COVID - 19: ASSESSING THE RELEVANCE OF E - LEARNING ON STUDENTS’ LEARNING OUTCOMES IN SCHOOLS IN KADUNA METROPOLIS

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Abstract
This paper focused on Covid - 19: Assessing the relevance of e-learning on students’ learning outcomes as substitute to traditional methods in schools in Kaduna Metropolis. Covid - 19 as one of the viral diseases has halted the pace of development in all spheres of the nation’s economies including the teaching processes in schools. The use of e-learning had become imperative as it proven to be more advantageous over the traditional method of teaching and learning. Besides, so many e-learning tools are available for teaching and learning. However, despite these numerous advantages, a careful look at Nigerian educational system shows that the use of e-learning is still rather slow or imaginary. One of the reasons for this may be due to ignorance, negative perceptions amongst students and teachers and; non-availability of e-learning facilities in the system. It was on account of this, that the paper had examined concepts of e-learning and Covid -19, relevance of e-learning in classroom teaching in Covid -19 era, e-learning and students’ learning outcomes among others. Challenges faced in the use of e-learning in schools are enormous. Few of these are internet connectivity, time, resistance to change, poor power supply and school curriculum. As a way out of these challenges, the suggestions put forward include: provision of internet facilities by governments and its agencies 24/7, re-plan school curriculum to support e - learning, government to initiate partnership with wealthy private individuals to provide solar power to complement the existing power supply among others.

Keywords: Covid - 19; E – learning; Learning outcomes; Traditional teaching methods; Students

Introduction
There is no contention as to the fact that Covid - 19 has come to stay like other diseases (such as malaria, typhoid, tuberculosis and hepatitis) with struggles for its cure on daily basis. It has thus resulted to closure of schools, offices, business ventures and other critical areas of the nation’s economy. Such moves were not deliberate but part of government measures to curtail its spread. Figures released on daily basis by John Hopkins University, African Centre for Diseases and Control as well as Nigeria’s National Centre for Diseases and Control are all evidence to this. It was in response to this that, the World Health Organization (WHO) on March 11, 2020 declared the disease as a global pandemic. After an extensive review of happenings around the world by governments and the fact that economies cannot be totally lock up forever as witnessed from one continent to another.
The embrace for technology driven - system of running schools, government businesses and other entities was adopted especially in developing countries of the world like Nigeria. Before this period, what could best be described as quality education has traditionally been associated with strong teachers having high degree of personal contact with their learners in the classrooms. Traditional teaching methods are characterized by teacher -centeredness, content - laden, passivity of learners, rote - learning, shallow - learning and examination oriented. A typical example of this category is the lecture method also called telling or talk - chalk method. It is probably the oldest well known and widely used method, still commonly practiced at all levels.

Curriculum implementation is the actual execution of curriculum document in the classroom through effective teaching - learning process, interactions of teacher, learner(s) and other elements in the instructional system (Kpangban and Onwuegbu, 1992). The success or failure of any curriculum depends much on what goes on in the classroom, the extent to which teaching - learning process is carried out according to plans as specified in the curriculum (Abimbade, 2006 in Achuonye, 2015). With the world moving rapidly into digital media and information, the influence of Information and Communication Technology (ICT) on both education and students’ learning behaviour is becoming more and more important and this importance will continue to grow beyond the 21st century.

**E - Learning: Conceptual Meaning**

E - learning according to Aboderin (2015), encompasses an ample array of systems, from the teacher using visual effects to students accessing academic materials online and teaching delivered entirely with the use of computer. E - learning is learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom (www.e-learning.gov, 2019). Evidence exists to suggest that different teaching delivery styles can have different degrees of success as measured in terms of learning outcomes of the students. In relation to online teaching, a growing number of studies have contended that e - learning improves students’ attainment in education. These studies claim that ICT have a potential to innovate, accelerate, enrich and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow’s workers, as well as strengthen teaching and helping schools change (Al - Ansari, 2006; Alkhalaf, Drew & AlHussain, 2012).

