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INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AS A PANACEA FOR IMPROVING TEACHING AND LEARNING

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Abstract
The dawn in technology has brought new opportunities and a panacea in the teaching and learning. Teaching and learning have taken a new dimension, where the teachers/instructors are facilitators and students learn more on their own; changing from the traditional method of teaching and learning, which is boring and non-interactive; causing loss of interest in teaching and learning. This paper therefore presents most of the panacea which Information and Communication Technology (ICT) has provided to improve teaching and learning process in the educational sector of every economy.

Introduction

Information and Communication Technology (ICT) has effected virtually all aspects of life. There is no area, which has not been effected by one aspect of ICT or the other. In the educational sector, ICT has made tremendous impact to teaching and learning, giving rise to a new dimension of teaching and learning which is completely different from our traditional method of teaching and learning. With the use of computer technology together with the communication technology, a new face has been given to our traditional method of teaching giving room to what is known as ICT-based teaching. ICT as it is popularly called is Information and Communication Technology. Information and Communication Technology involves the collection, processing, storage, retrieval and dissemination of information.

In other words, to foster the use of ICT in teaching, learning, research and development in Nigeria, both in rural and urban areas, Nigeria Communications Commission (NCC) has introduced Advanced Digital Access Program for Tertiary Institutions (ADAPTI) and Digital Awareness Program (DAP), which are geared towards distribution of computers (desktops and laptops), and other ICT equipment to educational institutions (post primary and tertiary institutions) to facilitate ICT based teaching, learning, research and development.

With the introduction of information and communication technology to different areas of endeavours, life has been bettered in all areas/facets including education and opening new opportunities to teaching and learning. The only thing is for people (students, teachers, lecturers and other scholars) to explore all the avenues which have been opened by the introduction of ICT to education.

ICT as a Panacea for Research and Development

In the today ICT has opened a new dimension to research and development. It has provided new avenues by which lecturers and students can explore in their research. A new innovation in technology has given way for easy research in all disciplines. Internet facilities have provided online resources that one can use for research and development. Such resources/applications as search engines, e-library, e-mail, e-marketing, virtual learning (virtual class room), e-tutorials, Computer Aided Instructions, News, Charts, World Wide Web (www), distance learning, Video/Teleconferencing, etc. can be used by scholars and students for research and development.

ICT as a Panacea for Improving Educational Process

In today, ICT is a very important solutions for improving teaching and learning. It has transformed the traditional method of teaching and learning where the teacher according to Ike (2009) like "Master Bull Frog" dishes out information to the learners who listened and

watched. ICT has made teaching and learning very interactive, making the teacher to be a facilitator, while the students do the actual work. The use of ICT teaching like computer, multimedia, projectors, interactive whiteboard (Smart Board), PowerPoint, word processors, spreadsheets, databases, macromedia flash, Hyperlink Mark-up Language (HTML), etc. in preparing and delivering of lectures, one could imagine how lovely and interactive the lecture class would be.

With this, you hardly see a student sleeping (sleeping syndrome) while lectures are going on; which used to be common phenomenon in the past. This has given rise to what is known as ICT-based training, where computers and other ICT equipment are used in teaching/training.

However, in using ICT facilities, students do not need lecturers/teachers for them to learn.. ICT has provided enough instructional materials for all students and instructors in different areas of study. With Computer Aided/Assisted Instructions (CAI), Computer Aided learning (CAL), in this area, students and other interested scholars can learn at their own time and pace. CAI are Information that help teach or encourage interaction which is presented on computers in the form of text or in multimedia formats, which include photographs, videos, animation, speech, and music (Arnold (2008)). The guided drill and practice exercise which is a computer program that poses questions to students, returns feedback, and selects additional questions based on the students' responses is example of CAL. Recent guided drill systems incorporate the principles of education in addition to subject matter knowledge into the computer program.

At that juncture, the dawn of internet has made provision for all these tutorials available online. Today, we hear of e-tutorials (electronic tutorials) which are online as well. Internet, a consortium of interlinked computers. By connecting millions of computers worldwide, these networks enable students to access huge stores of information, which greatly enhances their research capabilities (Arnold (2008)). Apart from tutorials, books, articles, Presented Papers, Commentaries, Bibles, encyclopaedia, are all available on the net including recorded music. There is virtually no topic that one cannot find on the internet.

