Critical Evaluation of Barriers Inhibiting the Successful Implementation of e-learning: Implications for Open Schooling

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Abstract

The ravaging scourge of COVID-19 has tested the readiness of virtually all human institutions to adapt to the challenges. The educational system is no exception. The move to remote and online teaching revealed that learning can comfortably take place using e-learning technologies. The main thrust of this research is to critically evaluate barriers to e-learning utilisation using an example from Nigeria as a case study. To achieve our aim, we used two research questionnaires to guide the study. The research was conducted using a purposive sampling method whose choice was informed by the fact that we intended to sample data from active players in the educational sector. Both teachers' and students' opinions were sampled. Our instrument for data collection was designed using a Google form sent to respondents via the WhatsApp platform and electronic mail. When responses were submitted, the information was captured automatically in our repository. In addition to that, we designed structured questionnaires which were administered physically to reach those who could not be reached using the previously mentioned platforms. A total of 240 questionnaires were administered and collated. This approach enables the researchers to analyse the collated questionnaires to make inferences by representing the percentages of respondents' responses on each item using column charts and pie charts.

Keywords: *e-learning, COVID-19, pandemic, education, open schooling, barriers, implementation*

Introduction

The closure of schools during the COVID-19 pandemic and incessant emergence of new waves of COVID-19 has become a serious challenge to the educational sector. At the time of conducting this research, Nigeria is in the fourth wave of the deviant strain of the virus. This reality has necessitated the need to reexamine the existing educational modalities which are completely built on teachers making physical contact with learners at a designated learning environment. Additionally, the pandemic has revealed that the educational systems, mostly in the developing economy countries, are yet catch up with and exploit the advancement in ICT that has built a framework for the implementation of distance learning, this has called for the digitisation of the educational curriculum which currently support largely in-person contact education. In recent times, digitization is considered a key driver of innovation in teaching and learning (Gillpatrick, 2020). To further emphasise the importance of digitisation of educational systems, Abdulahi and Tijani (2019) highlighted that, "digitisation of the education system is an opportunity to develop a cognitive resource-based mechanism in learners and improve the skills,

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lifelong learning and continuous education. Digitisation produces information that can be conveyed in many different methods. It brings about democracy of knowledge where education becomes a collaborative and self-driven enterprise".

According to UNESCO (2020), it was confirmed that "university and school closures have several adverse consequences on students such as interrupted learning which results in students and youth being deprived of opportunities for growth and development". These impediments can be attributed to lack of exploitation of ICT framework for e-learning. Even though mobile and wireless technology have been evolving rapidly, most of these infrastructures are yet to make in-roads into the everyday life of most Nigerian communities. Though, during the pandemic a lot of strategies were implemented to engage mostly the primary and secondary school students through the television, Zoom, Google Classroom and even radio, these programs were largely ineffective owing to lack of steady power supply, and limited or no access to the internet for most rural dwellers. In Nigeria, almost half of the population are rural dwellers according to the World Bank collection of development indicators (2020) as cited in trading economics (2022), compiled from officially recognised sources it was reported that the total population of Nigeria rural dwellers in 2020 was 48.05%, that means the reasonable part of the populace are not exposed to modern means of education, except for the in-contact traditional means of education which is not dynamic and does keep touch with trend. The reality is that e-learning has become an intricate part of modern education whose advantages outweighs any perceived disadvantages. Our educational system must therefore be reengineered around it.

It may seem that we have weathered COVID-19 but the fact that the pandemic came and challenged most of our existing educational system cannot be undermined. This study will be narrowed down to Nigeria case study of the barriers that inhibit the successful implementation of e-learning for open schooling.

Literature Review

E-learning and its relevance

E-learning is any form of learning that takes place through the mediation of electronic devices. Here learning resources and instructions are delivered with the aid of a computer and other electronic devices and media such as the internet, audios, videos etc. The advent of web 2.0 technology that promotes easy sharing of diverse kinds of learning materials online either synchronously or asynchronously has further extended the word "e-learning" to mean online learning, distance learning, computer and internet-based learning these words are used sometimes interchangeably with e-learning. According to Nazim and Mukherjee (2016) "E-learning is a modern form of distance education in which training or educational material is delivered via the Internet or an intranet to remote learners". Chitram and Antoney (2018) add a wider view to the definition of e-learning by emphasizing further that "The term e-learning comprises a lot more than online learning, virtual learning, distributed learning, networked or web-based learning. As the letter "e" in e-learning stands for the word "electronic", it would incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices".

