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IMPACT AND CHALLENGES OF ONLINE LEARNING APPLICATION PLATFORMS FOR SUSTAINING TEACHING AND LEARNING DURING COVID-19 LOCKDOWN IN NIGERIA

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Abstract

The COVID-19 pandemic has posed unprecedented challenges requiring teachers and students to adapt to online teaching and learning, because schools were closed by governments all over the world in order to contain the spread of the virus. However, despite the advantages of continued teaching and learning during the COVID-19 lockdown, learning online is not without its attendant problems. This study sought to investigate the impact and challenges of the online application platforms for sustaining teaching and learning during the COVID-19 lockdown. Data was collected using a structured interview conducted on students of Al-Qalam University Katsina, who participated in the online learning to ascertain the impact and challenges they experienced during the process. The results of the study showed that majority of the participants agreed that online learning platforms help in sustaining lectures during the lockdown, but they prefer the traditional classroom teaching. The study identified some of the challenges for the online learning to include lack of access to fast internet service, ownership of digital devices among students, poor electricity. The study recommends that schools and the government need to invest in ICT since the lack of interest by the students might not be unconnected with the challenges identified by the study.

Key words: COVID-19, ICT, Learning, Online, Teaching, Students

1. Introduction

The school lockdown confronted teachers, students, parents, and schools with an entirely new situation. Continued teaching and learning was only possible through alternative means of schooling. Teachers had to change to online teaching, requiring them to use various digital tools and resources to solve problems and implement new approaches to teaching and learning. Beyond instructional goals, teachers were also required to maintain contact with their students to account for the social integration of their learning groups (Daniel, 2020).

Although the transition to online teaching was unexpected and rapid due to COVID-19 pandemic, it took place amid a wider ICT transformation process in educational systems (McFarlane, 2019). Digitalization in

schools has recently attained prominence. A key argument relates to closing the 'gap' between students' conventional learning and development at school and the experiences and skills that our youth need to enter the information economy. The school curriculum should increasingly be interwoven with ICT, and students should be given opportunities to use advanced technological tools and digital resources for creative and innovative problem solving.

In Katsina State, Nigeria, the area of the present study, the need to prepare students for a society in which digital literacy plays an important role has been acknowledged as well. The country has created an agency named National Information Technology Development Agency (NITDA), and even a ministry named Ministry of Communication and Digital Economy, which are aimed at developing digital competences in tertiary institutions across the country.

Research appear to be related to pedagogical concepts that could be used to apply ICT effectively in addition to how teachers can be trained to use technology in ways that are pedagogically adequate. It is important to examine deeper principles of teaching and learning and how teachers integrate technology in pedagogical contexts (Baker et al., 2018). Regarding teacher education, the question of how opportunities to learn digital competence should be implemented with the aim of fostering pre-service teachers' competences so that they are better prepared for digitalization in schools remains open (Jager-Biela, Kaspar & Konig, 2020).

Therefore, this study is aimed at investigating the impact as well as challenges of the online learning application platforms that were used during the COVID-19 lockdown for sustaining teaching and learning. The study also focused on understanding the students' perception and acceptability or otherwise of using the online application platforms for learning when schools were close down, and various schools opted to sustain the teaching and learning through alternative means other than the traditional classroom method.

1.1 Significance of the Study

This study is particularly significant to teachers, students, school management, and other relevant stakeholders in education to understand the impact and challenges of utilizing ICT tools and resources to sustain teaching and learning in the event where traditional classroom teaching cannot hold due to some circumstances beyond control. The teachers could benefit with this study by becoming aware of the benefit of using online learning to deliver their lessons when students are at home or in the event that the teacher could not come to school to deliver the lesson physically. While the students can use the findings of the study to know how to use ICT tools to continue learning, and also the school management and the government can benefit from the study by adopting the use of ICT tools in schools to improve the teaching and learning process.

