

**ASSESSMENT OF THE CAPACITY FOR NIGERIAN TETIARY INSTITUTIONS  
TO ADOPT E-LEARNING AND M-LEARNING DURING COVID-19  
LOCKDOWN IN NIGERIA.**

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**JULY, 2021**

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF CURRICULUM AND  
INTRUCTIONAL TECNOLOGY, FACULTY OF EDUCATION, UNIVERSITY OF  
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## **CERTIFICATION**

We, the undersigned, certify that this work was carried out by **AGBONISON OSARETIN** in the Department of Curriculum and Instructional Technology, Faculty of Education, University of Benin, Benin City. For the requirement of the award of the Bachelor of Science (B.Sc. (Ed) degree in Computer Science.

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## **DEDICATION**

This work is dedicated to God Almighty, whose love and grace has brought me this far, for is endless provisions and protection through my academic pursuit in University of Benin despite all my fort comings and also to my parents Mr. Sunday Agbonison and Mrs. Maureen Agbonison for their support so far.

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## ABSTRACT

This research work explore challenges faced in adopting the use of e-learning and m-learning during the covid-19 outbreak by conducting investigative study among undergraduates and lecturers in tertiary institutions. The research talked on the use and important of e-learning and m-learning to the advancement of learning.

This work used descriptive survey research design to obtain data from the sampled population that comprises undergraduate and lecturers from fourteen faculties in University of Benin, the sample populations was 200 of which hundred and fifty where undergraduates and fifty was lecturers form five(5) faculties of university of Benin.

The data from the finding showed that e-learning and m-learning facilities and resources where not full available for use by students and lecturers, such as computer labs, internet facilities and use online classes. Based on the results, it was recommended that government should be proactive providing E-learning facilities and resources for tertiary institutions, for e-learning to be effective, appropriate measure should be given to maintenances, provision of stable internet provider to support easy and fast learning and teaching and Electricity is one of the driven force and backbone of computer and computer tools, so Government should finance and connect tertiary institutions particularly to a stable electric grid, basic knowledge on how to operate computer and computer related tools should be given to both the students and teachers, and finally, Government should provide educational packages for data usage for educational purpose and software's be built for subject specifications.

## CHAPTER ONE

### INTRODUCTION

#### **Background of the Study**

Coronavirus disease 2019 (COVID-19) is defined as illness caused by a novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV). COVID-19 (coronal virus disease 2019) outbreak is a pandemic diseases that has traveled wide since it first surface at china in December 2019, as at March 31st 2020 hit cases has been noticed in 202 countries across the land, sea and air and is still trending. Yekini, Adigun, Akinwole,(2020);

Government from one country to another has been battling with strategies and methods to stop the pandemic and its spreading. Social distancing, self-quarantine, Isolation, and lockdown have become major and acceptable approaches to curtail spread of COVID-19 Pandemic Yekini et al., (2020). This lockdown was placed on all major sectors of the economy most especially, the educational sector-its schools.

With this development, normal functioning of schools have been disrupted as students have to sit at home. This has made the educational institutions to be handicapped in providing educational instructions to their learners. Most educational institutions have begun to implement alternative methods for students to continue with their lessons at the comfort of

their homes without the need for physical contact. This new system of learning is the online education called electronic learning (e-learning) Odili, Ngozi , Adetona, Charity Onoimiuko , Eneh, Anthonia Ebere.

Consequently Computer mediated and Digital Communication Technologies has replaced the face to-face system of communication. During this period people have been restricted to their homes, and cyberspace has become a place of refuge from the risk of infection of COVID-19. Yekini et al., (2020);

According to Sharifabadi (2006), e- learning implies that the learner is at a distance from the tutor or instructor, that the learner uses some form of technology (usually a computer or a mobile phone) to access the learning materials, that the learner uses technology to interact with the tutor or instructor and other learners, and that some form of support is provided to learners. E-learning is viewed as an essential component for any modern educational institution in learning as well as teaching, and it has also challenged tertiary institutions to redefine their teaching and research practices (Castillo-Merino & Serradell-Lopez, 2014). In this view, e-learning promotes distance teaching and learning using resources with experiences that are, in some way, delivered electronically. Such resources are referred to as online resources. Online resource also known as e-resources or internet resources are digital or automated text such as e-books, e-journals, e-leaflets, e-magazines, and all other reading materials that are enabled to be viewed online using the computer or any other connected

device. Online or E-resources are the electronic representation of information which can be accessed via electronic system and computer network (International Federation of Library Association And Institution (IFLA, 2012)). Online information resources are invaluable research tools that complement the print-based resources and are becoming more and more important for the academic community, nowadays (Egberongbe, 2011). The online resources have emerged as one of the primary sources of information for teaching learning activity and research. Although the present era is mainly depending on online, most of the students do not have adequate knowledge and skills necessary to exploit those resources for e-learning.(Odili, et.al.; 2020)

Online resources are expected to improve e-learning activities in schools. E-learning for schools should have sufficient online resource that will boost learning.

Some online resources like; Word processors (e.g. Google Doc), Quiz let, Microsoft teams, Wikipedia, kaggle, e.t.c.

As Covid-19 lockdown persist, many libraries in educational institutions have transformed their traditional collection into digital and virtual libraries, where books, journals and magazines have changed into e-books, e-journals, and e-magazines. One of the functions of the technological driven and electronic based learning is to provide the students with readily available online information resources that will improve on their learning abilities due to restrictions on physical or classroom contacts. .(Odili, et.al.; 2020).

Some facilities that power e-learning and m-learning are; computers, smartphone, laptops etc.

The question now is, how many Nigerians has what it takes to communicate effectively with the use of Computer mediated and Digital Communication Technologies? Digital divide is one of the factor mitigating computer mediated communication approaches (McLean, Pamela. 2017; Intel Corporation 2007). Now that people are restricted to their homes the gap between demographics and regions that have access to modern information and communications technology, and those that do not or have restricted access now been perceived by majority of Nigerians especially those working in Cities but live in the rural areas. The digital divide technology and devices include the mobile devices, televisions, personal computers and the Internet, and high subscription and infrastructure costs, coupled with the poor quality of service by service providers is one of the factors contributed to digital divide (Nkanu,( 2017). Majority of Nigerians are ICT illiterate with little or no idea of awareness, knowledge, and interaction. In recent time some Nigerian are now digital Immigrants as they are struggling to be connected and use digital devices for communication. The focus of this research is to evaluate the compliances of students and teachers to governed directive of using e-learning in schools during lockdown due to COVID-19, and chat way forward for continuous usage of eLearning beyond COVIS-19 era.