The potential of e - learning to significantly influence education in a developing country like Nigeria is thus significant. Web Based Training and its newer and more general synonymous term e - Learning are two of today’s buzz - words in the academic world (Odhiambo, 2013). Decision - makers associate with its new ways of learning that are more cost efficient than traditional learning strategies and which allow students to better control the process of learning because they can decide when, where and how fast to learn. It is important to note that there are many pedagogical and socio - economic factors that have driven institutions to adopt e - learning. A good example is the Covid - 19 pandemic which had taken the global education backward since it evolved. Others which tend to be its gains include greater information access; greater communication; synchronous learning; increased cooperation and collaboration; cost - effectiveness (e.g. by reaching different students and in greater numbers); and pedagogical improvement through simulations, virtual experiences, and graphic representations.
Both trainers and learners can choose more appropriate applications which are flexible in time, in place, personalized, reusable, adapted to specific domains and more cost-efficient (Fisser, 2001; Pelliccione, 2001; Adomi, 2005; Olabode, Marlien & Jacobs, 2005; Bruno, 2007). E-learning is not only about training and instruction but also about learning that is tailored to the individual. Different terminologies have been used to define learning that takes place online (Lorrain, Frankie & Iahad, 2007; Oye 2011). The early use of computers and ICT were geared to support classroom instructional methods. Gradually, as more and more personal computers became available, the concept and practice of online classes was investigated and explored by some pioneering colleges and universities. There are so many examples of current e-learning practices. These include:

- **Computer - Based Training (CBT):** Computer-based training (CBT) is any course of instruction whose primary means of delivery is through the computer. A CBT courseware may be delivered via a software product installed on a single computer, through a corporate or educational intranet, in this case, the teacher does not need internet or website. All that is needed is a computer, a projector, scanner and multimedia objects such as audio, video and speakers for the transmission of learning contents or it could be delivered over the Internet as Web-based training. CBT can be used to teach business education because it is especially good for keyboarding, word processing, information management, business mathematics amongst other subjects. Students can also take advantage of CBT to learn how to run computer applications, such as Microsoft Excel, MS-word, Power point and other Office packages that are related to their field of study.

- **Web - based Training:** Web-based training (WBT) is an innovative approach to distance learning in which computer-based training (CBT) is transformed by the technologies and methodologies of the World Wide Web, the Internet, and intranets (Kilby, 2009). Web-based training could be used to present business education contents live and in a structure promoting self-directed and self-paced instruction on any topic at any distance. WBT could also be used in the provision of remedial lessons to students. The teacher can also use it for evaluation and assessment of the students objectively especially in a time like this.

- **Collaborative Learning:** Collaborative Learning is an online learning, based on interaction with others learners/instructors (Siadaty and Taghiyareh, 2008). E-learning particularly gives room for collaborative and students’-centered learning. When using e-learning technology in schools, all the teacher does is to guide the learners in a virtual classroom environment, through interactive online learning, such as shared whiteboards, shared application software, chat functionality and audio/video over the network. Meanwhile, Brown (1998) noted that there are three ways in which e-learning technology facilitates learning principles: through self-directed learning, through collaborative learning, and through critical analysis.

- **Informal E - learning:** E-learning can also help to facilitate informal learning in education. Through internet and e-learning, the students can learn outside the course based materials, traditional classroom and can learn about other important things that affect their lives. Students also have the opportunity to learn during holidays and vacations without necessarily been taught by their teacher. Martinez (2003) noted that incorporating technology like e-learning into schools may provide students with experience that would otherwise not be available to them. For example, computer simulations allow students to discover principles through their own active engagement.
Covid-19 Pandemic

Coronavirus disease (Covid - 19) is an infectious disease caused by a newly discovered coronavirus. The Covid - 19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it’s important that you also practice respiratory etiquette (for example, by coughing into a flexed elbow). At this time, there are no specific vaccines or treatments for Covid - 19. Covid - 19 affects different people in different ways. Most infected people will develop mild to moderate illness and recover without hospitalization. A novel coronavirus (Covid - 19) was identified in 2019 in Wuhan, China. This is a new coronavirus that has not been previously identified in humans.