2. Empirical Studies

A study conducted by Zalat, Hamed & Bolbol (2021) to investigate the experiences, challenges, and acceptance of e-learning as a tool for teaching during the COVID-19 pandemic among university medical staff, using an electronic questionnaire with a validated Technology Acceptance Model (TAM), found that the major challenges affecting the acceptance and usage of e-learning were insufficient/unstable internet connectivity, inadequate computer labs, lack of computers/laptops, and technical problems.

Similarly, Adeyeye et al. (2022) examines the effectiveness of online learning platforms such as Zoom and Moodle and their effect on the academic performance of students studying practical-related courses during COVID-19, found that the students were in favour of their school adopting the online teaching and learning even after the COVID-19 pandemic lockdown, due to the effectiveness and ease of use of the online learning platforms. The study also found that the use of the online learning platforms had a significant positive impact on the students' academic performance, due to the adaptability, attitude, and perception of the students.

Oyediran et al. (2020) conducted a study on the prospects and limitations of e-learning application in private tertiary institutions amidst COVID-19 lockdown in Nigeria. The results of the study found that age, educational attainment, and teaching experience influence e-learning compliance.

Manca & Meluzzi (2020) conducted a study on strengthening online learning when schools are closed, found that limited access to ICT infrastructure (that is hardware, software, internet, etc.) and the lack of adequate preparation on the part of the lecturers involved and the students for the unique demands that online teaching and learning entails. The study recommends that the schools and parents should help students to develop strong attitudes towards online learning so that the opportunity to sustain teaching and learning provided by ICT during lockdowns can be utilized.

A study made by Ngampornchai & Adamson (2016) on the readiness for online learning of Northeastern Thailand students. The Unified Theory of Acceptance and Use of Technology (UTAUT) model was used to explore students' level of familiarity with technological education. It was concluded that despite the fact that most students have a general knowledge of mobile devices, through active social media usage, they have little knowledge of e-learning technological tools.

Rapanta et al. (2020) wrote an article on online university teaching during and after the COVID-19 crises, which focused on helping university teachers with little or no virtual learning and teaching experience. The findings of the study describes the perception and preference of students learning; focus was based on enrollment of courses and concerns with the type of online courses offered. It was concluded that the scheme of work should include interactive sessions between lecturers and students, assignment sessions with precise instructions on how to carry them out, each topic should come with clear objectives.

Pham et al. (2019) examined the connections between e-learning attributes, which include services, qualities, satisfaction, and trustworthiness of students with a focus on developing countries like Vietnam. Analyses were based on a total number of 1,232 students using exploratory/confirmatory factor and structural equation models of SPSS 25/SmartPLS 3.0. The study concluded that e-learning service qualities have a direct effect on the belief of students learning online.

Almarabeh (2020) evaluated student's perception of e-learning with respect to the technological recognition model. The results show that learners are not just qualified but are willing to recognize the e-learning system. In a study to determine learners' view on value-added courses like Forex management, operations research, and genetics that are offered online, it was concluded that students with an interest in online learning are also confident with e-learning (Daniel, 2020).

2.1 ICT Challenges in Nigerian Education

In Nigeria, tertiary institutions have made significant improvement in the deployment of ICT infrastructure in Nigeria, such as designing web portals for online application of admissions, registration of courses and fees payment, online assignment and assessment, checking of transcript among other things (Ajah & Chigozie-Okwum, 2019). However, despite these improvement, there are challenges confronting the effective application of ICTs in schools and in the education process in general.

According to Henry, Abang & Echa (2015) in their study on the challenges of information and communication technology in Nigeria universities identified some of the problems to include lack of functional computer laboratories, poor electricity supply, poor or nonexistent internet connectivity, high cost of hardware devices and licensed software programs, and poor maintenance culture.

Another study conducted by Babatunde & Paschal (2016) in their study on challenges and barriers to ICT deployment in Nigerian Universities, identified some of the challenges to include cost of internet data and electronic services, fear of change from manual methods to computerized system, computer illiteracy, fear of being made redundant by the new system, lack of adequate ICT facilities, internet and electronic security, and inconsistency in electricity supply.