E-learning is a learning system based on formalized teaching process but with the help of electronic resources is known as E-learning. While teaching can be done in or out of the classrooms, the use of computers and the Internet are the major component of E-learning.

M-learning (mobile learning), also known as M-learning, is a new way to access learning content using mobile devices. It's possible to learn whenever and wherever you want, as long as you have a modern mobile device connected to the Internet. Some of their characteristics a listed below.

- **Integration:** The e-learning platforms should have a development that includes all the solutions in the same educational environment for a successful learning experience: student management for all types of learning, enrollment, forums, student communities, virtual classrooms with publication of schedules, reservation of classes, content libraries, tools to personalize and create own contents.
- **Tracking and report:** The registration and tracking of a student's progress is essential to correct the shortcomings that students present immediately. The e-learning platforms must register all kinds of information to present it in exhaustive reports that would otherwise cost many hours of effort to the teaching staff.
- **Automated evaluation:** If we talk about saving time for teachers, the automatic evaluation is the star in virtual e-learning campuses. These fulfill two fundamental functions: the automation of the correction and the recording of the data. The automatic

correction allows evaluating a test in real time, providing teachers and students results instantly. In addition, the software marks the correct and incorrect answers, so that students have all the information they need to analyze their mistakes and learn from them.

- Gamification: Gamification, or the appraisal of learning, adds new ways to maintain the interest and motivation of students throughout the course. In the e-learning courses, gamification can be considered in different ways, but it tends to include: rewards for meeting objectives and medals or scores that are taken into account for the student's effort.
- Portability and mobility
- Interactive

E-learning and M-learning facilities and resource are instrument that are used to improve and foster the use of e-learning and m-learning easily. Some of the e-learning and m-learning facilities and resource includes;

Computers, internet facilities, smart board, smartphones, tablets, YouTube, Wikipedia, klaggle, Google Doc etc.

## **Statement of the problem**

This study focus more on the adoption and challenges militating against using e-learning and M-learning during COVID-19 by conducting investigative study among the students and teachers via mobile phone using text message, voice call, and whatsapp platform to assess their compliances to the government directive of switching to online teaching and learning to compliment traditional of face-to-face methods during lockdown and closure of schools.

Regrettably, most educational institutions do not have the required facilities for e-learning to strive. Poor funding for the educational institutions may have played host to their inefficiency in providing e-learning services mostly to students in remote areas. Poor skills of teachers and students in the educational institutions on use of e-learning facilities may also hamper their access to online resource at this critical Covid-19 era. Many educational institutions still have in their collection, traditional and book resources in large percentage, thereby affecting their automation and provision of online resource. In this view, in this study we will look at the online resource for e-learning and m-learning in educational institutions in the Covid-19 era.

## **Research Questions**

The general question to which this study will sort for answer is thus what is the capacity of the Nigerians university to adopt m-learning and e-learning.

1. What are the available m-learning and e-learning facilities in university of Benin during the covid-19 lockdown?
2. What are the available m-learning and e-learning resources in university of Benin during the covid-19 lock down?
3. To what extent is e-learning and m-learning resource and facilities used in university of Benin?
4. Does the level of educational qualification of lecturers and students affect the adoption of e-learning and m-learning during the pandemic in university of Benin?
5. What is the positive effect of e-learning and m-learning to the advancement of learning in university of Benin?
6. Was there adequate power supply to enhance the use of e-learning and m-learning facilities?

### **Purpose of the study**

The purpose of this research was to investigate the availability and use of ICT (e-learning and m-learning) among students and lectures (higher institution) learning during the Covid-19 Pandemic in Nigeria. The research specifically sought to:

1. Investigate and ascertain the availability of e-learning influences facilities and resources during the Covid-19 Pandemic in Nigeria.

2. To evaluate the extent to which lecturers make use of e-learning facilities to enhance learning during the covid-19 pandemic in Nigeria.
3. Computer literacy level thus plays a vital role in the adoption of e-learning and m-learning.
4. Evaluating the extent at which e-learning and m-learning as contributed positively to learning.
5. Inadequate power supply thus affects the use of e-learning and m-learning facilities.

### **Significant of the Study**

One of the essences of carrying out research in education is to find out ways of improving the quality and standard of education. The introduction of E-learning and M-learning facilities and resources, especially in teaching in various course areas, has marked a tremendous improvement in the quality and standard of education in Nigeria. The findings of this study would help future researchers, parents/guardians, curriculum planners, school authorities, Ministry of Education and other organizations of interest to have empirical evidence on the state of the available E-learning facilities and resources in schools instead of basing their assessments on speculations. The findings of this study would also help researchers gather data or information that will be relevant to their study or those that want to replicate this study elsewhere. The study will be significant to all stakeholders in education such as the school administrators, teachers, governments, students and parents in giving the child a global

standard education, by emphasizing the importance of employing E-learning in schooling endeavor.

### **Scope of the study and the limitation**

This study focuses on the assessment of the availability, use and effect of E-learning and M-learning facilities and resources during COVID 19 lockdown in higher institution around Ovia North East Local Government Area of Edo State Nigeria. The study intends to highlight and ascertain factors the impeded lecturers' ability to deliver during in selected institution in Ovia North East Edo State.

Some of the facilities and resources that this study will be restricted to are Computers, internet facilities, smart board, smartphones, tablets, printers, YouTube, Wikipedia, klaggle, Google Doc etc.

### **Operational definition of terms.**

#### **COVID-19**

Coronavirus disease 2019 (COVID-19) is defined as illness caused by a novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV).

**E-Learning:** E-learning is a learning system based on formalized teaching process but with the help of electronic resources is known as E-learning. While teaching can be done in or out of the classrooms, the use of computers and the Internet are the major component of E-learning

**M-Learning:** Mobile learning also called M-learning or m-Learning, is any type of content that is developed or consumed on mobile devices, such as smartphones and tablets, and including anything from podcasts to full eLearning courses.