The flexibility that comes with e-learning has made it an intricate part of education at all levels and also

with the popularity of mobile Smart phones with full capability of the computer system, have extended the definition of e-learning to include mobile learning, coined as "m-learning" which implies learning on the go, without restriction to a particular learning location. According to Chitra and Antoney (2018) "m-learning is an abbreviation of mobile learning, which means learning using portable devices that allow the student to learn in different environments and whilst on the move instead of being restricted to a classroom setting or tied to a desk. Mobile learning is, of course, by its electronic nature, a subset of e-learning, but it refers far more specifically to these handheld devices and portable technology". E-learning has alleviated the problem of restricting learning to a specific learning environment, it can accommodate people from all walks of life; classes can be taken from anywhere without any restriction to number of times because most of the learning materials are resident online. Most online contents are up-to-date which provide for lifelong learning.

E-learning is learner centred which aligns with the theory of Constructivism which is "an approach to learning that holds that people actively construct or make their own knowledge and that reality is determined by the experiences of the learner" (Elliott et al., 2000, p. 256). This characteristic that makes learning happen at the pace of the learners which can accommodate both fast and slow learners has made e-learning gain widespread approval. In agreement with the theory above (Islam, Beer and Slack, 2015 as cited in Al Rawashdeh et al., 2021) were of the opinion that, "E-learning ensures that students are completely involved as learning takes place together with texts, videos, sounds, collaborative sharing, and interactive graphics. It may enhance the quality of teaching and learning, report the need for higher institutions for maintaining competitive advantage, and access to education and training in this globalizing marketplace for students". To further buttress the theory of constructivist learning the online teacher resource (n.d) emphasized that "Instead of having the students relying on someone else's information and accepting it as truth, the constructivism learning theory supports that students should be exposed to data, primary sources, and the ability to interact with other students so that they can learn from the incorporation of their experiences". This has led us to students' interaction with learning content and collaboration with others learners in the online learning community which has promoted global sharing of knowledge, experience and expertise.

Challenges of e-learning

According to Martinez (2020) different kinds of challenges were identified to pose some hurdles to utilizing the full benefits of e-learning: adjustment; most learners who are used to class education find it difficult to adapt to the e-learning style of education. Lack of motivation; since learning is expected to take place at self-pace, there is usually widespread apathy towards courses that are boring and uninteresting. Fourthly, lack of clarity; there is a lot of information on specific topics, some that are conflicting that if one is not properly guided could go with misleading information available.

Research Questions

To enable us study effectively the impediments to utilisation of e-learning technologies, we posed the following research question:

1. What are the impediments to the implementation of e-learning amid the COVID-19?
2. What modi operandi are necessary to overcome the identified challenges?

Methodology

The research was conducted using a purposive sampling method whose choice was informed by the fact that we intended to sample data from active players in the educational sector both teachers' and students' opinion were sampled. Our instrument for data collection was a designed google form which was sent to respondents via their WhatsApp platform and electronic mail, when responses were submitted, we had the information captured automatically in our repository. In addition to that we designed structured questionnaires which were administered physically to reach those who couldn't be reached using the previously mentioned platforms. with a total of 240 questionnaires administered and collated. This approach enables the researchers to analyze the collated questionnaires to draw inferences by representing the percentages of respondents' responses on each item using column and pie charts as shown in figure 8.1 and 8.2 below.

