E- LEARNING EXPERIENCE OF STUDENTS FROM SOME SELECTED CAMEROON HIGHER EDUCATION INSTITUTIONS DURING THE COVID-19 LOCKDOWN

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Abstract

This study sought to investigate the e-learning experience of students from Cameroon Higher Education Institutions (HEIs) during the COVID-19 lockdown. The researcher designed and administered an online questionnaire to collect data from students of institutions of higher learning across Cameroon. The single page questionnaire with closed-ended items underwent some pre-testing on a reduced online sample and was validated with excel statistical tool. The results obtained from the 49 participants who filled and submitted the questionnaire via WhtasApp revealed many interesting findings. Firstly, most students during the COVID-19 lockdown had internet access only through their smart phones and the mostly accessible media were WhatsApp, Facebook, Gmail and Yahoo mail. Secondly, WhatsApp was by far the most used tool for e-learning instruction. Thirdly, most schools instead of using interactive learning platforms like Zoom, Skype, and Google classroom heavily relied on strategies such as the sharing of documents on WhatsApp groups. Fourth, the key difficulties that prevented most students from effectively taking part in the e-learning process were poor internet and electricity blackouts. This led to students' fair satisfaction on their e- learning experience. Fifth, an overwhelming majority of respondents strongly suggested that for a better organization of e-learning initiatives in the future, HEIs should design and teach a course that can equip students with e- learning competences. The researcher makes some strong recommendations to different stakeholders of Cameroon Higher Education to improve distance education in the future.

Keywords: *e- learning experience, higher education, covid-19, enhe*

Résumé

Cette étude porte sur l'expérience d'apprentissage en ligne des étudiants des institutions d'enseignement supérieur (IES) du Cameroun pendant la période de confinement du COVID-19. Le chercheur a conçu et administré un questionnaire en ligne pour recueillir des données auprès des étudiants des institutions d'enseignement supérieur du Cameroun. Le questionnaire d'une page avec des questions fermées a été soumis à un pré-test sur un échantillon réduit en ligne et a été validé avec l'outil statistique Excel. Les données obtenues auprès des 49 participants qui ont rempli et soumis le questionnaire via WhtasApp ont révélé de nombreux résultats intéressants. Tout d'abord, la plupart des étudiants pendant la période du confinement n'avaient accès à Internet que par le biais de leurs Smartphones et les médias les plus accessibles étaient WhatsApp, Facebook, Gmail et Yahoo mail. Deuxièmement,

WhatsApp était de loin l'outil le plus utilisé pour l'enseignement en ligne. Troisièmement, la plupart des écoles, au lieu d'utiliser des plates-formes d'apprentissage interactives comme Zoom, Skype et salle de classeGoogle, se sont appuyées sur le partage de documents dans les fora WhatsApp. Quatrièmement, les principales difficultés qui ont empêché la plupart des étudiants de participer efficacement au processus d'apprentissage en ligne sont la mauvaise qualité d'internet et les coupures de courant. Les étudiants sont donc assez satisfaits de leur expérience d'apprentissage en ligne. Cinquièmement, une majorité écrasante de répondants a fortement suggéré que pour une meilleure organisation des opportunités d'apprentissage en ligne à l'avenir, les établissements devraient concevoir et enseigner un cours qui puisse outiller les étudiants en compétences d'apprentissage en ligne. Le chercheur fait quelques recommandations fortes aux différents acteurs de l'enseignement supérieur camerounais pour améliorer l'enseignement à distance à l'avenir.

Mots-clés: *e- learning, enseignement supérieur, Cameroun, covid-19, enhe*

Introduction

Various attempts at promoting different forms of e-learning and distance education in Cameroon Higher Education Institutions (HEIs) and secondary education institutions since the 1990's have been traced in the existing body of literature. This has been achieved either through research or reference texts (Pecku, 1998; Republic of Cameroon, 2001; Fonkoua, 2006; Lamago, 2011; Béché, 2013; Alemnge, 2015; Nkwenti, 2016; Nono & Kouakep, 2016; Nkwenti, 2017; Alemnge, 2018 a & b; Ministry of Higher Education Cameroon, 2018; Kouakep & Mafouen, 2020). Studies carried out by researchers on e-learning initiatives in Cameroon trace the history and development of distance education in Cameroon on one hand and the various projects completed on the other hand; without forgetting the latest project under completion better known as the E- National Higher Education (ENHE, for short). The government of the Republic of Cameroon, since the year 2001, has spared no efforts in encouraging the use of Information Communication Technology (ICT) not only in organising and disseminating instruction across the school system, but also in supporting continuous professional development of teachers (Mbeudeu, 2019b). The latest visible project in higher education is the ENHE. The latter has been translated by some significant happenings recently. A case in point is the first component of the project known as one-student, one computer, which saw a successful completion. This phase saw the acquisition, transportation, distribution and maintenance of 500,000 laptops for students registered in HEIs across the nation. The second phase of the project dwells on the development of e-leaning and e-administration for Cameroon higher education. As of

now, this component is taking shape via the construction, equipment and commissioning of nine digital development centres in state universities (Ministry of Higher Education Cameroon, 2018). The ENHE is a huge project, which has the following components:

i.   the establishment in state universities of efficient hardware (computer and telecommunication networks, data centres) and intangible infrastructure (e- administration and e- learning),
ii. the facilitation of students' access to digital terminals; and
iii. the development of skills essential to the digital transformation of the Cameroonian University (Ministry of Higher Education, 2018).