**Assessment:** the act of judging or deciding the amount, value, quality, or importance of something, or the judgment or decision that is made.

**Adoption:** is a process whereby a person assumes the parenting of another, usually a child, from that person's biological or legal parent or parents. Legal adoptions permanently transfer all rights and responsibilities, along with filiation, from the biological parent or parents.

**E-learning facilities:** these are tools that enhance the use of e-learning e.g. computers, smartphones, laptops etc.

**E-learning resources:** Any digital material used for supporting student learning that is delivered in multiple delivery models. Eg Wikipedia, academic.edu, YouTube etc.

## REFERENCES:

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## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

The review of literature is done under the following sub-headings.

- Theoretical framework
- Conceptual framework
- The concept of covid-19
- The concept of E-learning and M-learning and its effect to education in Nigeria
- The level of computer literacy and its effect on the adoption of E-learning and M-learning in Educational sector during pandemic.
- Challenges of the adoption of E-learning and M-learning in Nigeria during the pandemic.
- Summary of review of literature.

#### **Theoretical Framework:**

E-learning and M-learning unites two main areas, learning and technology. Learning is a cognitive process for achieving knowledge, and technology is an enabler of the learning process, meaning that technology is used like any other tool in the education practices, as is a pencil or a notebook, for example. Although this seems quite simplistic and logical, a pencil is more technologically transparent tool, and its use may therefore seem more natural

to many. Furthermore, technology underpins other problematic situations because it includes various dimensions. E-learning and M-learning systems aggregate various tools, such as writing technologies, communication technologies, visualization, and storage. For these reasons, researchers and scientists have sought to transform e-learning and m-learning systems into technically transparent tool, like a pencil or notebook. The e-learning literature is vast and continues to grow steadily (Aparicio, Bacao, & Oliveira, 2014b). Investigating e-learning and m-learning systems' adoption and usage reveals that continuous growth everywhere in the world, as well (OECD, 2012). The growth rate of on-line courses stands at 65% (Means, Toyama, Murphy, Bakia, & Jones, 2009), and some researchers suggest that at a governmental level, policies should be advocated enabling the e-learning usage (Kong, 2014).

A framework “classifies the important factors in information systems development can imply that these factors are causally connected with successful systems development” (Gregor, Martin, Fernandez, Stern, & Vitale, 2006,). In this framework, we present the main information systems dimensions adapted to e-learning systems. This framework is a theoretical generalization (Carroll & Swatman, 2000; Lee & Baskerville, 2003) resulting from the literature review on e-learning dimensions.

The current trend of learning theory is based on constructive learning where by students construct their new knowledge grounded on their previous knowledge and experiences assuming the surrounding environmental conditions around the learning situations in hand.

In this line, students actively involved in their learning activities constructing their own new knowledge in a piece meal, i.e. a journey to the new conceptual change, to a new schema of accommodation through assimilation process.

As opposed to objectivism theory of learning which believes that knowledge is an independent, unchanging phenomenon which is passively transmitted from the teacher to the student, constructivists believe that knowledge is constructed within oneself; emphasis is given to self-regulate active learning. From its very nature therefore mathematics is highly attracted towards such self-regulated active learning through continuous exercises passing through a spiral development right from the ground of previous experiences.

Constructivists are against the belief of the objectivists who are saying that teachers know what is important to the students (Creswell 2009). William (2004) support the constructivists' idea that knowledge is rather individually constructed and socially negotiated by learners themselves based on prior knowledge.

As Yager (2001) and Cobern (2006) put it, the issue is how learning takes place rather than how it rationally develops. It is the issue of the content of thought rather than merely the formal operations of logic in which the learners themselves are primary actors. The ICT integrated learning is therefore highly recommended for facilitating individually constructed knowledge by supporting the teacher's professional development, the students benefit there after promoting organizational learning (Mc Kenney, 2001). Choi (2005) express that knowledge is natural byproduct of an individual within the environment and context, which

is supported by Wilson (2005) saying that constructivism tends to be holistic. This is taking sense of the world by taking information from the environment.

### **The concept of covid-19**

Coronavirus disease 2019 (COVID-19) is defined as illness caused by a novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV), which was first identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China. It was initially reported to the World Health Organization (WHO) on December 31, 2019. On January 30, 2020, the WHO declared the COVID-19 outbreak a global health emergency. On March 11, 2020, the WHO declared COVID-19 a global pandemic, its first such designation since declaring H1N1 influenza a pandemic in 2009.

Illness caused by SARS-CoV-2 was termed COVID-19 by the WHO, the acronym derived from "coronavirus disease 2019." The name was chosen to avoid stigmatizing the virus's origins in terms of populations, geography, or animal associations. On February 11, 2020, the Coronavirus Study Group of the International Committee on Taxonomy of Viruses issued a statement announcing an official designation for the novel virus: severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).David(2020)

## **Covid-19 Pandemic In Nigeria:**

The COVID-19 pandemic in Nigeria is part of the worldwide pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first confirmed case in Nigeria was announced on 27 February 2020, when an Italian citizen in Lagos tested positive for the virus.(Nigeria center for disease control, February 2020 and Maclean, Ruth; Dahir, Abdi latif February 2020) On 9 March 2020, a second case of the virus was reported in Ewekoro, Ogun State, a Nigerian citizen who had contact with the Italian.(“Nigerial records second case of coronavirus P.M. News retrieve 10 march 2020.”)