It was initially reported to the 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 Severe Acute Respiratory Syndrome (SARS) SARS-CoV-2 was termed Covid - 19 by the WHO, the acronym derived from “coronavirus disease 2019”. The full genetic sequence of SARS-CoV-2 from the early human cases and the sequences of many other virus isolated from human cases from China and all over the world since then show that SARS-CoV-2 has an ecological origin in bat populations. All available evidence to date suggests that the virus has a natural animal origin and is not a manipulated or constructed virus. The name was chosen to avoid stigmatizing the virus’s origins in terms of populations, geography, or animal associations.

Relevance of E-Learning in Classroom Teachings in the Aftermath of Covid - 19

E-learning is the latest evolution in education and training. The electronic complement to traditional instructor-led classroom training is through computer-based training (CBT), delivered via CD-ROM to individual PCs or local-area networks (LANs.) Then, the rise of the web led to web-based training (WBT), courseware developed specifically for delivery via the Internet or intranets. The rapid growth of web-based technologies and the high usage of the Internet have made teaching and learning via the Internet, or e-learning, more viable in recent years (especially with Covid - 19) and with an increase in the demand for education, institutions in Nigeria should re-plan for e-learning has supported by Raja (2004). Typically, the content for e-learning is in the electronic form and is stored either in CD ROM’s or on servers.

Learners access these contents directly from standalone computers or from the servers through the networked computers. The contents are typically developed to be engaging and interactive and the learners are supported “virtually” by the instructors. The curriculum needs to be the point of reference for creating an effective e-learning. Doing so will stimulate vital motivation and give the programme a chance to succeed (Allen, 2003). Proponents of this technology are of the view that e-learning is as effective as traditional teaching and therefore, offers a good substitute to traditional teaching-learning. Similarly, Bassey, Umoren, Akuegwu and Ntukidem (2007) commented that students’ learning in schools all over the world has undergone tremendous transformation, especially since the advent of information and communication technology (ICT).

In e-learning system, students are able to interact anytime from wherever with different instructional material (text, sound, pictures, video and so on) through the Internet. In addition, learners can communicate with teachers and classmates both individually and as a group discussion with the use of message boards, instant message exchanges and video conferencing.
(Al-Ammari and Hamad, 2008). According to Barker & Wendel (2001) students in virtual schools showed greater improvement that their conventional school counterparts in critical thinking, researching, using computers, learning independently, problem-solving, creative thinking, decision-making, and time management.

A study by Calderoni (1998) revealed that academic advantages over traditional classroom instruction were demonstrated by students in Mexico’s Telesecundaria programme, who were “substantially more likely than other groups to pass a final 9th grade examination” administered by the state; by students taking chemistry as satellite course (Dees 1994); and by students learning reading and maths via interactive radio instruction (Yasin & Luberisse 1998). There is no doubt as to whether students and teachers in Nigerian schools are actually responsive to and also fully utilize the immense potentials of the e-learning for academic works or not. To Manir (2007) in Ojeaga and Igbinedion (2012), many teachers and students are not fully aware of and do not fully utilize the immense potentials of the internet for academic work in most especially the developing countries.

The situation is slightly different with the advanced nations of the world whom have foreseen the consequences that paper/printing technologies and face to face discussions may portend on the educational system. Manir further stressed that in spite of the Internet and e-learning technologies, there is the challenge of many students and teachers continually depending on traditional ways of doing research though it is very clear that institutions of learning and libraries lack current materials. Even when these materials are available, they are difficult to access due to poor records management systems. These challenges present themselves at a time of increasing students’ population, scarcity of learning resources and competitive admission. E-learning as a good substitute may help to reduce if not totally eliminate, the aforementioned barriers usually associated with traditional teaching/learning methods in business education with its numerous potentials and benefits.

**E-learning and Students’ Learning Outcomes**

Studies have shown that prior academic attainment is an important predictor of performance at various levels of education. Students’ performance remains one of the key determinants of the success of any technological innovation and initiative in any school and their academic performance and attitudes towards computers are suggested as having an influence on their use of e-learning tools (Aboderin, 2015). As ICT are being increasingly used in education, the need to monitor their impact on students’ academic prowess is ever more needed. This is because it is quite important to show the relationships between technology use and students’ academic achievement. There is also a need to show that education should be seen as using technology not only as an end in itself, but as a means to promote creativity, empowerment and equality and produce efficient learners and problem solvers. Many academic researchers have tried to answer this question at theoretical and empirical levels.

