

THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN CURBING GLOBAL CRISIS IN EDUCATION

DR. AKOR, C.D.

Mathematics Department, College of Education Oju, Benue State, Nigeria.

PH- +2348105211189. e-mail: akorchristiana@yahoo.com

TORRUAM, JAPHETH TERANDE

Department of Computer Education,

College of Education Oju, Benue State, Nigeria.

PH- +23407038527270. e-mail: torruam@gmail.com

ULOKO GRACE O.

Department of Home Economics Education,

College of Education Oju, Benue State, Nigeria.

PH-+2348037361959

&

DR. ANN O. AMEH

Department of Biology,

College of Education Oju, Benue State, Nigeria.

PH-+2348077414156, e-mail: annojellameh@gmail.com

Abstract

The study investigates the role of ICT in curbing global crisis in Education. Information communication technology (ICT) has no doubt the potential to increase the rate of diffusion of a very wide range of technologies, applications, and platforms across the globe. ICT diffusion is key to accelerated education sector. The accelerated uptake of ICT-based services constitutes the key to achieving gains in curbing global crisis in Education. In fact, ICT not only empowers other technologies and services, it in itself is also one of the technologies that can accelerate uptake in gains for curbing global crisis in Education. The study observed that, though countries of the Nations are making efforts to join the ICT fray, these efforts appear to be ineffective. Countries of the world still experience a lag in its implementation due to general neglect and other factors, comprising corruption. This continues to be the major challenge facing access to ICT facilities in countries like ours for curbing global crisis in Education. The study concludes that despite the roles ICT can play in curbing global crisis in Education, public and private sectors are yet to extensively adopt them to maximally gain in curbing global crisis in Education. Efforts geared towards integration of ICT into the public and private sectors, have not had much impact. Problems such as lack of users' Professional knowledge and technical knowhow and poor information infrastructure militates against these efforts. The study recommends that efforts should be made by government and private sector to provide adequate ICT facilities to public and private education sectors for maximum achievement gains for curbing global crisis in Education.

Key Words – Information communication technology, curbing, global crisis, Education

Introduction

Global crisis in education occurs at all levels of education in both developed and developing nations of the world. That is, the primary, secondary and tertiary levels, as well as in adult education. This is regardless of whether the education is public or private in every country of

the world. The fast evolving trend in Information and communication technology (ICT) has the capability of tackling educational crisis. According to Kent and Facer (2004), the evolution of digital technologies began first with the invention of the internet; which has made it possible for learners and other public members to access information without delay. Through ICT, there have been drastic changes and significant influence on Education and other sectors.

Information and communication technology (ICT) is a diverse set of technological tools and resources used to transmit, store, create, share or exchange information. These technological tools and resources include computers, the Internet (websites, blogs and emails), live broadcasting technologies (radio, television and webcasting), recorded broadcasting technologies (podcasting, audio and video players, and storage devices) and telephony (fixed or mobile, satellite, visio/video-conferencing, etc.). **Information and Communication Technology (ICT) in education** is the mode of education that uses information and communications technology to support, enhance, and optimize the delivery of information.

Information and Communication Technology has been defined as “a broad based technology (including its methods, management and application) that supports the creation, storage, manipulation and communication of information” (French, 1996). According to Nworgu (2007), information technology means a set of tools that helps you work with information and perform tasks related to information processing”. The definition of French is more encompassing than that of Nworgu, which was limited to information processing and did not extend to the communication of ICT. Essentially, the term originated as Information Technology (IT) until recently when it was thought that the communication component ought to be highlighted because of its significance. It was then that the concept transformed to Information and Communication Technology (ICT) (Olusanya and Oleyede, 2003).

ICT today is in many parts of the world enabling transformation of the most expensive public services such as education, health, transportation, etc. This transformation includes the capability of ICT in curbing global crisis in Education. Against this background, the paper presents a range of perspectives of Information and communication technology (ICT) on the most promising actions or policy elements for optimal leveraging of ICT for curbing global crisis in Education.

Causes of Global Crisis in Education

It has been proven that education is a pathway out of poverty, however, the current state of global education reveals just how narrow and inaccessible this pathway is, especially to the world’s poorest populations, especially in developing countries. Millions of children in developing nations will never have the opportunity to even step into a classroom. To complicate the matter further, attending school is not always synonymous with receiving an education. Around the globe, there are currently 250 million students who are unable to read, write, or do basic mathematics, despite having spent several years in school due to global crisis in education (Global Partnership for Education, 2014).

There are several reasons for global crisis in education such incessant strikes by academic staff union of universities in Nigeria, pandemic, cultism, etc. According to Mona and Malmö (2019), some of the main factors that limit student access to education include:

- i. **Lack of schools:** Long distances from the nearest school prohibit many students from attending, especially for families in rural towns. In other places, there are simply no schools available.
- ii. **Financial obstacles:** Even in a majority of public schools, education comes at the price of school uniforms, testing, gifts to teachers, and supplies.
- iii. **Lack of teachers:** Particularly in Sub-Saharan Africa, government efforts have led to skyrocketing enrollment rates in primary schools over the past 25 years. However, the

growth in the number of teachers has not kept pace with these new attendees. With a surge in class sizes, instruction quality has suffered.