A close look at the project fact sheet shows that the cost of the project stands at 937,500,000 Yuan. The duration of execution is 24 months. As for the financial terms, Eximbank-China is financing the project through a concessional loan with a 2% interest rate and a repayment term of 20 years. From the foregoing, it is worth mentioning that the e-learning component has a sub-component, which caught the researcher's interest. The researcher is interested in sub-component 2 on e-learning, which consists of the digital development of centres for distance education and is translated through virtual classrooms, computer system for managing distance education, a studio for digitalising and producing multimedia courses, and an access server to the national virtual library (Ministry of Higher Education, 2018). The history and development of e-learning in Cameroon stands a long tradition and still has a long way to go in order to be more efficient in times marked by the COVID-19. Nevertheless, there is an unseen benefit in the pipe when we consider the last phase of the ENHE project. Upon completion, this project will take Cameroon higher education to a fully digitalised environment. From the foregoing, there is a gap in the existing literature as concerns the experience of students on the provision of e-learning in HEIs across Cameroon during the school closure due to the COVID-19 health pandemic.

Objectives of the study

The main objective of the study was to explore the e-learning experience of students from some selected HEIs in the Republic of Cameroon.

The following secondary objectives supported the main objective of the survey stated above:

    i.   Establish the common means used by HEIs students to participate in e-learning initiatives offered by their schools;

    ii.   Identify the best channels through which higher education students accessed e-learning contents during the lockdown;

    iii.   Identify the methods used by various institutions to organise and share instruction online;

    iv.   Find difficulties that prevented students from effectively participating in online classes organized by different institutions and the students' level of satisfaction

The originality of this study is its contribution in understanding the strategies put in place by HEIs to organise online instruction.

1. Literature review and theoretical framework

Key enablers of distance education could effectively be used to support e-learning in higher education if they were completely put in place in all state universities before the occurrence of the COVID-19 pandemic in the country in March 2020.

1.1. Distance education in Cameroon: brief history

The history and development of distance education in Cameroon can be traced back to 1990's. In fact, The Faculty of Agronomic Science, University of Dschang launched the most efficient distance education program in 1990. The vision of this distance-learning programme was "to create opportunities for people, particularly women and agriculture technicians to learn while they earn". The University of Buea launched a similar programme in 2010. The vision of the latter was "to enable those already in the field to be able to upgrade their skills without necessarily being absent from their places of work". While the first programme targets agriculture technicians and women specifically, the second one targets in-service teachers who need continuing professional development to grow in their professions (Alemnge, 2015; Alemnge, 2018a and b). The state took other initiatives through the Ministry of Higher Education to offer more distance learning initiatives.

1.2. Cameroon institutional response to COVID-19

Indeed, Cameroon government's response to limit the spread of COVID-19 became official on March 17, 2020, after the confirmation of some imported cases. The Prime Minister Head of Government during a press briefing officially announced Cameroon's holistic approach to combat the virus (CRTV Radio News, 2020). The approach came when the civil society, critics, education analysts had suggested that international flights be banned and borders be closed down to save all citizens from the deadly virus. With a total number of 10 confirmed cases in Cameroon then, it was high time the government took drastic measures to stop the spread of the virus throughout the national territory. Thirteen measures were taken by the central government. Two of the measures fall within the scope of this survey. The third measure prescribed by the central government read: "All public and private schools from primary to tertiary education, including vocational training centres and institutions of higher learning shall be closed down" (Cameroon Radio and Television, 2020). And the eleventh measure on its part stated: "Public administrations shall give pride of place to digital means of communication and digital tools to organize meetings that require more than ten participants" (CRTV, 2020).

While most private HEIs successfully developed high-tech platforms to deliver e-learning contents during the lockdown, others had difficulties in designing and implementing their e-learning.

1.3. Responses to support learning amid the pandemic: review of some case nations

Scholarship on strategies put in place by the central governments across the school system was made available through surveys and many findings were revealed (Organisation for Economic Co-operation and Development, March 2020; OECD, April 2020; Amita, 2020; Kouakep, 2020; Kouakep & Mafouen, 2020).

While some HEIs relied on high-tech and latest development in e-learning to support learners, others could only rely on simple e-learning models. This is the case of India whereby many schools-initiated projects to curb the learning crisis during the COVID-19. A survey on the online feedback of HEIs students regarding their experience about e- learning methods used by their faculty and institute was conducted in Haryana, India (Amita, 2020). This survey revealed that faculty has done their best in the crisis period. Online tools helped

students in covering the major part of their syllabus despite some difficulties. Still in India, another study reveals the participation of a sample of 69 students in online courses. The phone was used to support learning and many findings were recorded. The delivery of lessons, findings reveal, was compounded by connectivity problems, low performance phones with low-capacity storage; inability to hold zoom classes due to low quality phones. In Mumbai, a faculty member expressed her concern on the non-inclusiveness of the online education medium. Though all students had sophisticated smartphones and could access internet and other social media, "not all students are in this situation. In dormitories, the students could access contents but once in their homes they would not (Amita, 2020).

