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INFORMATION AND COMMUNICATION TECHNOLOGY AS AN EFFECTIVE TOOL IN EMPLOYMENT GENERATION IN THE EDUCATIONAL COMMUNICATION TECHNOLOGY SECTOR

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Abstract

Information and communication technology is one of the fastest growing fields of human endeavours. ICTs sector is so robust and versatile that almost nothing can get done in this present time and age without integrating information and communication technology. It has

been observed that ICTs have been successfully integrated in the fields of medicine, engineering, visual, theatre, and applied arts, music, finance, sales and marketing and educational technology, just to mention but a few. One benefit of information and communication technology is its ability to get tasks that hitherto would have taken more time to be completed, done in shortest available run-time. This reduced through-put increases efficiency, consequently saves manpower and conserves funds. Against this backdrop, it is seen that ICT contributes to economic growth by conserving resources. This paper examines concepts of information and communication technology, and the concepts of educational technology. It also looks at how ICTs are used in the educational technology sector, ICTs as a vehicle for economic growth and finally ICTs as a tool for employment generation in the educational technology sector.

Introduction

Information and Communication technology is one of the fastest growing inventions of man, most especially in this time and age when everything is going digitalized and everyone wants to get things done with little or less efforts. Consequently it now becomes imperative that information and communication technology be integrated in every aspect of human endeavors. This integration increases efficiency, reduces through-put and minimizes the energy put into getting a particular task done.

Information and communication technology provides a platform for people to get gainfully employed in several sectors, including medical records analyst in the field of medicine, a computer aided designers in the construction and building sector, and data processors, data analysts, and support staff in educational technology in the education sector and Simulators in the sports and human kinetics sector. For any given economy to be self-sustaining the small and medium scale entrepreneurs must play key roles in building and sustaining such an economy. Economic experts advocate self-reliance rather than dependence; it now becomes imperative that any vehicle that drives and encourages this self-reliance and independence should be

applauded. Suffice it to say that information and communication technology has provided a platform for individuals and groups to become independent self-reliant entrepreneurs viz a viz employment generation most evidently in the field of educational technology.

This paper aims at highlighting the ways information and communication technology provides a platform for employment generation most especially in the educational technology sector.

Information and communication technology, a conceptual overview

Information and communication technology is made up of three words, information, communication and technology. Understanding the individual meanings of these words will go a long way in simplifying the meaning of the term information and communication technology. The term "information" means a statement of facts, data, or opinions presented in any form of medium or form. Information can be presented in forms such as texts, numerical, graphics, or audiovisual formats.

Communication can be defined as the process of transmitting information from a source known as a sender to a destination point also referred to as the receiver via a medium of transmission. Such media of communication transmission could be electronic, examples radio, television, telephones, facsimile machines, computers, just to mention but a few, or the media can take manual forms such as use of gongs, writing of letters etc.

Technology means the science of practical application of knowledge. Ofiesh (1964) observes that technology implies the application of science to arts.

Information technology is simply described as the science that bothers on what computers can do, and how computers work to get a task done. Information technology is defined as a scientific technological and engineering discipline and management technique used in handling the information, its application, and association with social,

economic, and cultural matters.

Communication technology simply describes all about the provision of facilities for communication between people and people, people and machines, or machine with machine. When we say machine here we mean all forms of 'digital equipment including computers, telephones, radio, etc. communication technology is the activity of designing , constructing and maintaining systems used in transmitting information from the sender to the receiver.

Information and communication technology is the term that describes communication devices examples radios, cellular phones, computers, satellite systems, etc. as well as the services and applications associated with them. Information and communication technology is a very broad field hence is often defined in the context of any particular field of interest such as ICTs in education, ICTs in medical Sciences, ICTs in human kinetics etc. (Rouse, 2005; Ezike, 2014).

Information and communication technology is defined as the acquisition, analysis, manipulation, storage, and distribution of information; and the design and provision of equipment and software for this purpose (deWatteville and Gilbert, 2000).

Educational technology; a conceptual overview

Educational technology can be regarded to as the application of systematic knowledge about learning and instruction to teaching and learning with the aim of improving their quality and efficiency. In order to achieve this goal a wide range of presentation, feedback, and control devices must be employed examples of these devices include teaching machines, stimulators, and computers. However, techniques such as critical path analysis, curriculum development methods, and task analysis are essential components in addition to the hardware components (Roa Usha, 2005).

The two major trends emerging in educational technology are:

1. **Technology for mass instruction;** technology for mass instruction includes all forms of media that are aimed at being

used to deliver instructions to a large population or groups of people at any given time. Examples of technology for mass instruction are instructional broadcasting, television filmed lectures, CCTV, motion pictures etc.

2. **Technology for individual instruction;** these includes equipment and materials designed for individual operations that are designed to be used in delivering instructions to an individual at a particular point in time, such as teaching machines, programmed instructions, auto-tutorial systems, computer-assisted instruction/ learning modules/ etc.

Educational technology is very unique in the sense that

1. **It** uses a broad range of resources for learning.
2. It emphasizes on individual learning.
3. **It** uses system approach to education.