- iv. **Teacher Absenteeism:** Not only are Latin American and African schools burdened by a shortage of teachers, but also teachers who are unavailable to their students.
- v. **Lack of Training:** Many teachers lack the qualifications to teach students.

The problems outlined above mean that millions of children are still denied their basic right to education. While there is no quick and simple recipe for curing the broken global education system, there are constructive steps that must be taken to move forward and which many organizations are taking.

Ways by which Information and Communication technology (ICT) can Curbed Global Crisis in Education

Due to the evolving trends in ICT, the following are some of the ways it can curb global crisis in education notwithstanding some of its disadvantages:

1. **Mobile Learning:** New advances in hardware and software are making mobile “smart phones” indispensable tools. Just as cell phones have leapfrogged fixed line technology in the telecommunications industry. The mobile devices with internet access and computing capabilities have overtaken personal computers as the information appliance of choice in the classroom.
2. **Cloud computing:** Applications have increasingly moved off the stand alone desk top computer and increasingly onto server farms accessible through the Internet. The implications of this trend for education systems are huge; they make cheaper information appliances available which do not require the processing power or size of the personal computer (PC). The challenge is providing the ubiquitous connectivity to access information sitting in the “cloud”.
3. **One-to-One computing:** The trend in classrooms around the world is to provide an information appliance to every learner and create learning environments that assume universal access to the technology. Whether the hardware involved is one laptop per child (OLPC), or increasingly a net computer, smart phone, or the re-emergence of the tablet, classrooms should prepare for the universal availability of personal learning devices.
4. **Ubiquitous learning:** With the emergence of increasingly robust connectivity infrastructure and cheaper computers, school systems around the world are developing the ability to provide learning opportunities to students “anytime, anywhere”. This trend requires a rethinking of the traditional 40 minute lesson. In addition to hardware and Internet access, it requires the availability of virtual mentors or teachers, and/or opportunities for peer to peer and self-paced, deeper learning.
5. **Gaming:** online game experience is extremely common among young people and games offer an opportunity for an increased social interaction and civic engagement among youths. The phenomenal success of games with a focus on active participation, built in incentives and interaction that current educational methods are not falling short and educational games could more effectively attract the interest and attention of learners.
6. **Smart portfolio assessment:** The collection, management, sorting, and retrieving of data related to learning will help teachers to better understand learning gaps and customize content and pedagogical approaches. Also, assessment is increasingly moving toward

frequent formative assessments which lend itself to real-time data and less on high-pressure exams as the mark of excellence. Tools are increasingly available to students to gather their work together in a kind of online portfolio; whenever they add a tweet, blog post, or photo to any online service, it will appear in their personal portfolio which can be both peer and teacher assessed.

7. **Teacher managers/mentors:** The role of the teacher in the classroom is being transformed from that of the font of knowledge to an instructional manager helping to guide students through individualized learning pathways, identifying relevant learning resources, creating collaborative learning opportunities, and providing insight and support both during formal class time and outside of the designated 40 minute instruction period. This shift is easier said than done and ultimately the success or failure of technology projects in the classroom hinge on the human factor and the willingness of a teacher to step into uncharted territory.
8. **Online learning:** ICT and its tools have led to the emergence of online learning. Through this, the teachers and the students are learning innovative ways in the education process. ICTs have looked after that education reaches through it worldwide and even in remote areas. No matter where the students are, it has ensured that every learner derives its benefits.
9. **Accessible to all:** ICT in education allows accessibility to all types of learners. All students can learn through the material provided. Even the special needs students can maximize the benefits through the usage of ICT. ICT has also covered issues like the “digital divide” and allows even less fortunate people to access the tools for their educational needs and enhance learning.
10. **Higher-order thinking and skill developments:** ICT promotes high order thinking and reasoning skills. These skills enable the process of evaluation, planning, monitoring, controlling, reflecting, etc. To use ICT tools effectively, one must be able to explain and justify the solutions to the problems. For using ICTs, the students should be able to discuss, test, and evaluate the strategies and methods they use.