Table 8.1 : Demographic Characteristic of the respondents

Characteristics	Frequency	Percentage
Ages of Respondent		
20 - 30 Years	85	35.4%
31 – 41 Years	92	38.3%
42 – 52 Years	46	19.2%
53 – 60 Years	17	07.1%
Sex		
Male	125	52.1%
Female	115	47.9%
Occupation of the respondent		
Undergraduate	53	22.1%
Postgraduate	38	15.8%
Heads of educational organisation	90	37.5%
Teachers	41	17.1%
Other students	18	07.5%

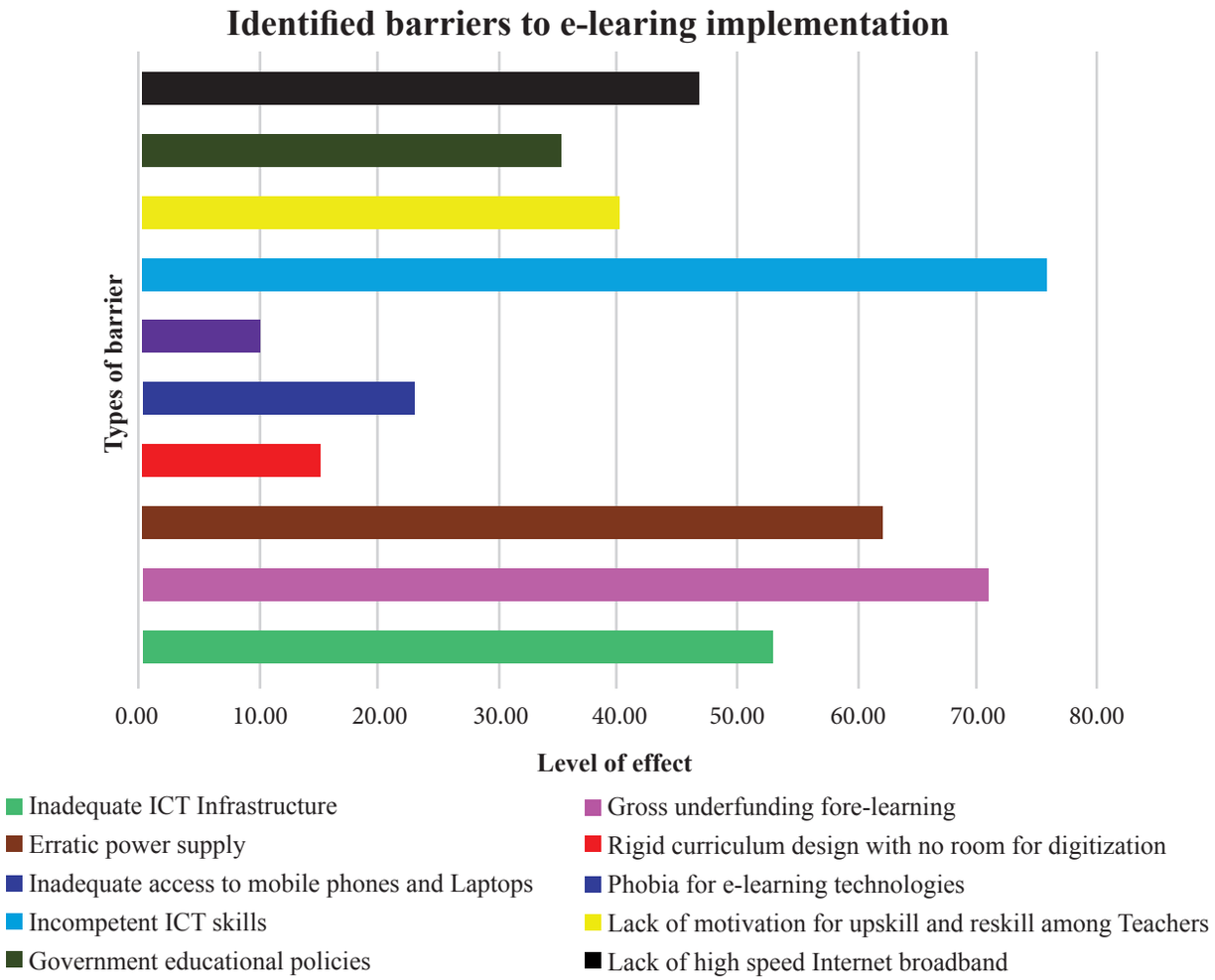

Figure 8.1 : Challenges to e-learning implementation during COVID-19

From the figure above, we can understand that more needs to be done urgently to enable our educational system in Nigeria to keep sync with the current reality. About 76 percent believe there is a gross shortage of ICT skills which is supposed to be the main driver of e-learning. Inadequate funding from the government is another big challenge, that is in agreement with Olufemi (2020) who stated that the mean budgetary allocation to education from 2009 – 2018 is 7% and 2021 has witnessed an appalling decline to 5.6% the lowest since 2011. Erratic power supply in the urban areas and lack of electricity in the rural areas is another impediment at 62 percent. In most rural areas there is non-availability of high-speed internet broadband. Due to inadequate funding there is widespread apathy on the path of teachers for upskill and reskill to enable them keep in touch with emerging trends in e-learning technologies.

