgraduate programs.

Online education is web-based learning to disseminate and to manage courses using the Internet. It proposes convenient

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and productive ways to reach the intended learning outcomes and comprises the application of advanced technology to deliver the learning materials and make communication between instructors and learners easier. It includes a number of teaching activities such as lecturing, tutoring, simulation, chartrooms, whiteboards, discussion forums, online quizzes, surveys, and wikis.^[5]

Online education was categorized into synchronous and nonsynchronous types.^[6] Synchronous learning means that there is direct interaction between the students and the teachers either by video or audio conferencing while nonsynchronous learning means that there is the postponement of interaction between teachers and students using audio records or video records.^[6]

CASE REPORT

The Libyan International Medical University (LIMU) is a private institution in Libya and was established in 2007 as a university mainly concerned with medical and medically-allied education. Schools at LIMU adopt various educational strategies that stress student-centeredness and active learning. These include problem-based, team-based, inquiry-based, and case-based learning in addition to interactive tutoring, mentoring, and more recently, inter-professional learning.

LIMU managed the process of change to virtual learning through the introduction of swift unavoidable changes that targeted faculty, students, the curriculum, and the infrastructure. Students and instructors were forced by the pandemic to stay at home and conduct their educational tasks using different technological modalities.

A wide variety of urgent modifications in education and in services were provided by specially assigned teams from the administration to apply the transformation from the normal face-to-face practice to exclusive online learning.

Training of faculty members, in particular, was a tremendous task particularly for those in charge of teaching in the final years of the educational programs. This was because some faculty members in clinical years lacked the tune to teach using videoconferencing, video and audio production and many are lacking the necessary capability to produce recorded presentations. Extensive efforts were exerted in convincing, supporting, and training staff members to be able to teach online. The Information and Communication Technology (ICT) office conducted a series of seminars, webinars, and workshops for faculty, staff, and students alike. They also provided a full time support to all faculties to troubleshoot different technical issues and managed many simulative classes. Some students received the sudden change with resentment but they conceived and adapted to the transformation once they got the know-how and support they need.

The sense of urgency evoked by the situation was the strongest motivator to transform to online learning in conformance to Kotter's model of change.

Initially, schools started making some changes independently and without interschool and sometimes even without interdepartmental integration. This jerky response to the sudden and unexpected lockdown resulted in a variety of responses in different schools. Although this response was not university-manipulated, it resulted in a variety of options to choose from for the university as a whole. LIMU used multiple teaching modalities to ensure the continuation of the educational process and to assess students' performance.

The open-source Learning Management System (LMS) Moodle was already in use at LIMU since its establishment. This helped ease out the transformation process because students were familiar with using it. Some forms of blended learning were already in place for years in the form of formative online assessments, recorded lectures and seminars, online quizzes, and assignments but by and large, there were no live online activities.

Online learning was applied by audio and video recording of lectures using certain applications such as ShareX and PowerPoint. Live interactive lectures, PBL sessions, TBL sessions, and seminars were implemented through the use of Google Meet and Zoom. Educational material was uploaded to Moodle, university's Digital Repository, and relevant URLs were sent to students through E-mail and LMS.

For the practical part of the curriculum such as history taking, some clinical skills, and laboratory sessions, video recordings were used for demonstration. Clinical Skills Center continued functioning with strict infection-prevention measures. Hospital-based teaching was initially postponed and later replaced with mentoring of groups of only two students each. Clinical case scenarios were discussed with subject matter experts using live chat rooms. Clinical and communication skills were demonstrated using videos and using students as role players.

Student assessment

For the ongoing formative assessment, students received online Moodle quizzes on regular basis with postexamination feedback.

For summative assessment, a lockdown browser (Safe Exam Browser) was used for the final written exams in form of multiple-choice questions, short answer questions, and projected material. The lockdown browser turns the computer into a temporarily frozen workstation. The user will be unable to open any window other than the examination window. Students were proctored using the Zoom application and the cameras of their own mobile phones.

An online examination guide was developed by the "Study and Examination Unit" with the help of ICT personnel. The guide shows to all involved the steps required from logging in to saving and exiting the examination window. This guide was made accessible through Moodle to students and faculty. Furthermore, online live workshops on the technical aspects of the examination process were held to the students by the

“Study and Examination Unit.” Since the proctoring was carried out while students are being examined while at home, female students requested proctoring by female invigilators.