On 28 January, the Federal government of Nigeria assured citizens of the country of its readiness to strengthen surveillance at five international airports in the country to prevent the spread of coronavirus. The government announced the airports as Enugu, Lagos, Rivers, Kano and the FCT.(premium times retrieved march 2020). The Nigeria Centre for Disease Control also announced same day that they had already set up coronavirus group and was ready to activate its incident system if any case emerged in Nigeria.(Daily post Nigeria, retrieved march 2020.) On 31 January, following the developments of COVID-19 pandemic in mainland China and other countries worldwide, the federal government of Nigeria set up a Coronavirus Preparedness Group to mitigate the impact of the virus if it eventually spreads to the country,(ifijeh, martins 31january 2020

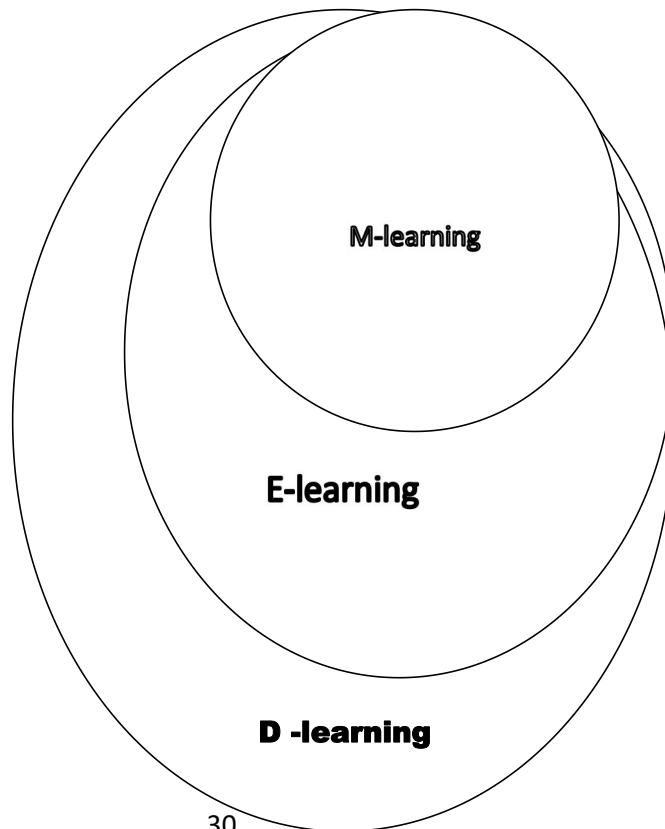
retrieved march 2020 by This Day Newspaper.) On the same day, World Health Organization listed Nigeria among other 13 African countries identified as high-risk for the spread of the virus.(Ezigbo, Onyebuchi; Ifijeh, Martins february 2020 Retrieved by This Day Newspaper march 2020.). On 26 February, a Chinese citizen presented himself to the Lagos State government on suspicion of being infected with coronavirus. He was admitted at Reddington Hospital and was released the following day after testing negative.(Gesinde, Seyi February 2020 Retrieved by Nigeria Tribune march 2020).

Thereafter, there were 1,793 cases in April, bringing the total number of confirmed cases to 1,932. 56 deaths were confirmed, bringing the death toll to 58.(world Health Organization. May 2020). It later increased to 8,230 confirmed cases in May, bringing the total number of confirmed cases to 10,162. 229 deaths were confirmed, bringing the death toll to 287, there were 15,532 confirmed cases in June, bringing the total number of confirmed cases to 25,694. 303 deaths were confirmed, bringing the death toll to 590 and so it continued increase daily, which consequently lead to a total lockdown of all social gatherings such as schools, church, mosque's and other public enterprises and school, which lead to the introduction of E-learning and m-learning in the world.

### **The concept of E-learning and M-learning and its effect to education in Nigeria.**

E-learning is “the learning supported by digital electronic tools and media” and m-learning is the “e-learning using mobile devices and wireless transmission” (Hoppe, joiner, Milrad,

M. 2003) and finally, the “Digital learning is any type of learning that is facilitated by technology or by instructional practice that makes effective use of technology” and it occurs in all learning areas and domains (Victoria State Government, 2017.). While having significant impact on the sustainable development and on the living conditions (Podlacha, G, Alscher, C, S. 2016), e-learning, m-learning, and d-learning seem to be very closely related. But there are some differences among them. M-learning is the subset of e-learning and d-learning is the combination of e-learning and m-learning. This is represented in the diagram below, for the course of this research we will be looking at “e-learning and M-learning”. (Sujit , Wotto and Be´langer 2018).



## **E-Learning:**

E-learning has been provided with different terminologies such as “online learning”, “internet learning”, “distributed learning”, “networked learning”, “tele learning”, “virtual learning”, “computer assisted learning”, “web-based learning”, and “distance learning” (Sharifabadi, 2006). E-learning is taken to be all aspects of electronically supported learning (whether in networked/non-networked environments) whereby the learner is interacting with teachers, content and other learners regardless of place and time (Kisanga & Ireson, 2015). E-learning are applications and use of a computer connected to a network, that offers the possibility to learn from anywhere, anytime, in any rhythm, with any means (Cojocariu, Lazar, Nedeff & Lazar, 2014), and can promote synchronous learning with a lot of opportunities for social interaction (McBrien, Cheng & Jones, 2009). E-learning includes all aspects of electronic delivery of pictures, text or sounds for a presentation or project, or using an interactive whiteboard in a lesson. Electronic learning (e-learning) or online learning involves the use of internet and web connections to learn. Raheem and Khan (2020) defined e-learning as the ability to offer and share materials in all kinds of formats as e-mails, slideshows, videos, PDFs, and word documents. It is also enabled when conducting webinars (live online class), communication with teachers via message and chat forum. E-learning are educational material that is presented on a computer, educational websites or computer software that facilitates information sharing. E-learning can be termed as a tool

that can make the teaching–learning process more students centered, more innovative, and even more flexible. (Ngozi,Onoimiuko, Ebere,2020;) .

### **M-Learning:**

Mobile learning, sometimes called M-learning, is learning accomplished with the use of small, portable computing devices. These computing devices may include: smart phones, personal digital assistants (PDAs) and similar handheld devices. There is some debate on the inclusion of tablet and laptop computers. Often, wireless two-way internet connection is assumed as an integral component. Mobile learning refers to the use of mobile or wireless devices for the purpose of learning while on the move. Typical examples of the devices used for mobile learning include cell phones, smartphones, palmtops, and handheld computers; tablet PCs, laptops, and personal media players can also fall within this scope (Kukulskahulme & Traxler, 2005). M-learning is the idea that a student can learn from any place at any time using portable learning devices. M-learning or ‘mobile learning’ is any sort of learning that takes advantages of learning opportunities offered by mobile technologies.

### **Similarities between E-Learning and M-Learning**

- Each of them needs a high cast technological system.
- E- and M-learning provide students with digital literacy focusing on information processing.

