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The Use of Modern Educational Technologies in Remote Learning in Higher Education During a Pandemic: The Case of COVID-19 in Cameroon

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Abstract: In March 2020, the first case of COVID-19 was discovered in Cameroon. This led to the Higher Education Institutions resorting to remote learning to ensure continued teaching and learning. The researcher thus set out to bring to the limelight some recommendations for the use of educational technologies for remote learning in Cameroon and to propose some suggestions to the government, the policy makers, the stakeholders and the teachers for more effective implementation of E-learning in Higher Education Institutions in Cameroon.

Keywords: educational technologies, remote learning, COVID-19, Higher Education.

Introduction

On December 31, 2019, the World Health Organization (WHO) was notified of the prevalence of pneumonia in China, particularly in Wuhan city, caused by an unidentified viral agent. It was later associated to the coronavirus (Recerca-University of Barcelona, 2020). The COVID-19 disease is caused by a newly discovered virus-2019 Novel Corona Virus from a family of viral pathogens responsible for diseases like severe acute respiratory syndrome and the common cold (who.int; Recerca-University of Barcelona, 2020). What is most frightening about this disease is, as of August 2020, there were 231 vaccine candidates in development, however, no candidate had completed clinical trials to prove its safety and efficacy (Vaccine Center, London School of Hygiene and Tropical Medicine, 2020). Since the announcement of this novel disease, the world has been in panic and fear as this disease has gradually been transmitted across several countries around the globe. Unfortunately, on March 6, 2020, the first case of COVID-19 was confirmed in Cameroon (Kouagheu, 2020). Washing of hands regularly with soap and water, avoiding the touching of the face, practicing physical distancing by avoiding unnecessary travel and staying away from large crowds were the safety precautions, amidst others, stipulated by WHO (who.int) to fight against the spread of COVID-19. With the confirmation of COVID-19 cases in Cameroon, the Government of Cameroon decided to implement the WHO recommendations for combating the spread of COVID-19. Consequently, on March 17, 2020, an inter-ministerial consultation was held on the instructions of the Head of State of Cameroon to assess the situation and identify a way forward (Republic of Cameroon, 2020a). Instruction 3 of the measures that were presented by the Head of State of Cameroon at the end of the meeting, was that, as from March 18, 2020, till further notice all public and private training establishments of various levels of Education, from Nursery School to Higher Education, including Vocational Training Centers and professional schools, would be closed (Republic of Cameroon, 2020b). As a result, as of March 18, most face-to-face activities were suspended in schools in Cameroon. Following these developments,

the Deans and Directors of Higher Education Institutions met severally to decide on a way forward. In the case of the University of Buea, the pioneer Anglo-Saxon University in Cameroon, the use of e-learning was approved for the continuation of lectures (University of Buea, 2020). Thus, lecturers resorted to remote learning to ensure the continuation of the smooth running of the teaching and learning process. Even though universities timidly resumed face-to-face meetings after several months, it is evident that online learning is an innovation in our institutions which has come to stay.

It is against such a backdrop that the researcher thought to highlight sample educational technologies recommended for remote learning in Cameroon and finally give some practical suggestions for more effective implementation of remote learning in Cameroon, particularly in the Higher Education sector.

Educational Technological implementations in Higher Education in Cameroon Amidst the COVID-19 Pandemic

The Minister, in his Circular Letter No. 20-00016 of March 21, 2020 relating to preventive and control measures against Coronavirus in the Higher Education System, recommended distance teaching involving digital lectures, emails, WhatsApp, Facebook, Telegram, campus radios, audio and video recording, micro programs, telephone and television recordings and broadcasted lectures. For distance assessment, the Minister recommended homework and examination papers sent to students digitally, written evaluations to be replaced by oral ones, and allowing one or more teachers to question the students using the aforementioned media outlets. Concerning tele-defense, videoconferencing could be done, amidst other options. For distance research, documentary resources must be digitalised to create virtual libraries which could be accessible to teachers and students, distance experiments, tests and applied work. Moreover, scientific events such as symposia and seminars should be held through the use of ICT (Minister of Higher Education, Republic of Cameroon, 2020).