The importance of WhatsApp fora for learning purposes cannot be denied (Thot, 2019). His study acknowledges that WhatsApp is so cherished and used by most youths and some of the advantages with this messaging app include: the possibility to easily use the "new group" option for creating virtual classrooms, the possibility to engage in live exchanges with actors of the educational community, the design and sharing of audio and video lessons with a large audience, and the distribution of students' progress report cards to parents.

Kouakep (2020) shares his mitigated experiences as a researcher and instructor of Mathematics in secondary and university. In addition, the organisation of e-learning in the target institutions was not the same. In the same direction, Kouakep & Mafouen (2020) investigate difficulties faced by users of WhatsApp groups for pedagogic activities on one hand. On the other hand, they look into students and teachers' level of satisfaction in using WhatsApp for e-learning in two subjects namely; English for French-speaking learners and mathematics in some selected regions of Cameroon. Findings from this study reveal that teachers are as enthusiastic as learners and that learners on WhatsApp fora easily communicate more than in traditional face-to-face classrooms.

Theoretical Framework

The survey falls within the framework of sociology of innovation. The latter focuses on the analysis of users and seeks to understand the relationship between users and technologies. The theory debunks the claim that any technology must be considered as a black box. The theory lays emphasis on the role that designers play during the modelling process (Akrich, Callon, & Latour, 2006). The modelling

process consists in framing a problem, identifying actors involved in the resolution of the problem, submitting the project so that prospective participants fully get engaged (Akrich, 1987).

With regard to innovation, it is understood as a change, which aims to improve on a situation while relying on a practice, a method or the teaching strategy of some contents. The improvement facilitates the attainment of new objectives that could not have been completed if the situation had not changed. The choice of the sociology of innovation in this study can be accounted for by the fact that the researcher has selected e-learning as a common independent variable. The dependent variable is categorised under effective learning. The relationship that exists between both variables being that if well-handled during the lockdown period, students would effectively learn and this will be verified through their experience and their level of satisfaction.

2. Methodology

This part of the work dwells on the methodology and research design.

2.1. Data collection site

Data for this quantitative survey was collected across the Republic of Cameroon. Due to the COVID-19 pandemic, the researcher used an online survey tool to share questionnaires and gather necessary data.

2.2. Target population

The target population consisted of all students from HEIs across the Republic of Cameroon. These students were taking programmes in public and private institutions of higher learning which offered online classes during the pandemic.

2.3. Sampling technique and sample population

Following the purposeful sampling technique, the sample used for the survey consisted of 49 participants selected from public and private HEIs located in the cities of Douala, Yaounde, Ngaoundere and Maroua. The scope of the study was therefore restricted to medical students and technical student teachers in Douala, students from the Catholic University Yaounde – Nkolbisson, students from the Faculty of Education and the Faculty of Arts, Letters and Social Sciences of the University of Yaounde 1. Participants were also selected from the Faculty of Science – University of Ngaoundere and the Higher Teacher

Training College of the University of Maroua. Primary data were collected via an online survey.

2.4. Data collection method

The researcher used SurveyMonkey to generate a questionnaire. Once the questionnaire was generated, the link to the questionnaire was copied. Before the survey was open to the public, the piloting phase was conducted with one student from each target HEI. Upon reception of feedback from the piloting phase, data collected complied with the content validity index. The survey form remained open to participants from the date it was designed on June 01, 2020 to September 05, 2020. Each participant could take the survey once. The researcher did not allow multiple responses to be provided by same participants. The reason being that the researcher wanted to obtain genuine data.

2.5. The online questionnaire described

The online questionnaire consisted of eight items on a single page. It took about two minutes for each participant to complete the survey. The questionnaire items were closed questions. The first three items sought to know the type of internet students had at home and the various social media and messaging applications they used to access e-learning contents during the lockdown. As for items 4 and 5, participants had to indicate the strategies used by their schools to implement e-learning during the lockdown. The last three items were concerned with challenges faced by participants, their level of satisfaction and their suggestions to improve on the e- learning experience they had during the lockdown. A total of 49 students from HEIs took the survey as illustrated below.

Table 1: Distribution of participants

City	Higher Education Institution	Number of Respondents
Douala	Higher Technical Teacher Training College (ENSET Douala)	5
	Ecole de Formation des Personnels Sanitaires de Yassa	10
Yaounde	Catholic University Nkolbisson	4
	Faculty of Education – University of Yaounde 1	7
	Faculty of Arts Letters and Social Sciences – University of Yaounde 1	5

Maroua	Higher Teacher Training College – University of Maroua	15
Ngaoundere	Faculty of science of the University of Ngaoundere	3
Total		**49**

3. Presentation of survey results

This survey was aimed at exploring the e-learning experience of students from some selected HEIs across the Republic of Cameroon. It is hypothesized that participants in the survey have positive feedback as for the organisation and delivery of e-learning contents in their institutions. The discussion of each research question is taken in turn.

3.1. What are some of the facilities used to access e-learning contents in the selected universities during the COVID-19 lockdown?

