ICT and Education: Issues and Challenges

Zainab Ibrahim Ciroma

Federal Polytechnic Damaturu
P.M.B.1006.Damaturu, Yobe State.

Abstract

There have been many researches on ICT which indicates that ICT can lead to improved students learning and better teaching methods. Learner's exposure to educational ICT through curriculum integration has a significant and positive impact on student's achievement. However, the problem with using ICT is that some teachers cannot use it, while those capable of using it, use it as a secondary source or medium of instruction. This study examines the meaning, importance, role and types of ICT learning and whether it will be the next instructor or secondary source of information in the education domain.

Keywords: ICT,teaching, learners, education, and instructor.

1. Introduction

The emergence of ICT in recent times has brought about positiveand negative changes. It has made the world into a global village. Business, communication, research etc.is made easy with the ICT platform. Information has no restrictions and everyone is entitled toexpress his/her self through ICT. We might ask what is ICT? What role does it play in the society?

ICT stand for Information and Communication Technologies. Information and communication technologies are diverse set of technology tools and resources used to communicate and to create, disseminate, store and manage information. These technologies include Computers, the Internet, Broadcasting Technologies (radio and television) and telephony.

Education (2000) is a process of teaching, training and learning, especially in schools or colleges to improve knowledge and develop skills. Education is achieved in diverse ways. Education is now easily available through ICT. We might ask what the link between ICT and Education is. The link is a major one because the traditional setting of classroom interaction is now giving way for individualistic approach to education which helps tremendously in acquiring more knowledge from other sources. There has been a rapid improvement in learner's ability to gain more information from ICT sources which helps in understanding different topics taught in school or to do assignment.

This study seeks to find out whether ICT in education is bearing good fruits to our numerous learners or if it will be the next medium of instruction.

2. The Role of ICT in Eduction

In recent years, there has been a lot of interest in how computers and the internet can best be harnessed to improve the efficiency and effectiveness of education at all levels, both at the formal and non-formal settings. But ICTs are more than just technologies, for instance telephone, radio and television, although now given less attention, have a longer and richer history as instructional tools. For instance, radio and television have for over fifty years been used for open and distance learning, though print remains the cheapest, most accessible and therefore most dominant delivery mechanism in both developed and developing countries. The use of computers and the internet is still in its infancy stage in developing countries, if these are used at all, due to limited infrastructure and the attendant high cost of access.

3. Why is ICT Important

Information and communications technology(mpict) education is basically our society's efforts to teach its current and emerging citizens valuable knowledge and skills around computing and communication devices, software that operates them, application that run on them and system that are built with them.

It paves way for attaining additional instructional materials for study, research, entertainment and development across borders. There is no restriction in knowledge swapping in the ICT world. Its importance cannot be over emphasized; much can be done to fully grasp the potentials inherent in adding ICT as a second source of instruction in the traditional classroom setting. The audio-visual component of ICT provides afirst-hand contact to the learner where they can read and view pictures. It heightens the retention of information in the memory and is less cumbersome than carrying a load of books around for classes.

Worldwide research has shown that ICT can lead to improved student learning and better teaching methods. A report made by the National Institute of Multimedia Education in Japan, proved that an increase in student exposure to educational ICT has a significant impact on student's achievement, especially in terms of knowledge, comprehension, practical skill and presentation skill in subject areas such as mathematics, science and social study. However, there are many education technology solutions provided in the world which may cause confusion among educators about how to choose the right ICT solution. In this respect ICT will prove to have advantages or disadvantages.

The advantages of ICT in education are;
1. Through ICT, images can easily be used in teaching and improving the retentive memory of students.
2. Teachers can easily explain complex instructions and ensure students comprehension.
3. Through ICT, teachers are able to create interactive classes and make the lessons more enjoyable which could improve student attendance and concentration.

Disadvantages
1. Setting up the devices can be very troublesome.
2. Too expensive to afford.
3. It is hard for teachers to use with a lack of experience using ICT tools.