- Students are center of learning process in both models (Self- Learning).
- In both learning models students can access and surf the internet.
- E-and M- learning models allow communication between individual students and between students and teachers anywhere and at any time from one hand, and communication with local and international on the other via the use of e-mails and text message.
- In both learning models the learning content is delivered in the form of texts, images and video clips.
- Both learning models depend on developing problem solving and creative thinking skills among students.
- E-and M- learning models are capable of providing learning opportunities to many students.
- Learning material can be updated continuously in both learning models.
- Each of them needs an infrastructure and a wide community base in dealing with wire and wireless electronic computer technologies.

(International journal on new trends in education and their implication July 2013 and Empowerment of Teaching and learning chemistry through information and communication technology 2014).

## Differences

- It is difficult to pass devices through learners in E-learning while these devices are easy to pass between learners in mobile learning.
- Communication channels used in E-learning have low protection levels as learners use more than one device, whereas mobile learning provides users with more protection as learners use their own devices to connect with others.
- Storage applications used in E-learning are more effective than ones used in mobile learning.
- In E-learning, it is difficult to transfer books and files between individual learners, while in mobile learning, Bluetooth and IR technologies are used to exchange books and files among learners.
- In E-learning, messages are exchanged via the internet whereas MMS and SMS messages are used to exchange information between users.
- In E-learning, access to the internet is achieved through the available telephone service, while mobile learning uses IR when accessing the internet anywhere at any time.
- E-Learning uses fixed, wired devices such as PC's, but mobile learning uses wireless communication devices such as cell and smart phones, microcomputers and personal digital assistants.

(Empowerment of Teaching and learning chemistry through information and communication technology 2014 and International journal on new trends in education and their implication July 2013)

### **E-learning and M-learning facilities and Resources:**

E-learning and M-learning facilities and resource are instrument that are used to improve and foster the use of e-learning and m-learning easily,

E-learning facilities these are tools that enhance the use of e-learning e.g. computers, smartphones, laptops, smart board, projector, internet facilities. While E-learning resources any digital material used for supporting student learning that is delivered in multiple delivery models. E.g. Wikipedia, academic.edu, YouTube etc.

### **Effects of E-Learning and M-Learning to Nigeria Educational System.**

It is indeed believe that the application of electronic/mobile learning in school and higher institutions has impacted on the development of the student's learning behavior as well as their performances. This is because it plays a role in boosting the learners' numeracy and literacy skills as it incorporates both the collaborative and independent learning experiences. In the modern generation, technology has been the core of everything. It is, therefore, an achievement to the education center if they have embraced the e-learning and M-Learning technology as one of the ways that they can enhance learning activities. The use of mobile technology in education

leads to collaboration and communication of practice. Some of the other benefits that can be derived from the use of E-learning and M-learning are that it impacts on the student's social interaction, communication, motivation, mobility, and collaboration.( Zawaideh, 2017).

A lot of studies have been conducted on the benefits that occurs to students using mobile technologies to carry their academic resources as opposed to carrying heavy books while going to the learning institution. Being that mobile phones, laptops and other personal gadgets are personal, they offer rich potential for both collaborative and personal learning. The use of e-learning also plays the role of reducing the physical gap that exists between the learner and the teacher. The learner can feel free to ask the teacher any academics question even if the teacher is not physically present at the moment. This is one way in which e-learning and m-learning is impacting on the behavior of the student. Through consulting the teacher online, there is saving of time as the student does not waste time walking to the tutor. As a result of this, the performance of the student is bound to increase. The learning also enhances face-to-face learning in a formal learning set-up. Furthermore, they offer management applications to students to enable them to improve on how they are organized while they are learning. Both the teachers and the students that have the mobile technology are not limited to wire-based communication while they are in the learning environment. .( Zawaideh, 2017).

## **The Level of Computer Literacy and Its Effect on the Adoption of E-Learning and M-Learning in Educational Sector during Pandemic.**

The level of computer literacy has a great impact on the adoption of E-learning and M-learning in education, there is no doubt that 20% of learners and teachers has a very little or no ideal about ICT(information and communication technology.).

Most teachers and learners (i.e. matured learners) still believe fully on the old face to face method and writing on the black board reasons because, most of the lectures and teachers where trained with the regular pen and paper for lecturing and research, and they are comfortable to continue to use them for knowledge delivery and they are not willing to change. They show undue resistance to using modern learning technologies as they have not been properly trained to use them. Another reason obtained for their attitude is additional responsibility in terms of preparation for m-learning along with classroom teaching, thereby giving them extra workload without motivation. And also some mature students are also not willing to embrace technology when learning as they are mainly studying for promotion at work rather than skill acquisition.(Shaibu and mike 2020)

So during the pandemic so many students where just home all through, without participating in any form of learning activities. Reasons are that either the students or the teacher has no knowledge about the use of e-learning and m-learning devices.

## **Challenges of the Adoption of E-Learning and M-Learning in Nigeria during the Pandemic.**

E-learning and M-learning technology development is faced with a lot of challenges in Nigeria. Below are some of the obstacles faced by the adoption of e-learning and m-learning in Nigeria;

1. **Connectivity:** limited or lack of connectivity such as Wi-Fi, LAN, and mobile network etc. in most localities and schools around Nigeria affects online learning ( such as e-learning and m-learning)
2. **Software:** educational software's enables educators to design and develop learning content. This software's are costly and not available for use in some of our schools, to facilitate e-learning programs.
3. **Incompetency of staffs:** this is the inability of teachers to assist the students develop the ability and knowledge necessary to make them use the e-learning facilities effectively. And also most teachers are computer illiterates and not ready to accept the new learning method.
4. **Online learning Equipment's:** online learning requires equipment that can facilitate learning, but in some of Nigeria schools, the equipment such as computers, digital technology, and internet are not available for proper utilization and learning.

5. **Training:** No equipment and software will achieve anything if people are not trained to use them (Daniel, 2009). Some lecturers and students are not trained to make use of some of the online learning equipment. This affect online learning programs in our schools.
6. **Irregular power supply:** this is constantly needed to power the online learning servers and network devices. Nigeria is a country characterized by regular power outages on a daily basis in all cities, and this has negative effects on all developmental projects including online learning implementation. The effect is that an online learning system cannot survive or achieve its utmost objective in this kind of an unfortunate situation.
7. **Attitude of Learners and Teachers:** the attitude of learners and teachers toward the adoption of e-learning and m-learning in education is very important, Attitude and fear of change is one of the issues raised in the survey as a barrier to effective implementation of online learning in Nigeria.