Data as per facilities used to access e-learning contents are presented in the pie chart below.
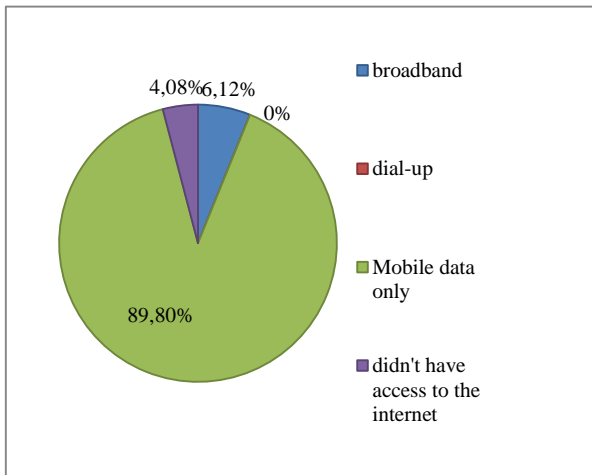

Figure 1: Internet access among HEIs students during COVID-19 lockdown

From this figure, an overwhelming majority of survey takers used mobile data only to access e-learning contents. Despite the fact that in the Western setting mobile learning is accessed via Wi-Fi and broadband, in Cameroon,

surprisingly, most students access e-learning via mobile data. This shows that there is still a huge gap to be filled when it comes to accessing e- learning via Wi-Fi and broadband (Mbeudeu, 2019 a). While this group stands at 89.80%, it sharply contrasts with the group of respondents who used the broadband to access internet and e-learning contents. This group represents 6.12% of the sample population. Surprisingly, the last group of students that stands at 4.08% corresponds to participants who did not have access to the internet during the lockdown period and thus could not effectively take part in online learning.

3.2. What are the best means for accessing e-learning contents during the lockdown?

The figure below illustrates the best means through which respondents accessed e-learning contents during the lockdown.
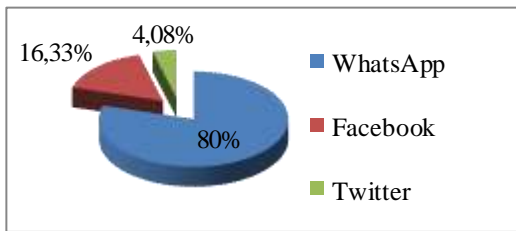

Figure 2: Channels for accessing e-learning

Respondents accessed e-learning contents via WhatsApp, Facebook and Twitter with sharply different proportions of usage. These three channels emerged top on the chart because they were the ones being used in the institutions that were surveyed to the detriment of learning management systems that are commonly used in the Western world.

As the figure shows, WhatsApp tops the list with 80% of participants who used the channel to access online contents. Facebook with 16.33% of the survey takers follows this trend. In addition, the table ends with twitter that only represents 4.08% of the sample population. Apart from these common channels, respondents also used other tools like Zoom, Skype, Yahoo mail and Gmail to participate in e-learning during the lockdown. Figure 3 that follows throws more light on this.
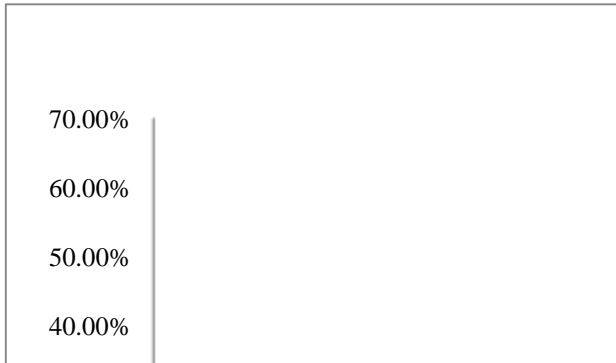
Figure 3: Respondents' use of other tools to access
e-learning contents

Participants used four additional tools to access e-learning contents during the lockdown period. These include; Gmail and Yahoo mail. Both tools top the chart with 63.83% and 23.40%, respectively. Besides, Zoom and Skype were fairly used by participants with percentages standing at 10.64% for the Zoom application and as low as 2.13% for Skype. This could be accounted for because the video applications are not easily used in Cameroon.

While in other contexts the broadband and Wi-Fi offer best internet connection, it is not always the case for students in Cameroon. As for Yahoo mail and Gmail, these platforms are used mostly to exchange information among users and options that allow video calls or meetings are not always successfully used because of poor internet connection.

3.3. What are some of the strategies that are used by HEIs to organise e-learning during lockdown?
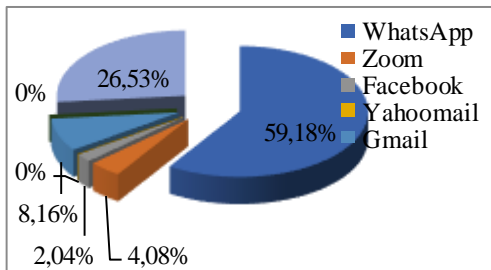The researcher sought to identify the methods used by various HEIs to organise online instructions.

Figure 4: HEIs strategies for organizing e- learning

WhatsApp comes first on the list of strategies with 59.18% of institutions preferring the messaging application for organising e-learning instruction. Other strategies used by HEIs include Gmail, Facebook, and Zoom and these represent 8.16%, 2.04% and 4.08%, respectively. As for Skype and Yahoo mail, no HEIs used the messaging applications to organise e-learning during the lockdown. The figure equally shows that 26.53% of participants indicated other strategies that HEIs used to organise instruction amid COVID-19 lockdown period.