Though ICT is seen in some quarters to be expensive, troublesome and the lack of expertise of teachers, it should not cloud the relevance of using ICT in our schools because the world is moving on a fast lane and developing countries need to catch up or else be left lagging behind in all facets of life. Where ICT is used in education, there are different types of methods used to improve learning. They include e-learning, blended learning, open-distance learning and learner centered environment. This will be explained one after the other.

4. Types of Learning Using ICT

The goal of education is to make people to learn and change due to the learning obtained. ICT has devised ways of achieving this learning for some years now. The first type of learning is the e- learning.

1. E- Learning comprises of all learning at all levels, both formal and non-formal, that uses an information network. The Internet, an intranet (LAN) or extranet (WAN) whether wholly or in part, for course delivery, interaction, evaluation and facilitation. Others prefer the term online learning. Web-based learning is a subset of e-learning and refers to learning using a browser such as Internet explorer, Firefox and Google Chrome.

2. Blended learning: This term refers to learning models that combine traditional classroom practice with e-learning solution. For example, students in a traditional class can be assigned both print based and online materials, have online monitoring sessions with their teacher through chat and are subscribed to a class email list or a web-based training course can be enhanced by periodic face to face instruction.
   Blending was prompted by the recognition that not all learning is best achieved in an electronically- mediated environment, particularly one that dispenses with a live instructor altogether. Instead, consideration must be given to the subject matter, the learning objectives, characteristics and learning context in order to derive benefit of instructional and delivery method.

3. Open/Distance learning; Open and distance learning is defined by the common wealth of learning as a way of providing learning opportunities that is characterized by the separation of teacher and learner in time or place, or both time and place, learning that is certified in some way by an institution or agency; the use of a variety of media, including print and electronic; two ways of communication that allows learners and teachers to interact.

4. Learner Centered Environment; the National Research council of the US defines learner-centered environments as those that pay careful attention to the knowledge, skills, attitudes and beliefs that learners bring with them to the classroom. The impetus for learner-centered derives from a theory of learning called constructionism, which views learning as a process in which individuals "construct" making based on prior knowledge and experience. Experience enables individuals to build mental models or schemes, which in turn provide meaning and organization to subsequent experience. Thus, knowledge is not "out there" independent of the learner and which the learner passively receives, rather, knowledge is created through an active

process in which the learner transforms information, constructs hypothesis and makes decisions using his/her mental models.

e- learning, blended learning, open/distance and learner centered environments are ways of using ICT in the learning environment. Maybe in the nearest future, other types of learning will crop up adding to the literature of ICT and education.

5. Conclusion

This paper has tried to examine what ICT is in relation to the education sector. What successes have been achieved and what the future holds for the young generation. ICT has come to stay. It is a worthwhile venture to incorporate it into the school curriculum to provide other sources of information and a medium of instruction to the learner. The types of ICT education has made it easy to use according to the choice of the learner. ICT will be the next instructor apart from the traditional classroom interaction. It will help in no small way in bringing knowledge to the doorstep of the learner and make us compete at the world level. Nigeria will becomeone of the most advanced and developedcountries in the world most especially if they adhere to new and innovative ways of learning.

References

Bates, A.W.(2000)Managing Technological Change: Strategies for University and College Leaders. San Francisco: Jossey Bass.
Brown, J.S and P. Duguid. (2000) The Social Life of Information. Boston MA: Harvard Business School Press.
Carlson, S.and C.T.Gadio 2002 "Teacher professional Development in the use of technology" in Haddad. W. and A Drexler (eds.) Technologies for Education: Potentials, Parameters, and Prospects. Washington DC: Academy for Education Development and Paris: UNESCO.
Daniel, J (1996) Mega Universities and knowledge Media: Technology Strategies for Higher Education. London: Kogen Page.
Steffe, L.P and J. Gale. (1995) Constructionism in Education. Hillsdale, N.J: Lawrence Erlbaum
http:// www.mpict.org/ICT - education defined - importance. Html
http://en.m.wikibookd.org/wiki/ICT - in - education/ Definition - of - trams
www://elmoglobal.com/en/html/ICT/or.aspx
Weihmeuer, Sally (ed.) (2000) Oxford Advanced Learners Dictionary. Oxford: Oxford University Press