From the foregoing it is distressing to observe that Nigeria fall below expectations regarding the use of ICTs in general and particularly in instructional/learning activities. The disparity in access to ICT in Nigeria is occasioned by many and diverse problems, including but not limited to, low bandwidth for internet access, lack of funds to embark on full scale computerization, irregular supply of power, inadequate functional telephone lines and other infrastructural facilities needed to support the efficient and effective introduction and development of the technology (Ogunode, Somadina & Olatunde-Aiyedun, 2021).

Nigeria is also short of manpower for effective utilization of software and for maintenance. Qualified programmers, engineers and technicians are equally difficult to find and when they are found, the (public) education sector cannot afford to retain them, as competition from the private sector is ferocious. This lack of manpower breeds a compendium of other problems. Teachers can only pass on skills and ideas to the learners, if they are masters of their trade, and they are at the cutting-edge of knowledge and developments in their disciplines.

This is, unfortunately not the case here in Nigeria, most teachers at all sectors of the education system have minimal or no ICT skills and hardly use existing opportunities to develop them. But this generation cannot survive the challenges posited by the contemporary social realities with this level of ignorance, technophobia and information paranoia of the teaching force. This development therefore, calls for a rethinking of the strategies that are adopted for teacher production in order to enhance the drive towards sustainable development (Henry, Abang & Echa, 2015).

The idea that teaching and learning can successfully take place through the application of electronic communication facilities between teachers and students is one which had generated, sometimes, hope and dismay and at other times, excitement and fear. Hope that many more learners can be reached at a more convenient pace that had erstwhile been the case, dismay that the infrastructures necessary for deploying

an effective ICT platform is lacking in low-income countries like Nigeria. The use of ICT in the education process has been divided into two broad categories namely: ICT for Education and ICT in Education.

ICT for Education refers to the development of ICT specifically for teaching/learning purposes, while ICT in Education involves the adoption of general components of ICT in the teaching and learning process. Generally, however, the educational relevance of computers and other components of information technology cannot be overemphasized. From the period when skinner applied programmed instructions to teaching machines, through Brunner's experiment with computers in instruction, to the current wave of information transmission and exchange via the worldwide web, we have seen different applications of ICTs in enhancing cognitive development (Babatunde & Paschal, 2016).

3 Research Methodology

The techniques and instruments in data collection include both primary and secondary methods. The primary data was collected using a structured interview conducted on the students of Al-Qalam University Katsina who participated in the online learning to ascertain the impact and challenges they experienced during the process. On the other hand, the secondary data was collected through review of related literature from various scholars who conducted studies on the use and challenges of online learning platforms to sustain teaching and learning during the COVID-19 pandemic lockdown in different countries.

3.1 Interview Questions

The following were the questions that appeared in the measuring instrument, which is the structured interview. The participants (that is students, 15 in number) were enjoined to answer the questions to the best of their ability. The number of questions that were asked the respondents during the interview process are seven (7). These questions are:

1. Which ICT device do you use for participating in the online teaching and learning?

2. Have you used the online learning application platforms before the COVID-19 lockdown?

3. Which online application package(s) was used in the teaching and learning?

4. Do you support online learning to completely replace the traditional classroom teaching?

5. Are the online learning application platforms easy and simple to use?

6. Does online learning application platforms allow for better interaction between students and teachers?

7. Should online learning be made compulsory in Nigerian tertiary institutions?

The above questions were asked the respondents and the responses were collected and analyzed. The findings were then compared with the results of other findings identified in the literature.

4. Data Presentation and Analysis

This section provides analysis of the responses made by the respondents for the interview questions, and the findings was compared with the results of other findings in the literature.