This percentage accounts for the strategies used by the HEIs and includes the following applications: Telegram (3 respondents), combining Gmail and WhatsApp (1 respondent), Moodle (1 respondent), Google classroom (1 respondent), TV (3 respondents), combining Facebook and Zoom (1 respondent) and none of the strategies (2 respondents).

These results have some significance considering the contextual realities of Cameroon higher education today. The COVID-19 pandemic came at a time when many prerequisites for an effective implementation of e-learning were not yet completed. In this regard, many lecturers, if not the majority in the surveyed institutions do not have a sound mastery of online learning platforms to organise and deliver e-learning contents. This accounts for the fact that the strategies used in most institutions remain social network tools which are less efficient in the delivery of online instruction. Another fact is that while the ENHE is still under completion in all state universities, existing infrastructure to support online learning platforms are still lacking. The avoidance of e-learning platforms by institutions could also be accounted for by the fact that students do access good internet connection that can support such platforms, as they require better internet as compared to the poor internet provided by mobile telephone operators.

From the survey results, some HEIs had preferred strategies for organising e-learning. Figure 5 that follows gives an account of most preferred strategies in the sample HEIs.
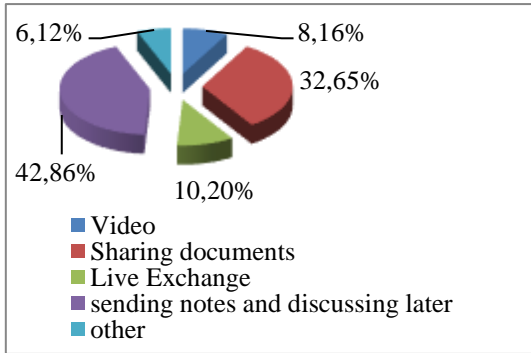
Figure 5: HEIs preferred strategies for organizing e- learning

Figure 5 encapsulates HEIs preferred strategies to organise online instruction during the COVID-19 lockdown. The most popular strategy used by HEIs is 'sending notes and discussing later' with a percentage of 42.86%. This strategy is followed by 'sharing documents to students' with a rate of 32.65%. 'Video teaching' accounts for 8.16%; while 'live exchanges' account for 10.20% of the strategies used by HEIs to organize e-learning. With regard to other strategies, the following were recorded: 'television' (1 participant), 'telegram and sharing documents and discussing later' (1 participant).

These figures have some significance regarding the overall objective of the survey, which was to explore how e- learning was organised in some universities during the COVID-19 lockdown period. The fact that traditional platforms for organising instruction online are not preferred by most institutions clearly shows that e-learning facilities in the said institutions are still to be built and commissioned. In addition, it is a great indicator that instructors in such universities need some basic or further training in the domain. The training could focus on how to use e-learning platforms to provide instruction to learners. In addition, these statistics imply that the attitude of most lecturers in the target institutions is not positive as concerns the organisation of instruction on e-learning platforms as it is the case in other countries.

The organisation of online classes for HEIs students did not go without challenges. The section that follows dwells on some difficulties faced by participants in the study.

2.5. What are some of the difficulties faced by HEIs students in participating in e-learning and their level of satisfaction?

First, the survey sought to find some of the difficulties that prevented students from effectively participating in online classes organized by different HEIs. Second, the researcher wanted to find out participants' level of satisfaction during their e-learning experience. Figure 6 below unveils challenges faced by participants as per their access to e- learning contents.

Figure 6 shows the difficulties faced by respondents in participating in e-learning amid COVID-19 lockdown in some selected HEIs across Cameroon. From the figure, poor internet accounts for 73.47% of the challenges faced by participants. As for difficulties using some platforms, 16.33% of survey takers indicated they found this as a hindrance to effective participation in e-learning. With regard to difficulties signing up/creating an account, 4.08% of respondents were concerned. The option referred to as other accounted for 10.20% of respondents' answers with the following key data: 'no access to energy' (1 respondent), 'momentary interruption of internet' (1 respondent), and 'blackouts' (1 respondent)
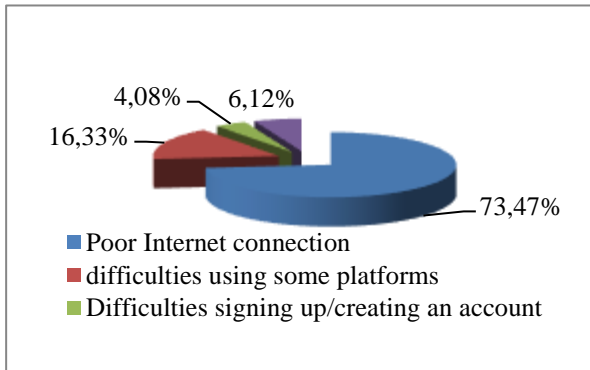

Figure 6: Students' challenges in participating in e- learning

Challenges that hindered students' access to e-learning contents may be accounted for by some external factors that do not depend on them. In fact, the numerous electricity black outs and poor internet remain some of the main factors that affect learners. On top of this, there are other factors like students' inability to use some of the e-learning platforms effectively. In the meantime, other students are not able to log on later after the beginning of classes.