Following the recommendations from the Minister of Higher Education, the authorities of the higher institutions went ahead to implement specific e-learning platforms for the continuation of their students' studies. For example, the Registrar of the University of Buea, in line with the resolutions of the meeting of the committee of Deans and Directors held on April 1, 2020, recommended that lecturers should convert their lecture notes into PowerPoint presentations while the supporting reading materials should be in portable document format (PDF). These materials should then be uploaded into the e-learning platforms. In cases where the notes are not ready in PDF form, the lecturer can upload text, typed documents, or even photos into the course WhatsApp forum. This should be followed up with audio explanations of the same notes, questions and responses. For the learning management system, the University of Buea decided on Google Classroom and WhatsApp, except for the Faculty of Education and the Higher Teacher's Training College, who will be using Moodle. These went into effect from April 13, 2020 with the commencement of the second semester (University of Buea, 2020).

Concerning Internet service, the main service providers have been making efforts to ensure learning continues. For example, in the case of MTN Cameroon, they provided the link <https://mtn.cm/school-goes-on> with approximately 44 sites from which students can learn using little or no data (mtn.cm). Yoomee Cameroon and Camtel Cameroon, both service providers, too, gave out discounted Internet

bundles at 10.000XAF (USD 16) for 128 GB and 150 GB of Internet respectively to be consumed within a month (yoomeemobile.com; camtel.cm).

Practical Suggestions for More Effective Implementation of Remote Learning in the Higher Education Sector of Cameroon

As we move from traditional to digital classrooms; stakeholders, policy makers, the government, teachers and even the students have to put all hands on deck to ensure a smooth transition. Below are some suggestions and recommendations for more effective teaching, learning and engagement online.

Pedagogical Suggestions

Group Activities: In order to overcome the challenges of working in groups while learning online, the teacher can provide the students with tools for online collaboration (such as Google Docs and Dropbox); video conferencing tools (Google Hangout, Skype, Zoom, GoogleMeet), and/or a platform for brainstorming ideas (Padlet, Mindmeister). Students are noted for finding their own ways of collaborating given their situation (Clinefelter & Aslanian, 2016). When using video conferencing tools, it is recommended to tell the students to mute their microphones at the beginning of the lesson and only unmute if asked to speak.

Making the students prepare formal and informal speeches, and respond to critiques can also make learning more effective. With tools such as VoiceThread, Flipgrid, and Screencast-o-matic, students can record their presentation and share the link with the class (Clinefelter & Aslanian, 2016).

Discussions: In the absence of face-to-face discussions, student-student and student-instructor dialogue can be done either through the discussion section in the Learning Management Systems, or through social networks such as WhatsApp and Facebook, as well as wikis, blogs, and portfolios. Effective use of such platforms can help the students engage more with the content, the instructor and with each other (Clinefelter & Aslanian, 2016).

In-Class Practice Activities: Add self-check questions to videos or lecture materials using interactive presentation tools such as Nearpod, ClassFlow, and EdPuzzle. Alternatively, online learning activities such as word puzzles, jeopardy, audio flashcards, or quizzes can be created with tools like Quizlet, Jeopardy Labs and StudyStack (Clinefelter & Aslanian, 2016).

Exercise Flexibility and Understand Limitations: Some learners may be in areas where they will experience power outages, intermittent Internet access or may not have a device for online learning. The teacher should be flexible in using alternative platforms for student submission in cases where they cannot access as prescribed. Also, the teacher may have to directly email (or even mail) assignments, photos and videos to students to ensure that they obtain and submit completed work. The teacher should also consider allowing the students to take a picture with their devices or use free apps like Camscanner, Genuisscan, Adobescan, etc., to scan assignments with their mobile devices and send them in (Herzog & Mawn, 2020). As a teacher you might also consider accepting learners who cannot afford a device to send their assignments through their peers' devices or a parent's, etc., and also to participate through their peers' devices or platform account.