Also these are some of the challenges faced by students during the pandemic;

- Many students lack confidence and experience with computers,
- Many students lack skills in commonly used applications such as Microsoft Word, Excel and Power Point which affects their programs in e-learning classes.

- Time management, skills and self - motivation also influence students' performance in e-learning classes, etc. In summary, some of the challenges of e-learning in Nigerian Universities are. (Olutola and Olatoye 2015).

### **SUMMARY OF REVIEW OF LITERATURE.**

In this chapter, the concept of covid-19, the concepts of e-learning and m-learning and its effect on education where highlighted. Also we looked at the level of computer literacy and its effect to e-learning and m-learning; we also looked at the challenges faced.

We see that e-learning and m-learning has a great role to play in the educational sector and mostly during the pandemic.

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## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **INTRODUCTION**

This chapter describes the procedures used in collecting and analyzing data in the study.

They are presented under the following sub-headings:

- Design Of The Study
- Population Of The Study
- Sample And Sampling Procedure
- Research Instrument
- Validity Of The Research Instrument
- Reliability Of The Research Instrument
- Method Of Data Collection
- Method Of Data Analysis

#### **Design of the study:**

This study used the descriptive survey research design. Thus, survey research design was employed because the researcher intended to describe condition that already exists and to

determine reason for their prevalence. This design was considered appropriate because it enabled the researcher to explore, describe and collect accurate data.

**Population of the study:**

Population of the study comprises of (14) faculties and a total of thirty nine thousand, two hundred and forty-three (39,243) undergraduate students and lecturers in the university of Benin, Ovia North East Local Government Area Edo state Nigeria.

**Sample and sampling procedures:**

The sample consists of one hundred and fifty undergraduates and fifty lecturers from all levels (100-400) and five (5) faculties of University of Benin purposively selected randomly from five (5) faculties which include Education, physical sciences, social sciences, Agriculture and Engineering.

**Research instruments:**

Two instruments were used for the data collection. Which was developed by the researcher, the first instrument was a questionnaire titled “Assessment of the Capacity for Nigerian Tertiary Institutions to Adopt E-learning and M-learning during Covid-19 Lockdown”(ACNTIAEMCL) the questionnaire was design to evaluate students and Lecturers.

The other instrument is an online questionnaire (simple percentage methods.) that was design to collect data from lecturers and students who are not close or not easily assessed physically.

The questionnaires have two Sections A and B. Section A contains personal data of the respondents while Section B contained questionnaire items which are based on the research questions to guide the study. The questionnaire has a point life rating scale with response options of;

Available (AV) and Not Available (NAV)

Daily (D), Weekly (W), Monthly (M), Once a While (OW), Never (N).

Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)

### **Validity of the Research Instrument:**

In order to ascertain the validity of the instrument, the questionnaire was given to the research supervisor and two lecturers in the department of Curriculum and Instructional Technology (C.I.T) to make necessary corrections hereby ensuring that the instrument measures what it set out to measure

### **Reliability of the Research Instrument:**

An Alpha Cronbach method was used to establish the reliability of instrument. The copies of the questionnaire was been administered to 20 respondents. The data collected after the administration was then analysed and the reliability of the instrument was established at 0.74.

### **Method of Data Collection:**

The researcher personally administers copies of the questionnaire to the respondents that was randomly selected. The respondents was assured of confidentiality and urged to answer the question in all honesty. The administration exercise was done under normal classroom situation; the researcher waited and collected back the copies of the instrument from the respondents.

### **Method of Data Analysis:**

The Data generated from the research questionnaire was been analyzed using mean and standard deviation. The mean value was accepted as  $4+3+2+1$  divide by 4 =2.5. The decision rule was that any item with mean score of 2.50 and above was regarded as Agree while an item with less than 2.50 was considered as Disagree.

Mathematically the mean ( $\bar{x}$ ) and standard deviation (SD) was determined as shown below

$$X = \frac{\sum fx}{\sum f}$$

$$SD = \sqrt{\frac{\sum F(X-X)^2}{\sum F}}_{SS}$$

## CHAPTER FOUR

### DATA ANALYSIS AND PRESENTATION OF RESULTS

This chapter involved the analysis of data and the presentation of result in the course of the research. The data are presented in tables and are arranged according to research questions.

Presentation of Results

#### Answering of Research Questions

**Research Question 4:** Does the level of educational qualification of lecturers and students affect the adoption of e-learning and m-learning during the pandemic in university of Benin?

Table 1:

<b>Qualification</b>	<b>frequency</b>	<b>percentage</b>
Professor	3	1.5%
P.hd	6	3.0%
M.sc	18	9.0%
B.sc	25	12.5%
Students	148	74%
Total	200	100%

Research question four tends to access how well does the qualification of students and lectures affect the adoption of e-learning and m-learning and its shown from table 1 above that 74% of the respondents are students and the remaining 26% are staffs of University of Benin.

**Research question 1:**

What are the available m-learning and e-learning facilities in university of Benin during the covid-19 lockdown?

Table 2: Available E-learning and M-learning facilities

S/N	ITEMS	N	AV	NAV	Mean	Standard deviation	Decision
1	Computer	200	82 41.0%	118 59.0%	1.41	.49	Disagree
2	Internet facilities	200	96 48.0%	104 52.0%	1.48	.50	Disagree
3	Computer lab/ICT Center	200	72 36.0%	128 64.0%	1.34	.48	Disagree
4	Projectors	200	74 37.0%	126 63.0%	1.37	.49	Disagree
5	Laptops	200	80 40.0%	120 60.0%	1.40	.49	Disagree
6	Smart board	200	108 54.0%	92 46.0%	1.54	.49	Agree
7	Smart phone	200	144 72.0%	56 28.0%	1.72	.45	Agree

Research question one sought to examine the extent of availability of e-learning and m-learning facilities in the teaching and learning process in University of Benin. Table 2 above shows that two (2) out of the seven (7) listed facilities is agreed to be available, which are items six and seven. The table therefore concludes that e-learning and m-learning facilities in the teaching and learning process in University of Benin were slightly available but not for the purpose of E-learning teaching and learning because of the absence of internet facilities, ICT centers, projectors, and laptops in the Institution.