Apart from Internet, there are compact disks (CD ROMs) for Educational software for instance, Encarta, Ilumina gold, etc. Besides, there are also electronic libraries (e-libraries) that are collection of softcopy (electronic) books, journal, etc. online including the library of congress. There is no limit to the amount of information you can have online; only what you need is access to the internet. Although, assessment of students by their lecturers can be done online. Lecturers can give their students assignment online, submission is done online and they assessed online as well as feedback given online. This is made possible using one's website or e-mail address. ICT has made provision for students to be examined online, that is, writing online examination where the questions are instantly marked and accessed immediately using multiple choice questions or the like and the result released immediately on the spot. This eliminates the normal syndrome of some dubious people who may have the natural instinct of malpractice.

Osuagwu and Agwamba (2006) states that interactive computer assisted testing could be used to monitor students development; students can get immediate feedback of their successes and mistakes, and teachers relieved of having to grade their tests, and control information can be supplied to teachers indicating activities where students performance is not up to expectations. Besides, electronic marking/scoring of students can be done as well. In the case where the examination is not online, it can also be marked electronically using ICT-based equipment and the results accessed online by the candidates/students. Most schools even in Nigeria have adopted online testing and examination. This is also very well suited for all courses. There is a new dawn to the studying of courses world wide. Distance learning is available in all courses. Distance learning or virtual university is the use of computer and/or video networks to teach courses to students outside the conventional

classroom (Williams, Sawyer, & Hutchinson(1999)). Many universities are being run online; where people register and study online and they are awarded recognized certificates at the end. Once a student registers, he/she is provided with the course outline/curriculum online and equally the course materials, which he needs to study and when he feels he can write the examination, he is scheduled for the examination, which is written online and result instantly given. Another form is that students can hook up to the net at the appointed time where they listen to their lecturers deliver the lecture in a virtual classroom. These are different forms of E-learning. E-learning is a specific mode to attend course or program of study where the students rarely or never meet face-to-face, nor access on-campus educational facilities, because they study online (Wikipedia (2008)).

E-Learning pioneer Bernard Luskin argues that the "E" must be understood to have broad meaning if e-Learning is to be effective. Luskin says that the "e" should be interpreted to mean exciting, energetic, enthusiastic, emotional, extended, excellent, and educational in addition to "electronic" that is a traditional national interpretation. This broader interpretation allows for 21st century applications and brings learning and media psychology into the equation. The United States and other countries have begun to take advantage of the ability of audiovisual devices to transcend geographical barriers. Audiovisual devices can expose students to experiences beyond the classroom, and they can disseminate instruction across large areas, making education accessible to more people.

Consequently, in the U.S., communication satellites distribute educational programming to all public television stations; some programs are broadcast and others may be viewed on closed-circuit systems. India has also experimented with satellites to broadcast educational materials. In England, the Open University provides a college education by using radio, television, and regional learning centers. Other nations that have used audiovisual devices to transmit educational materials over large distances are France, Canada, and Brazil (Ittelson 2008).

According to (Ittelson 2008), as the technology improves, educational capabilities increase correspondingly. The emergence of inexpensive computer technology and mass storage media, including optical videodiscs and compact disks, has given instructional technologists better tools with which to work. Compact disks (the CD-ROM and CD-I) are used to store large amounts of data, such as encyclopaedias or motion pictures. Also, as new interactive delivery stations with computers and CD-ROM, CD-I, or videodiscs, a student who is interested in a particular topic can first scan an electronic encyclopaedia, then view a film on the subject or look at related topics at the touch of a button. These learning stations combine the advantages of reference materials, still pictures, motion pictures, television, and computer-aided instruction.

How Information should Be Sharing in different ways

ICT provides tools that enable users to instantaneously and effortlessly share information. One of such tools is computer networks which could be locally or globally. Computer network enables user instantaneously and effortlessly share information. For example, lecturers may share information among themselves and even among their students through instant messaging, Whatsapp chatting, email, etc. are available for scholars, lecturers and students to interact instantly in the whole world.

Conclusion

Having shared most of these opportunities provided by ICT in teaching and learning, it is very important for scholars to fully exploit all the modern teaching and learning technologies which have been brought about by ICT. It is pertinent to note that while ICT has provided all these opportunities, one cannot rule out completely that there are no problem which ICT has provided especially the internet-based fraudulent acts. ICT facilities have been provided for our good not for ill-act. So what are you using the ICT facilities within your reach for? Besides, most people have been ICT addict, where the totality of their being are absorbed by ICT infrastructure within their reach; their mental, physical, emotional and

intellectual being have been role model to ICT; where doing another thing can be forgotten in exchange of ICT usage especially in youths and young children in this period of time. Therefore re-orientation programme should be giving to children and youths in rehabilitation of these ones.

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