2.6. What was the level of students' satisfaction after studying online during the COVID-19 lockdown?

The results that are presented below reveal the level of satisfaction of participants into the survey.
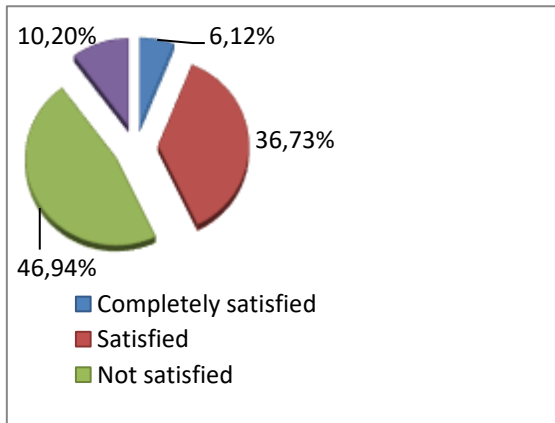

Figure 7: Students' level of satisfaction on e- learning

As can be seen on figure 7 above, 36.73% were satisfied with the e-learning experience they had during the lockdown. As for students who were completely satisfied, we had as low as 6.12% of respondents. Surprisingly, the majority of respondents were not satisfied with the e-learning experience they had. The percentage for this category of respondents stands at 46.94%. The last group of respondents fell under the variable 'a bit satisfied' (3 respondents), and 'difficulty to access university website' (1 respondent). After presenting participants' level of satisfaction, the part that follows dwells on some insights into suggestions to see an improvement in e- learning in HEIs across Cameroon.

2.7. What suggestions for improving e-learning initiatives in HEIs

The fifth research objective was to gather some suggestions for improving the e-learning experience of students amid any health pandemic in the future, which could be similar to COVID-19 and which could compel authorities to instruct the closing of schools and embark on e-learning. Figure 9 that follows reveals results on some of the key suggestions gathered from participants.
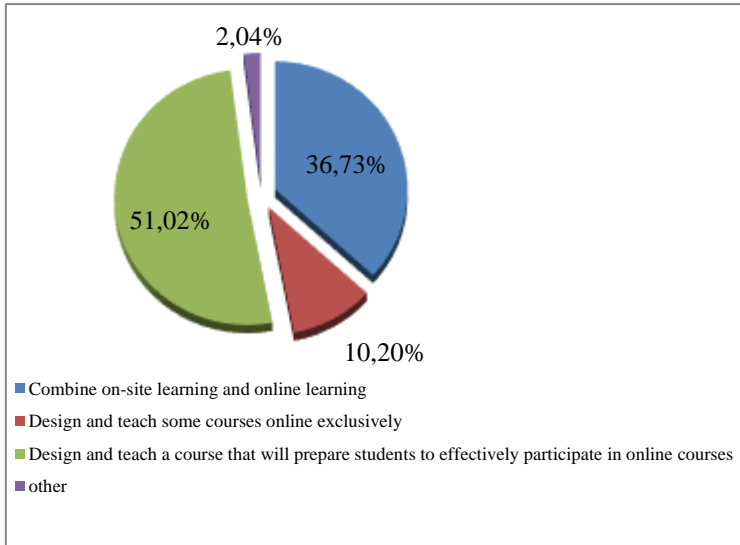
Figure 8: Suggestions for improving e- learning in HEIs

Figure 8 brings forth some suggestions presented by respondents in view of improving e-learning in HEIs. The table actually shows that the majority of students are in favour of an inclusive approach to e-learning. In this direction, as high as 51.02% of respondents suggest the design and teaching of a course that prepares students in HEIs to effectively participate in e-learning initiatives. Another group of respondents supports the combination of on-site learning and online learning. This group accounts for 36.73% of participants. Interestingly, a group of respondents recommend to design and teach some courses online exclusively. The last group that gave some open suggestions recommends the improvement of internet access. This last group accounts for 2.04% of respondents.

3. Discussion of survey results and implications

The main objective of this survey was to explore the e-learning experience of HEIs students during the COVID-19 lockdown in Cameroon. Specifically, the survey focused on the understanding of how HEIs and students coped with e-learning during the COVID-19 pandemic lockdown period. Firstly, most respondents access e-learning via their mobile phone using mobile data. Secondly, WhatsApp messaging application remains by far the common channel used by most HEIs to organise e-learning during the lockdown. Thirdly,

dedicated platforms and meeting applications that are used to organise e-learning in the Western world are seldom used within the Cameroonian higher education context. Fourth, students' level of satisfaction as per their experience is mitigated and finally participants recommend that prior to e-learning initiatives, HEIs should prepare students to effectively participate in e-learning initiatives.

To begin with, participants used various means to access the internet as well as e-learning contents during the lockdown. This is testimony that internet is well accessible within higher education in Cameroon. The fact that the majority of participants – 89.80% - accessed the internet using their smartphones is a strong indicator that mobile data is the most convenient option for students. This corroborates the study carried out in the Indian setting whereby students' most preferred internet access was mobile data during the COVID-19 lockdown to participate in online instruction organised by their universities (Amita, 2020). As concerns internet access via broadband, the rate is still very low despite the availability of network in the major towns and cities of the country. This implies that during the COVID-19 lockdown, students had enough mobile data to participate in e-learning and continuing the learning process without any interruption (OECD, 2020; Kouakep, 2020).