1. Which device do you use for participating in the online teaching and learning?

This question was asked in order to find out the different types of ICT devices used in the online teaching and learning, and which one is mostly used by the students. The findings revealed that majority of the students use Smartphones in participating in the online teaching. According to the respondents, the smartphones have the advantage of mobility and ease of use. This result corresponds with the findings of Darko-Adjei, (2019), who studied the use and effect of smartphones in students' learning activities, where he identified that Smartphone usage ensures flexible course delivery, makes it possible for learners to access online learning platforms easily, access course resources and interact digitally.

2. Have you used the online learning application platforms before the COVID-19 lockdown?

This question was asked to ascertain whether the respondents have you used the online learning application platforms for study or any other purpose. Majority of the respondents said they have never used any online learning application platforms for any purpose. Only few of the respondents answered that they have used it to attend a meeting and/or conference. This result was supported by the findings of Mukhtar et al., (2020), in their study on advantages, limitations and recommendations for online learning during COVID-19 pandemic era. They stated that online learning became more popular during the COVID-19 lockdown era due to its advantages, which include the active involvement of students, that is being student-centered learning and it is easily manageable.

3. Which online application package(s) was used in the teaching and learning?

This question was asked to identify the online learning platform that was mostly used for teaching and learning. All the respondents answered that they were taught using Zoom and Loom applications. This result corresponds with the findings of Chaka, (2020) in his study on higher education institutions and the use of online instruction and online tools and resources during the COVID-19 outbreak. His findings suggested that Zoom application was the most adopted and preferred tool for teaching and learning during the COVID-19 lockdown.

4. Do you support online learning to completely replace the traditional classroom teaching?

This question was asked to determine if the respondents will support replacing the traditional classroom teaching and learning with online learning. All the respondents rejected the notion of replacing traditional classroom teaching and learning with the online learning. This findings corresponds with the findings made by (Johnson, 2017) in his study on why virtual teaching will never ever replace classroom teaching. There is a better engagement between the teacher and the students.

5. Are the online learning application platforms easy and simple to use?

This question was asked the respondents to determine whether the online learning application platforms are easy to use. All the respondents agreed that the online learning application platforms are easy to use.

6. Does online learning application platforms allow for better interaction between students and teachers?

This question was asked to determine if the online learning application platforms allow for better interaction between teacher and students. Majority of the respondents reported that they do not enjoy a good interaction with the teacher, unlike the traditional classroom teaching and learning.

7. Should online learning be made compulsory in Nigerian tertiary institutions?

This question was asked to find the respondent's opinion on whether the online learning be made compulsory for tertiary institutions. Majority of the respondents disagree with the notion of making online learning compulsory for schools. They suggested making it a complement for the traditional classroom teaching and learning.

5. Conclusion

This study was able to highlight the impact of online technology platforms that were used for sustaining teaching and learning during the COVID-19 pandemic lockdown, which causes schools and the country in general to close most activities. This study determined that Nigerian tertiary students have devices capable of accessing online teaching and learning. The beneficial features of online learning are the ability of schools to continue providing students with teaching and learning even in the event of any disaster that may cause the closure of schools. Videos containing lectures can be recorded and sent to students at their homes, which can enable them to learn at their own pace, and the simplicity of the learning materials. However, the findings of the study identified that online learning should not replace the traditional classroom teaching and learning, as the respondents reported that the later offer better interaction between teachers and students.

6. Recommendations

Based on the study conducted, the following recommendations were proposed, they include:

1. Since the application of ICT in education has brought significant changes in teaching and learning, the school management, education authorities, and the government should make more funds available to sustain ICT infrastructures.

2. Internet access service is one of the key requirement for conducting online teaching and learning, therefore, the bandwidth and power supply issues should be tackled with renewed vigor.

3. ICT literacy should be a compulsory aspect of teacher preparation programme. This means teachers should be given the opportunity to become ICT literate within a specific timeframe.

4. Online learning requires competency and skills in order to manipulate the relevant devices and make the best use of such technologies. Therefore, it is recommended that the staff involved in the online teaching should of necessity be trained and retrained.

5. Every teacher should view ICT literacy as an indispensable aspect of self/professional development and endeavor to achieve that without waiting for any directive to that effect.

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