Research Question 2: What are the available m-learning and e-learning resources in university of Benin during the covid-19 lock down?

Table 3: Available e-learning and m-learning resources in university of Benin

S/N	ITEMS	N	AV	NAV	Mean	Standard deviation	Decision
1	Google doc	200	90 45.0%	110 55.0%	1.45	.49	Disagree
2	Kaggle	200	41 20.5%	159 79.5%	1.20	.41	Disagree
3	YouTube	200	94 47.0%	106 53.0%	1.47	.50	Disagree
4	Wikipedia	200	118 59.0%	82 41.0%	1.59	.49	Agree
5	Microsoft team	200	80 41.5%	119 59.5%	1.40	.49	Disagree

Research question one sought to examine the extent of availability of e-learning and m-learning resources in the teaching and learning process in University of Benin. Table 3 above shows that one out of the five listed e-learning resource is agreed to be available, which is items four. The table therefore concludes that e-learning and m-learning resource in the teaching and learning process in University of Benin were slightly used but not for the purpose of E-learning teaching and learning because of the absence of the use of Google doc, Kaggle, YouTube, and Microsoft Team in the Institution.

**Research question 4:** To what extent is e-learning and m-learning resource and facilities used in university of Benin?

Table 4: To what extent is e-learning and m-learning resource and facilities used in university of Benin?

S/N	STATEMENT	N	D	W	M	OW	N	Mean	Standard deviation	Decision
1	how often do you use computer to carry out class work	200	29 <b>14.5%</b>	42 <b>21.0%</b>	6 <b>3.0%</b>	72 <b>36.0%</b>	51 <b>25.5%</b>	2.6	1.45	Disagree
2	How often do you use the internet for learning	200	90 <b>45.0%</b>	43 <b>21.0%</b>	4 <b>2.0%</b>	21 <b>10.5%</b>	42 <b>21.0%</b>	3.59	1.62	Agree
3	How often do you use your school computer lab	200	7 <b>3.5%</b>	9 <b>4.5%</b>	1 <b>0.5%</b>	38 <b>19.0%</b>	131 <b>65.5%</b>	1.61	1.04	Disagree
4	How regular do you partake in online classes	200	22 <b>11.0%</b>	30 <b>15.0%</b>	1 <b>0.5%</b>	71 <b>35.5%</b>	58 <b>29.0%</b>	2.4	1.3	Disagree
5	How often do you use your smart phone for educational research	200	103 <b>51.5%</b>	55 <b>27.5%</b>	7 <b>3.5%</b>	21 <b>10.5%</b>	14 <b>7.0%</b>	4.06	1.3	Agree

Research question three sought to know to what extent is e-learning and m-learning resource and facilities used in university of Benin. The data analyzed in table 4 reveals that out of five items, two of them agreed which were items: two and five representing (30%) of the

items on the questionnaire, whereas the remaining three items which are one, three, and four disagree (70%) of the items on the questionnaire.

**Research Question 5:** What is the positive effect of e-learning and m-learning to the advancement of learning in university of Benin?

Table 5: What is the positive effect of e-learning and m-learning to the advancement of learning in university of Benin?

S/N	STATEMENTS	N	SA	A	D	SD	Mean	Standard deviation	Decisions
1	E-learning and M-learning improve students' interest to learning	200	109 <b>54.5%</b>	63 <b>31.5%</b>	17 <b>8.5%</b>	11 5.5	3.35	.85	Agree
2	The use of E-learning and M-learning expose students to more better learning materials	200	91 <b>45.5%</b>	100 <b>50.0%</b>	7 <b>3.5%</b>	2 1.0	3.4	.60	Agree
3	The use of E-learning and M-learning makes teaching and learning more easy and enjoyable	200	82 <b>41.0%</b>	99 <b>49.5%</b>	15 <b>17.5</b>	4 <b>2.0%</b>	3.2	.81	Agree
4	The use of E-learning and M-learning saves more time and helps to cover school syllabus easily	200	61 <b>30.5</b>	104 <b>52.0%</b>	23 <b>11.5%</b>	12 <b>6.0%</b>	3.07	.60	Agree

Research question five sought to know what is the positive effect of e-learning and m-learning to the advancement of learning in university of Benin, the data analyzed from table

5 above reveals that all four items agreed representing hundred percent (100%) of items on the questionnaire.

**Research Question 6:** Was there adequate power supply to enhance the use of e-learning and m-learning facilities?

Table 6: Is there any adequate power supply to enhance the use of e-learning and m-learning facilities?

S/N	STATEMENTS	N	SA	A	D	SD	Mean	Standard deviation	Decisions
1	There is constant power supply in my school	200	32 16.0%	81 40.5%	42 21.0%	45 22.5%	2.5	1.01	Agree
2	There is backup power supply in case of power out rage	200	23 11.5%	91 45.5%	45 22.5%	41 20.5%	2.5	.95	Agree
3	Inadequate power supply hinders the use of E-learning and M-learning facilities	200	112 56.0%	94 37.0%	6 3.0%	8 4.0%	3.6	.74	Agree

Research question six sought to know is there any adequate power supply to enhance the use of e-learning and m-learning facilities in university of Benin, the data analyzed from table 6

above reveals that all four items agreed representing hundred percent (100%) of items on the questionnaire.

## **Discussion of Results**

Based on the analysis on the research questions, the following findings were revealed:

The data analysis from research question 1 shows that the available e-learning and m-learning facilities required to carry out effective teaching and learning process are not up to a hand full. 20% out of 100% of the required e-learning and m-learning facilities was agreed to be available which are smartphones and smart board.

The result of research question two also shows that the available e-learning and m-learning resources which are required to carry out effective teaching and learning are not put into use or not enough to carry out learning and research effectively.

Result gutting from research question 3 is to determine if the level of qualification of students and staff determine the use of e-learning and m-learning facilities, the result from table 1 above as prove that 70% of the respondents where students, and will determine the result

that we will get from this research.

the result from research question four is to determine the extent at which the available e-learning and m-learning materials are been used, the data analysis carried out has shown that 14.5% makes use of computers in the class room daily while 36.0% agreed that they use it

once a while, 45% of the respondent was proven to have make use of the internet for educational research daily,65.5% of them has never used the school computer lab,35.5% take part in online classes once a while and 55.5% shows that they use their smartphone daily to carry out education research.