Modalities for overcoming perceived barries to e-learning

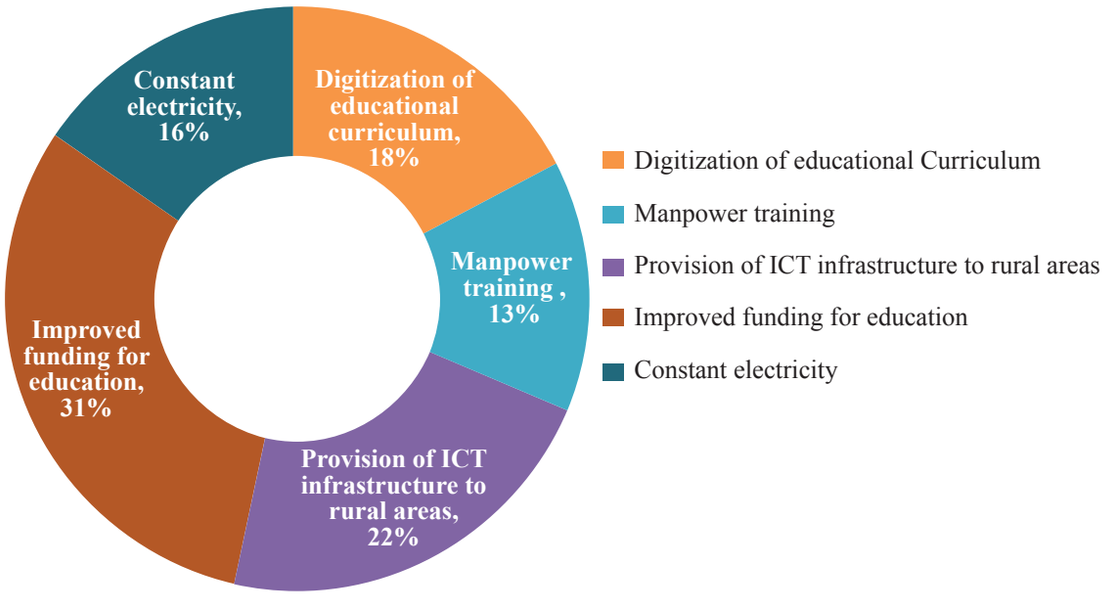

Figure 8.2 : Solution to e-learning barriers

The traditional system of education that only makes provision for learners to stay within the four walls of the educational institutions for learning to take place must be overhauled urgently. From the results presented above there is an overwhelming 31% support for Improved funding for education whereas 18% support digitization of educational curriculum and the entire system of education for our educational system to keep trend with the current digital industrial revolution. 16% support that there should be provision of enabling environments in terms of constant power supply in the urban settlement and rural electrification, in addition to provision of ICT infrastructure (22%) such as broadband internet access, supply of laptops and smart phones for the underprivileged most essentially those in the rural areas among many others. Last but not least 13% support manpower training.

Conclusion

The findings from this research provides a unique insight into the perspectives of teachers and students regarding some of the barriers to the implementation of e-learning during the COVID-19 pandemic and it is important we retire as a nation to the drawing board to map out urgent strategies for digitization of our educational system. To get that achieved we looked at the barriers to the implementation of e-learning during the COVID-19 which range from inadequate government funding for education, inadequate and lack of ICT infrastructure for e-learning to take off, incompetent manpower among many others. We also proffer solutions to them from the opinions of our respondents which include improved funding for education, electrification of rural settlements and constant electricity for the urban, overhauling of our curriculum and manpower training among others.

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