Challenges and limitations

The experience of change to online was not a smooth one. A number of challenges had to be faced. These included:

1. Unstable Internet activity: This was the main challenge as many students complained that the internet was poor and they missed some of the live sessions. To resolve this issue, we recorded the sessions and sent them by E-mails or through Moodle so they can keep up with their curriculum. They were also given chance to discuss the recorded material with teachers at later times
2. Power supply: Electricity supplies were cut multiple times in a week because of the war condition. The cuts usually last from 2 to 6 h at different times of the day and on different days. Students were instructed to keep their computers and phones fully charged all time and to use power banks
3. Limited LIMU server's capacity: LIMU was not ready for the immense unexpected increase in the load. The ICT managed to expand the servers' capacity through the elimination of unnecessary archives as well through the purchase of new equipment
4. Resistance to change: In the beginning, this change was faced by resistance from faculty members, students, and families due to the lack of familiarity with online learning. The sense of urgency and the absence of viable alternatives in addition to thorough explanation and communication helped dissolve the resistance
5. Digital literacy: There was a digital literacy gap particularly among teachers which was tackled by workshops and technical support
6. Regulations: There was initially tremendous objection by the MOE to shift to online learning because of the lack of preset relevant regulations. Communication and site visits by the Ministry representatives assured them of the capability of the university to implement online learning. The lack of options other than the shift to online learning forced the MOE to accept the change in the absence of MOE-issued online teaching regulations. Meanwhile, LIMU updated its local study and administrative regulations to accommodate the new regulatory needs
7. Teaching practical aspects of the curricula: Field projects, internship, and hospital rotations were all temporarily stopped and then restarted through the use of mini-groups each composed of two students. These mini-groups got their teaching at multiple sites including hospitals, primary healthcare facilities, etc., The small number of students in clinical years helped the deployment of students in such small numbers in different discrete teaching sites. Students were trained on how to use personal protective equipment
8. Lack of active participation by some students: Some students did not share actively in teaching sessions

encouragement and continuous formative assessment helped most of them

9. Psychological pressures on students and families. The emergence of COVID-19 put immense pressure and challenge on students because of fear of acquiring infection, disseminating infection as well as because of the lockdown which prevented students from having recreational times and communication with friends. They were also worried about the possibility of performing less than they used to in their studies with consequent negative impact on their grade point average. This issue was managed by providing informal psychological support and giving the students different marking options. Students were required to choose between three marking options: Continue with the usual marking scheme, pass-fail marking, or be considered “incomplete.”

Multiple surveys were carried out by faculties throughout with the aim of assessing students' perception and satisfaction with the process of online transformation. This helped schools to discover students' worries and areas for improvement.

As a result of this transformation, the LIMU council adopted Blended Learning as the main lasting modality of learning throughout the university in the coming years.

CONCLUSION

Currently, online learning is the most common tool used in education worldwide. It is the best platform to keep students safe and to continue their education. The government of Libya has enforced the lockdown of the educational institutions without offering a solution for this educational crisis. Because of the COVID-19 pandemic, LIMU passed through hard times similar to most HEIs globally. However, the pandemic experience was an opportunity to force change to the better.

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Conflicts of interest

There are no conflicts of interest.

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ملخص المقال باللغة العربية

تأثير جائحة كوفيد-19 على التعليم: تقرير حالة

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في هذه المقالة، نقدم تقريراً عن التحول من التعلم وجهاً لوجه إلى التعلم الافتراضي عبر الإنترنت في الجامعة الليبية الدولية للعلوم الطبية. نظراً لانتشار كوفيد-19 في جميع أنحاء العالم، فرضت الحكومة الليبية إغلاقاً كاملاً على مؤسسات التعليم العالي دون تقديم أي حلول. شمل هذا الإغلاق جميع المدارس والجامعات العامة والخاصة. وبالتالي، حولت الجامعة الليبية الدولية للعلوم الطبية استراتيجيتها التعليمية من التعلم وجهاً لوجه إلى التعلم الافتراضي. تم استخدام نظام إدارة التعلم "Moodle" بالفعل في الجامعة الليبية الدولية للعلوم الطبية منذ إنشائها مما جعل التحول إلى التعلم عبر الإنترنت أسهل كثيراً على الطلاب. ثم تطبيق التعلم الافتراضي من خلال تسجيل المحاضرات بالصوت والفيديو، والدروس المختبرية، والمقابلات الحية، والجلسات التفاعلية للندوات. تم تطبيق تقييمات الطلاب كذلك عبر الإنترنت، حيث تم التقييم التكويني والختامي باستخدام اختبار نظام Moodle، كما تم إجراء التقييم الختامي باستعمال منصة التصفح الآمن للامتحانات. خلال عملية التغيير برمتها، واجهتنا العديد من التحديات والقيود التي استطعنا التغلب عليها وطرحنا في هذا التقرير الحلول المناسبة لها. في الختام، بسبب جائحة كوفيد-19، أتاحت لنا الفرصة لتجربة التعليم عبر الإنترنت وهو أفضل منصة للحفاظ على سلامة الطلاب ومواصلة تعلمهم.

الكلمات المفتاحية: كوفيد-19، أوبئة، تعليم، نظام إدارة التعلم، التعلم عبر الإنترنت