Research question four was to assess the positive effect of e-learning and m-learning to the advancement of learning in university of Benin, the data analysis in table 5 shows that e-learning and m-learning has a great positive effect to educational advancement.

The data analysis from research question 6 has shown that there is constant power supply to enhance the use of e-learning and m-learning materials, and it was also agreed that inadequate power supply hinders the use of e-learning and m-learning facilities.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### Summary

The purpose of this research was designed to assess the capacity for Nigerian tertiary institutions to adopt e-learning and m-learning during covid-19 Lockdown University of Benin as case study. The researcher made effort in analyzing the meaning of e-learning and m-learning, their facilities and resources, their effect to teaching and learning, the research also discussed on the covid-19 outbreak and how it affected educational sector at large. . All of which have been discussed in details under the review of literature.

Six research questions was raised, the study used stratify sample and sampling technique. Student and lecturers from university of Benin formed the population of the study all from 14 faculties of the school.

The collection of data was carried out through the administration of questionnaire to one hundred and fifty students and fifty lecturers from all levels and faculties in University of Benin, The data were interpreted and discussed using percentages, mean score, frequency and standard deviation table. The sampling technique used for the research is the simple random sampling technique.

## **Conclusion:**

Following the analysis of the data collected and findings were made

1. Some of the required e-learning and m-learning facilities and resources were not made available like computers, ICT centers, internet facilities, projectors and laptops. All these are tools which enhance the use of e-learning and m-learning in most schools if not available there will be little or no interest in the use of e-learning facilities and resources.
2. Also the use of e-learning and m-learning are not included to school curriculum i.e. there are not used to carry out teaching and learning activities in the school.
3. That e-learning and m-learning has a greater role to play in the advancement of learning in universities.
4. That educational qualification can also determine how well you make use of e-learning and m-learning facilities and resources.
5. That more constant power supply should be made available to encourage the use of e-learning and m-learning.

## **Recommendations**

Base on the conclusion made

1. Government should be proactive in providing adequate e-learning and m-learning facilities in our tertiary institutions to enable easy learning.
2. Government and school heads should ensure that the use of e-learning and m-learning in classrooms should be encouraged.
3. E-learning and m-learning seminars should be organized for school lecturers to equip them on the use of various e-learning and m-learning materials in class room.
4. Constant power supply and available internet facilities such as school Wi-Fi should be made available to make the use of e-learning easy.

## **Suggestion for further studies**

This study was carried out to assess the capacity for Nigerian tertiary institutions to adopt e-learning and m-learning during covid-19. The future researcher should work on student's attitude on the use of e-learning facilities,

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**DEPARTMENT OF CURRICULUM AND INSTRUCTIONAL TECHNOLOGY (CIT)  
FACULTY OF EDUCATION,  
UNIVERSITY OF BENIN, BENIN CITY**

**QUESTIONNAIRE ON ASSESMENT OF THE CAPACITY FOR NIGERIAN  
TETIARY INSTITUTIONS TO ADOPT E-LEARNIN AND M-LEARNING DURING  
COVID-19 LOCKDOWN.**

Dear Respondents,

This questionnaire is designed for academic purposes. It is structured to **Assess The Capacity For Nigerian Tertiary Institutions To Adopt E-Learning And M-Learning during Covid-19 Lockdown.**

Please kindly respond sincerely to the questions by ticking [] where applicable. Your responses which are needed for research purposes only will be treated with high level of confidentiality. Thank you.

**Section A**

**Instructions:** Please tick (  ) where applicable.

1. Sex: Male(  ) Female (  )
2. Faculty: \_\_\_\_\_
3. Level: \_\_\_\_\_

**for staffs only:**

4. Qualification: B.sc (  ) M.sc (  ) P.hd (  ) Professor (  )

**Section B:** Rating scale Available (AV), Not Available (NAV)

**What are the available m-learning and e-learning facilities and resource in university of Benin during the covid-19 lockdown?**

S/N	ITEMS	AV	NAV
	<b>E-learning and M-learning facilities.</b>		
1	Computers		
2	Internet facilities		
3	Computer lab/ ICT center		
4	Projector		
5	Laptops		
6	smart board		
7	Smart phone		
	<b>E-learning and M-learning resource</b>		
8	Google doc		
9	Kaggle		
10	Youtube		
11	Wikipedia		
12	Microsoft team		

**SCALE: DAILY (D) WEEKLY(W) MONTHLY(M) ONCE A WHILE(OW) NEVER (N)**

S/N	STATEMENT	D	W	M	OW	N
	<b>To what extent is e-learning and m-learning resource and facilities used in university of Benin?</b>					
1	how often do you use computer to carry out class work					
2	How often do you use the internet for learning					
3	How often do you use your school computer lab					
4	How regular do you partake in online classes					
5	How often do you use your smart phone for educational research					

**Scale:** strongly agree (SA) Agree (A) Disagree (D) Strongly Disagree (SD)

S/N	STATEMENTS	SA	A	D	SD
	<b>What is the positive effect of e-learning and m-learning to the advancement of learning in university of Benin?</b>				
1	E-learning and M-learning improve students' interest to learning				
2	The use of E-learning and M-learning expose students to more better learning materials				
3	The use of E-learning and M-learning makes teaching and learning more easy and enjoyable				
4	The use of E-learning and M-learning saves more time and helps to cover school syllabus easily				
	<b>Is there any adequate power supply to enhance the use of e-learning and m-learning facilities?</b>				
5	There is constant power supply in my school				
6	There is backup power supply in case of power out rage				
7	Inadequate power supply hinders the use of E-learning and M-learning facilities				

RELIABILITY

/VARIABLES=item1 item2 item3 item4 item5 item6 item7 item8 item9 item10  
item11 item12 item13

item14 item15 item16 item17 item18 item19 item20 item21 item22 item23  
item24 item25

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA.

## Reliability

### Scale: ALL VARIABLES

#### Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded <sup>a</sup>	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's	
Alpha	N of Items
.743	25