With regard to the best channels through which higher education students accessed e-learning contents during lockdown remains the WhatsApp messaging application. This finding complements the results reported in another study whereby this messaging application remains by far the most accessible among youths in the world today and has so many advantages for the effective implementation of e-learning (Thot, 2019). This is partly because WhatsApp messaging application is easily compatible with Smartphones and most participants used mobile data during the lockdown period. The fact that WhatsApp is used in profusion is indicating that it is the option made available by HEIs across Cameroon to facilitate e-learning. This highly contrasts with what obtains in other settings whereby WhatsApp is not among the best strategies to support e-learning. This further corroborates Thot's insightful contribution that pertinently shows the importance of WhatsApp in e-learning initiatives that involve youths. While online platforms like Zoom, Skype, Google classrooms and Moodle are used to support e-learning initiative across the world, it is not the case with Cameroon HEIs that were concerned with this survey. This fact contradicts the results reported in India whereby so many institutions

have been using latest innovations for the implementation of e-learning initiatives (Amita, 2020). This implies that actors in higher education need some training on how to use the aforementioned tools to develop e-learning and organise e-learning instruction. The fact that participants used WhatsApp messaging application to access e-learning during the lockdown shows the importance of this tool among students and teachers across the levels of education. A similar case featured in a study carried out in Cameroon during the same period and which showed how teachers of mathematics and English used WhatsApp to organise instruction during the lockdown (Kouakep & Mafouen, 2020). While the results of the study were concerned with secondary education, the current study focuses on higher education institutions. This further implies that e-learning is organised according to available means, which are easily accessible to students and instructors across the school system. This follows the theory of acceptance model (TAM) designed by Davis in the 80s. The theory emphasizes the importance of being at the same wavelength with all actors when it comes to introducing an ICT tool in a system to change the traditional standards. In an attempt to complement the tools discussed above, participants made use of messaging applications such as Gmail, Yahoo, Skype, and Zoom to access e-learning contents provided by their universities. A close look at the percentages for each application has many implications on the effective use of e-learning in Cameroon HEIs. The fact that 63% of respondents could access e-learning materials via Gmail and 23.40% via Yahoo mail indicates that the option chosen by different universities was a one-way traffic kind of delivering e-learning during the lockdown. The effective delivery of e-learning in situations whereby actors cannot meet due to a health issue must be highly interactive and offer many live exchanges whereby instructors and learners can actually reap the benefits of virtual classrooms and act as though they were in real on-site classroom situations. In the case of our institutions, most lecturers sent notes and assignments and did not come back to conclude the learning process with the feedback got from students. This situation sharply contrasts with the use of dedicated applications for e-learning such as Zoom and Skype, which were not among the best tools used to access e-learning contents. It is common knowledge that these applications are mostly used on personal computers and tablets, but participants mostly accessed the internet via mobile data during the lockdown. One might have expected HEIs students to use their laptops to access e- learning contents during the

lockdown, but unfortunately, it was not the case. This brings to the limelight the ENHE project whose first phase has been completed according to a recent outing of the Minister of Higher Education on the national media. According to him the distribution of laptops to students before the lockdown was a real boost for students to be online during the lockdown and participate in learning. This declaration remains questionable, as many education critics and researchers on higher education have been pointing out that the quality of laptops provided by the Ministry of Higher Education to students was too low and could not stand the test of time. Most of the laptops are broken and that could be the reason why most participants in the survey used their mobile phones to participate in e- learning during the lockdown. The fact that Zoom and Skype were seldom used to organize instruction also implies that the mastery of these tools by most higher education lecturers remains a call for concern that needs thorough investigation in order to see their level of mastery of such tools.

Within the context of strategies used by HEIs to organize e-learning during lockdown, WhatsApp messaging application tops the chart with 59.18%. This shows that the concerned HEIs might not have paid enough attention to the right strategies when it comes to organizing e-learning initiatives for their learners. This further shows how the use of the right strategy by actors to provide effective e- learning to students still has a long way to go in the said HEIs. In fact, while traditional e-learning platforms are used to organize instruction in the Western world the same does not hold true in Cameroon where most actors heavily rely on messaging applications that are not always suitable to organize online instruction in an effective way. In a recent study carried out to explore how e- learning was organized across the world during the lockdown, findings revealed that most countries would use e-learning platforms (OECD, 2020). The results of the present study do not corroborate these findings as instruction remains heavily organized on messaging applications in Cameroon. This notwithstanding some chosen few lecturers are doing things differently and have come up with the combination of strategies in order to guarantee the quality of e- learning delivered to their learners. Strategies like telegram, combination of Gmail and WhatsApp, Moodle, TV and Google classroom are in profuse use. These preferred strategies testify that although some universities are lagging behind, others are trying hard to provide quality e- learning to their learners with the right strategy like those recommended in countries whereby educational technology has

covered a good path so far with palpable results. This implies that educational technologies are not well mastered by lecturers in some Cameroon HEIs. There is a need to school lecturers on how to effectively use educational technology to design and share contents online. In this direction, the Ministry of Higher Education must fasten the ENHE project and put in place a team of trainers who will design and provide training on the use of different strategies to enhance e-learning during periods similar to the lockdown.