Effectiveness of educational technology depends on its ability to achieve goals, maintain itself internally and adapt to its environment.

Information and communication technology in educational technology

Information and communication technology in education is the processing of information and its communications facilities and features that variously support teaching, learning and range of activities in education. ICT in educational technology entails usage of hardware and software approaches that can help enhance better learning outcomes. In this era of computer technology, the term ICTS focuses on the infra-structure devices and sources of computer technology hence when discussing lets in educational technology it is imperative we focus on computer based technology.

Information and communication technology in educational technology is any hardware and software technology that contributes in the educational information processing. Against this backdrop any information technology that focuses on the acquisition, storage,

manipulation, management, transmission or reception of data required for the educational purpose can be described to be ICT in educational technology. ICTs in educational technology describe any educational technology that is applied in the educational process. This encompasses hardware approaches like use of machines and materials, and software Approaches like use of methodologies and strategies of teaching and learning systems in the management technology that deals with the systematic organization of the hardware and the software. Information and communication technology in educational technology comprises of the application of science of on-line, offline leaning with the help of the computer technology.

Uses of information and communication technology in educational technology

Information and communication technology can be useful in educational technology in the following ways:

1. To carry out internet-based research to enhance educational processes.
2. To make use of online resources like emails, chats, etc. to support and enhance collaborative writing and sharing of information.
3. To support and enhance video conferencing, this helps collaborate wide range of students from distant geographical areas.
4. To process administrative and assessment data.
5. To broadcast materials, online facilities, or CD-ROM. These can be used as sources of information in different fields of study.

The use of information and communication technology in educational technology is very advantageous in several ways which include:

1. **It** ensures quick access to information.

2. **It** makes for easy availability of undated data for bibliographic purposes
3. ICT helps in connecting geographically dispersed regions.
4. **It** enhances development of wide range of communication means and media in teaching and learning.
5. It promotes wider learning opportunities for students.
6. ICT blends learning by combining conventional classroom learning with E-Learning learning systems.
7. **It** promotes use of toys to develop spatial awareness and psychomotor control.
8. **It** helps carry out internet based research to enhance educational processes.

Information and communication technology as an agent of economic growth

Information and communication has become the foundation of every sector of the economy everywhere. The reason for this is by now fairly well known but demand brief repetition (Kramer, Jenkins, and Katz, 2007). ICT encourages economic growth and development by performing the following tasks:

1. Reducing transaction costs and thereby improving productivity.
2. Offering immediate connectivity in form of data, video, and visual images, hence improving efficiency, transparency, and accuracy.
3. Substitutes for other more costly means of communication and transaction such as physical travelling.
4. Widens the geographic scope of potential markets.
5. Increases choice in the market place and provides access to otherwise unavailable goods and services.

Information and communication technology as an effective tool in employment generation in the educational technology sector

Information and communication technology is a veritable key in economic enhancement, as ICT enhances and productivity, efficiency accuracy and ease of task performance in all sectors of the economy as in is directly or indirectly applied in all sectors of human endeavors. A sustained economy is one in which unemployment is reduced to its barest minimum making way for wealth creation and individual self- sustainability. Information and communication technology provides employment opportunities in several forms in the educational technology sector these include:

1. A huge population of unemployed graduates has become gainfully employed by establishing ICT support services centers. These service centers provide support services to students and teachers in forms of:
 - (a) Data processing which includes typesetting of documents, printing, scanning and photocopying of documents.
 - (b) Provision of internet access to students and teachers to promote online research, e -learning, e-payments and e-registration of courses and exams.
2. With the help of information and communication technology teeming population of people are able to gain employments in form of online, real time teachers. Establishment of online real time schools have helped a whole lot of people who ordinarily might not have all the time to attend conventional study centers to acquire the required skills can partake from this e-learning experience whilst the online teachers get paid for their services in that way creating wealth for themselves.
3. Establishment of computer schools for acquiring skills also provides an avenue for employment generation and wealth creation.
4. Information and communication technology provides gainful

employments for online game simulators in the field of human kinetics and health science.

Conclusion

Information and communication technology is used to describe communication devices as well as the services and applications associated with them. Communication devices include radios, cellular phones, computers, satellite systems amongst others. Educational technology refers to the systematic knowledge about learning and instruction to teaching and learning, with the aim of improving the quality of teaching and learning. Information and communication technology involves any hardware and software technology that contributes in the educational information processing. Information and communication technology is very useful in the educational technology in so many ways which include using ICT to carry out internet based researches, using online resources like emails, chats, etc. to support and enhance collaborative writing and sharing of information, using ICT devices for administrative and data assessment purposes amongst other uses. Information and communication technology can be seen as an agent of economic growth as it reduces cost involved in rendering a task hence improving productivity, widens the geographic scope of potential markets and offers immediate connectivity in form of data, video, visual images hence improves efficiency, transparency and accuracy. Information and communication technology provides gainful employment in several forms in the educational technology sector examples data processors, online tutors, and Simulators.

It can be deduced from the study that information and communication technology is a veritable tool for employment generation and wealth creation.

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