The ability to effectively manage learning time is an important element for an electronic learner success (Kearsley, 2000). Palloff and Pratt (1999) hinted that interacting in a Web-based course can require two to three times the amount of time investment than in a face-to-face course. Roblyer (1999) pointed that students who have difficulty managing time are more likely to achieve less in a distance course or drop out altogether. Gibson (1998) equally mentioned that a key construct relating to distance learners’ persistence is their self-efficacy for learning at a
distance and that personal perceptions of competence (self-efficacy) are related to learners’ perceptions of their ability to manage time effectively.

**Challenges on the use of E-Learning in Schools in Kaduna**

1. **Energy related problems**: Irregular and frequent interrupted power supply in Nigeria is a perennial problem affecting almost every aspect of the economy, including education. Ajadi, Salawu and Adeoye (2008) observed that it’s been a major setback for technological advancement in the country. Most rural areas in Nigeria are not even connected to the national grid. The consequence of this is that students residing in such areas may find it difficult to use ICT effectively.

2. **Internet Connectivity**: The cost of accessing the internet in Nigeria is still on the high side. Hence, some students find it a challenge to afford. Aduke suggested that the government should make Internet connectivity a priority for higher education to be able to leverage on the promises and opportunities ICTs present (Aduke, 2008).

3. **Lack of Computer Literacy**: It has been found that low computer literacy level is a critical factor that still affects the acceptability and use of ICT/e-learning by students and teacher in most public schools. Furthermore, the lack of ICT training for teachers makes it hard for them to provide digital content, even when provided with all necessary infrastructures.

4. **School curriculum**: Non-inclusion of ICT in the teacher education curricula. Most students have no information technology or computer education knowledge because it was not entrenched in the curriculum at their elementary or while at even secondary schools. It is only recently that computer education was been introduced at elementary level, at the secondary school level computer education is yet to be made a compulsory subject.

5. **Lack of Time**: Most subject/school teachers are too busy to experiment with the technology, share their experiences with colleagues and attend technology conferences, seminars and in-service training programmes. This is because of their engagement in other personal ventures. Many teachers therefore prefer to remain with the use of the traditional classroom delivery methods than to use e-learning tools which will consume their time in the planning, organizing and integration stages (Jimoh-Kadiri & Bupo, 2008).

**Conclusion**

It is evident from the foregoing discussion that Information and Communication Technology (ICT) is a force that has changed many aspects of our daily lives cut across all sectors of the economy including the schools. Its adoption and use in the nations’ educational system is rather so slow or what could best be described as unimpressive both by the teachers and students. A lot of factors may be responsible for this, coming even before the Covid-19 pandemic. However, with Covid-19, e-learning as an offshoot of ICT provides an alternative to the traditional method of teaching which reduces the abnormal large class sizes, provide convenience and comfort in the course of teaching and learning in our academic institutions. It is therefore, pertinent for all stakeholders and Government to work together and alleviate these challenges as e-learning is best for use during this period as schools remain closed. More so, as there are palpable fears in the minds of many that if schools are re-opened, what then is the assurance that the number of new infected cases would not rise beyond and above the already infected ones?

**Recommendations**

Based on the conclusion, the study recommends that:
1. For power supply to the nocks and crannies of the different communities to improve, there is need for partnership between the government and wealthy private individuals in this respect. They can complement the already available public power system with solar power system with massive investment in this area.

2. Governments (Federal, State and Local) and its agencies should provide internet facilities to their respective areas of jurisdiction for people to enjoy 24/7. As for the funding, beneficiaries should be levied and services to be provided at an affordable rate.

3. Strict compliance to computer knowledge of every students should be enforced before been offered admission into secondary schools.

4. School curriculum should be re-planned such that lessons taught or about to be taught can be done using e-learning system. Careful work should be done in this direction.

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