Problems Associated with ICT Usage in Curbing Global Crisis in Education

It has been identified that, using ICT has a lot of gains in curbing global crisis in Education, but these gains will depend on deploying the rapidly growing range of ICT applications in education. Unfortunately, In spite of the bright prospect of ICT in curbing global crisis in Education, they are grossly lacking in Nigeria in particular and let alone its circulation across other developing countries of the nations. A lot of problems are confronting the use of ICT in curbing global crisis in Education. Torruam and Abur (2013) highlight some of these problems as follows:

- i. **Professional knowledge and technical expertise:** Information Communication and Technology (ICT) is a fairly new area of importance especially in developing communities like Nigeria, etc. It is a lightly technical field, and to understand how it curbs global crisis in Education, one first has to understand the operational functionality of the materials. As much as materials differ in terms of technical components, design and set-up, they also differ in terms of functionality. Some are multi-dimensional; capable of various functions such as giving logical out comes, manipulating information etc. Without the user who is knowledgeable enough, ICT cannot create the desired change

- and progress aimed at curbing global crisis in Education. User's knowledge has a great impact on the effective application of ICT to curbing global crisis in Education.
- ii. **Lack of computers:** Computers are still very expensive and despite spirited efforts by the government agencies, Nongovernmental organizations (NGO), corporate organizations and individuals to donate computers to as many schools as possible, there still remains a big percentage of the schools unable to purchase computers for use by their pupils and teachers.
 - iii. **Lack of electricity:** Developing countries have not been able to connect all parts of their countries to their national electricity grid. Furthermore, there is no stable electricity and infrastructure to attract foreign investment which developing countries are lacking. Consequently, the educational sector that fall under such area is left handicapped and may not be able to offer computer to the sector to achieve maximum gains for curbing global crisis in Education.
 - iv. **Broken down computers:** while a good number of schools have benefited from donated used computers, they have not been adequately equipped with the same on maintenance and repair, hence its very common to see schools full of broken down computers, some repairable and some not. This has actually been a major problem, and therefore, many governments have now put strict measures on any person, NGO or corporate bodies willing to donate second hand computers. (It is seen as a dumping ground); e-waste management.
 - v. **Burglary:** The fact that computers are still very expensive; makes them a target for thieves who usually have ready markets at a much less price. This has made many schools to incur extra expenses trying to burglar proof the computer rooms. This extra expense makes some schools shy away from purchasing computers.
 - vi. **Lack of internet or slow connectivity:** Most schools are not able to connect to the World Wide Web, due to the high costs involved in the connectivity.
 - vii. **Increased moral degradation:** Internet pornography, cyber bullying and other anti-social behaviors are worrisome emerging problems that prevent many schools from using ICT despite its numerous advantages in curbing global crisis in education.

Conclusion

ICT has every sign of long survival as long as such digital devices become more available. That means when the devices become more affordable, the connectivity bandwidths become widely used with less constraints and the multimedia applications will prosper. Therefore, the achievement and gains in curbing global crisis in Education will increasingly rely on ICT. For ICT to succeed in any nation to curb global crisis in Education there is the need to build on another important pillar i.e. the existence of befitting infrastructure, electricity and some degree of viable connectivity. A growing difference in market liberalization of the Internet-access supply is leading to another kind of "digital divide" on the global scale. Therefore, countries should introduce telecommunications regulations that will discourage the development of Internet-access service. Government needs to ensure that the entire public education sector is fully supported by high-quality ICT infrastructure in order to achieve maximum gains of ICT in curbing global crisis in Education.

Recommendations

In order to ensure that ICT are widely adopted and used for maximum gains of curbing global crisis in education, the following recommendations are made.

- i. Government should provide and support education sector both public and private at all levels with adequate ICT facilities.

- ii. Government should ensure adequate electricity supply in both public and private sectors.
- iii. Education programs should be organized for students, employee at all level on e-learning and e-teaching.
- iv. Public outreach campaigns on the importance and use of ICT should be ensured.
- v. Government should ensure creation of free online libraries with e-books, e-journals, e-magazines use for all low-income earners.

References

- French, C.S. (1996). *Data Processing and Information Technology*, London: Thomson Learning.
- Global Partnership for Education. (2014). *Second Replenishment 2015 to 2018: 250 Million Reasons to Invest in Education, The Case for Investment*. Washington, DC: Global Partnership for Education.
- Kent, N. and Facer, K. (2004). Different worlds? A comparison of young people's home and school ICT use. *Journal of Computer Assisted Learning*, vol. 20, pp.440-455.
- Lack of Qualified Teachers (2019). A Global Challenge for Future Knowledge Development DOI: <http://dx.doi.org/10.5772/intechopen.83417>
- Mona and Malmö, (2019). Lack of Qualified Teachers: A Global Challenge for Future Knowledge Development DOI: <http://dx.doi.org/10.5772/intechopen.83417>.
- Nworgu, B. G. (2007). *The Indispensability of ICT in Educational Research in Information Communication Technology in the Service of Education* Ed. By D. N. Ezech and Nkadi Onyegegbu. Enugu: Timex.
- Olusanya, O. M. and Olayede, O. I. (2003). Effective Utilization of Information and Communication Technology (ICT). for boosting Research in Science, Technology and Mathematics Education in Nigeria in M.A.G. Akale (Ed).. *Proceedings of the 44th Annual Conference of Science Teachers Association of Nigeria*.
- Torruam and Abur (2013). The Impact of ICT-Driven Instructional Aids in Nigerian Secondary Schools. *International Journal of Basic and Applied Science*, 1(3), pp. 511-518.