Technological Tools Suggestions

Google has developed a number of educational products under the G Suite. Most of them are free and simple to navigate. There is Google Meet for video conferencing and messaging and Google docs, sheets and slides through which students and teachers can work together on documents in real time. These can serve as wikis as they can be collectively edited. Google sheets can be used to deliver quizzes and surveys, and Google groups can create class discussions forums. There is also Google Classroom, which is a Learning Management System (google.com). Given the present situation in Cameroon, with an unstable energy supply (Energy Mix Report, 2020) and expensive Internet connection (Toussi, 2019), these Google products for education are highly recommended. In the case of a Learning Management System, Google classroom could be ideal. This is because it is free of charge for educational purposes, easy to navigate, contains no ads, allows the teacher can give quick feedback through the comment section, and the comment section facilitates group discussion. This fosters collaboration and communication. If a student or teacher is already familiar with Google products like Gmail, it is easy to navigate the classroom interface (Google.com). Also, the classroom app is relatively light to download with a size of 11.93 MB. The Moodle app for example has a download size of 15.44MB (Apkpure.com). Moreover, Google classroom can be accessed offline and there can be more than one teacher per class (Kurtz, 2020). Furthermore, Google classroom for education can accommodate an unlimited number of users unlike other LMSs for school, which have a limit. Moodle for school plan for example can accommodate up to 500 users (Pardo-Bunte, 2017). Thus, Google products for school could be ideal for Cameroon.

Moreover, some time slots could be allocated on local radio stations for review of some basic university courses. This could go a long way to strengthen what the learners are receiving online.

Technological Knowhow Suggestions

Professor Mbarika of the ICT University Cameroon raised some concerns with the practice of e-learning in Cameroon. One of which was the lack of appropriate training of the lecturers and students. A large number of university professors and students do not have the appropriate training to teach and learn online (Journal du Cameroun, 2020). This challenge could be resolved by having the university authorities organise forums and webinars for teachers of various institutions on some basic tips of how to go about online studies. The teachers could, in turn, transfer this knowledge to their students. In consideration of the inconsistent power supply and Internet connections, tutorial videos and handouts could be done by the ICT experts of the various institutions with regard to use of these e-learning platforms. These could be distributed to both teachers and students.

Evaluation Suggestions

Discussion board and forum participation: The reward of a grade makes students more participative and responsive to the dialogue begun by the teacher and even ensures the continuation of the thread of discussion (Greenlaw & DeLoach, 2003). Students, thus, become co-constructors of the materials, examine alternative viewpoints and reach an agreement on a subject together (Greenlaw & DeLoach, 2003). Discussion boards and forums can thus be used to assess how much the students have understood a particular aspect of the curriculum. Usually the Learning Management Systems provide discussion boards, forums, chat rooms, comment sections, and so on, for the purpose of sharing ideas.

Online quizzes and exams: Online quizzes help the teacher know progressively how much the students have understood the material presented (Martyn, 2003), thus, enabling the instructor to track the students' performance. A quiz can be taken on Google Forms while an exam can be taken on GoFormative. Furthermore, technological tools can also be used to monitor students taking exams online, such as Proctorio, a Google Chrome extension, etc.

Electronic paper and project submissions: When the students submit projects and assignments online, this can be done from anywhere and doesn't run the risk of going missing (Ley, 1999).

Emma Pass (2020) gave the following suggestions for projects that could be done and submitted online: taking a picture of anything and attaching online to an email or the learning management site; writing with Google Docs, either individually or in groups; creating a Google Slide presentation, individually or in groups; making a poster or infographic on Canvas; recording a reaction or response on FlipGrid; practicing vocabulary words on Quizlet; tagging a research on ThingLink; creating virtual tours on CoSpaces or Google Tour Creator; making a video on WeVideo; illustrating on Google Drawings; and doing a virtual scavenger hunt on Google Forms.

Conclusion

The COVID-19 pandemic has resulted in educational institutions across the world in general, and Cameroon in particular, being obliged to rapidly harness and exploit the large array of existing educational technologies to construct content for remote learning for learners at all levels of education, in general and Higher Education in particular. These technologies and modes of teaching and learning always existed but have remained largely untapped, particularly in the case of education in Cameroon until now. Thus, the outbreak of this pandemic forcefully opened a new page in the book of the Cameroon educational system. Even though at the moment, there are some challenges with education going online in Cameroon, it is hoped that with time, these challenges will be overcome and the educational system will be digitalised for the greater part of it.

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