The fact that the preferred strategy was sharing documents or materials further buttresses the point that e- learning is perceived as a one-way process whereby the lecturers share any relevant materials but do not come back for feedback to check if learning has taken place. A different option or strategy that was also preferred was sending notes and discussing them later. This once more falls within the traditional distance learning whereby there is no live exchange among all participants on the same platform. Live exchanges, which only account for 10.20%, show that the effectiveness of e-learning is jeopardized under such conditions. The foregoing undeniably brings forth the challenges that marred the organization of e- learning during the lockdown.

The mostly decried difficulty that came up was poor internet connection with 73.47% of participants indicating how difficult it was to connect to the internet. It is a proof that internet access may be effective in cities but the quality remains poor. The implication is that in such conditions, it is hard to participate in online activities. Another fact is the difficulty to use some platforms to access e- learning. This shows that students are not prepared to use different e- learning strategies offered by their institutions and thus there is a need to accompany learners prior to such endeavours. This could be done by schooling them on key aspects of e- learning or designing some courses on educational technology. With regard to schools, which used Moodle and other virtual classrooms, it remained challenging to create an account because of poor internet connection and poor servers, which did not always manage the flow of data being sent in by users. The quality of infrastructure must be reinforced to see e- learning become more effective in the future.

The above discussion shows that during the lockdown period, HEIs in Cameroon organized instruction on different messaging applications successfully despite the fact that traditional e-learning platforms that are used in Western settings were not used profusely. Indeed, students

remained in contact with their lecturers during the lockdown period and could access pedagogic contents from their homes. While some institutions made use of innovative approaches in delivering e-learning contents to their students, others relied on simple strategies that do not comply with the latest requirements in the domain. There were many difficulties on students' side to access e- learning and effectively participate in learning during the lockdown. The difficulties that came because of poor internet connection and electricity blackouts hindered the e-learning process during the lockdown period. It is in this regard that most of the suggestions proposed by participants are geared towards reinforcing the capacity of learners to effectively use e- learning not forgetting the strengthening of infrastructure. The main implication could be that HEIs and their students are not yet ready to embark on e-learning. The fact is that most of the HEIs that were surveyed did not fully embrace and make good use of the potentials offered by e-learning in an environment characterized by COVID-19 lockdown. This falls in line with the argument that holds that ICT is taught in Africa as a mere subject rather than being conceived as a tool that can be used to improve on the practice (Karsenti, 2009). In the same vein, the role of some ICTs is merely seen in completing basic tasks but hardly visible when it comes to implementing innovative ways of teaching (Béché, 2012). The current study corroborates this as it has been reported that many instructors could not use dedicated e-learning platforms because they lacked the necessary skills and could only use ICT for performing basic tasks. The fact that many participants want to see their ICT competences boosted implies that HEIs must take the responsibility to train their students so that they can take up challenges in the domain of e- learning. This corroborates the recommendations of another scholar whose cry is to see the competences of students significantly improved and in so doing equip them with multidisciplinary talents (Fonkoua, 2006).

Conclusion

The objective of this study was to explore the e-learning experience of students from some HEIs across the Republic of Cameroon. Results of this study indicate that during the lockdown period in HEIs across Cameroon, e-learning was successfully carried out with varying degrees of satisfaction and with a host of difficulties encountered by students to access materials and effectively take part in the learning process. In

addition, while most HEIs relied on simple strategies to organize e-learning instruction, others could explore the potentials offered by the best tools used in the Western world to maintain students in the learning situation. Some of the interesting findings are worth recalling here.

First, most students during the COVID-19 lockdown had internet access only through their Smartphones and the mostly accessible media were WhatsApp, Facebook, Gmail and Yahoo mail. Second, WhatsApp was by far the tool mostly used for e-learning. Third, most schools instead of using e-learning platforms and interactive messaging applications such as Zoom, Skype, Google classroom heavily relied on the sharing/sending of documents on WhatsApp groups. Fourth, the difficulty that prevented most students from effectively taking part in the e-learning process was poor internet and electricity blackouts. The latter led to a fair level of satisfaction on students' side as per their e-learning experience. Fifth, following the list of suggestions presented to respondents they were all unanimous that for a better organisation of e-learning opportunities in the future, HEIs must design and teach a course that can equip students with e-learning competences.

The foregoing account makes this study acquire more significance as per the understanding of challenges faced not only by students during the pandemic period but also by lecturers. While lecturers were not able to design and deliver instruction following the Western model, students on their part had difficulties accessing online contents because of poor internet connection and old devices. During the pandemic, teachers and students discovered the true potentials behind WhatsApp tool and how it could be tamed for educational purposes during health crises.

The researcher recommends that lecturers take continuous training on how to design and deliver instruction on dedicated online platforms. Besides, the E-National Higher Education (ENHE) project in the 10 state universities should be accelerated. Universities should reward lecturers who successfully teach their courses on e-learning platforms.

This work has contributed in a better understanding of the state-of-the art of e-learning in most of the surveyed institutions. There are good reasons to look into the national strategy of e-learning for higher education. As for suggestions for further research, other studies could be carried out on the same topic but with a larger sample. This will help have a bigger picture of what obtains in all Cameroon universities. Some research is worth carrying out on the comparison of e-learning modelling in private and public HEIs in Cameroon. All these will

significantly contribute in elaborating e-learning strategies that fully comply with the standards in the Western world and chiefly contribute in quality assurance of Cameroon higher education e-learning system, which is still in the making.

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