

Review Paper

Information Communication Technology and Its Implications in the Wide Network of Education

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Man has entered the information age from an industrial age that prevailed till few years ago. It would therefore be useful to examine the nature of information and information technology that the root of future opportunities, challenges and competition. Information and information technology was there in the beginning. Information Technology consists of two words Information and Technology: Information and communication technologies in education refer to teaching and learning the subject matter that enables understanding the functions and effective use of information and communication technologies.. ICT has become part of everyday life and all sectors from banking to tourism now depend heavily on ICT for carrying out their transactions. The educational institutions should cop with the suddenly increasing demand for information and skills. In this paper we covers the use of ICT in various aspects of education, like ICT in adult education ,ICT in distance Education, in problem solving, in distance learning etc.

Keyword: ICT, Information Technology, Distance Education, E-learning, Print Media, Audio Visual

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INTRODUCTION

The explosion of information and information products today means that users are increasingly unable to deal with the problem of information overload. Information and communication technology (ICT) is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. ICT has become part of everyday life and all sectors from banking to tourism now depend heavily on ICT for carrying out their transactions. The educational institutions should cop with the suddenly increasing demand for information and skills. One cannot depend on only the same black boards, an overhead projector and video-graphed concepts as either because the transaction of curriculum is poor or the tools used in its

transaction lack application and skill.³

Information and communication technologies in education refer to teaching and learning the subject matter that enables understanding the functions and effective use of information and communication technologies.

Concept and Meaning of Information Technology

Information Technology is nothing but coping up with explosion of Information. Information technology (IT) is the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a

micro-electronics - based combination of computing and telecommunication.¹

Information Technology consists of two words Information and Technology. The term —*Information* refers to —any communication or representation of knowledge such as facts, data or opinions in any medium or for, including textual, numerical, graphic Cartographic, narrative or audiovisual forms.—*Technology* is the practical form of scientific knowledge or the science of application of knowledge to practical. —*Information Technology* is any equipment or interconnected system or sub system of equipment's that is used in the acquisition, storage manipulation, management transmission or reception of data. ICT stand for information and communication technologies and is defined, as a "diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information

USES OF ICT IN EDUCATION

"Globalization and technological changes have created a new global economy powered by technology, fueled by information and driven by knowledge. As the access to information continues to grow rapidly, schools cannot be contented with the limited knowledge to be transmitted in a fixed period of time.²

The use of ICT in libraries

ICT encompasses all those gadgets that deal with the processing of information for better and effective communication. The hardware and software like OHP, Television, Radio, Computers and related software are used in the educational process.⁶

However ICT today is mostly focused on the use of Computer technology for processing the data. In this context, advantages of ICT in libraries can be listed down as follows:⁵

- i. Quick access to information
- ii. Easy availability of updated data.
- iii. Connecting Geographically dispersed regions. Students from different parts of the world can learn together by using online, offline resources. ICT has contributed in shifting the focus on learning than teaching.
- iv. ICT can contribute in catering to individual needs of the students as per their capabilities and interest.
- v. Wider range of communication media, Wider learning opportunities for pupils²

Application of Computers in Education

Educators look at computers as a strategy that can engage students in some form of learning. Robert Taylor (1980) suggested that a computer could be used in the classroom in three different ways:¹

Computer as a TUTOR: i.e an aid to the tutor.

Computer as a TOOL: i.e. as a medium of instruction

Computer as a TUTEE: i.e as something to be instructed or programmed

ICT in Adult Education

Much research has been conducted into the effectiveness and usefulness of integrating ICT into classrooms. However, its integration into an adult learning environment is a relatively new concept which, as yet, has not been fully explored. Traditionally, adult education in many countries was mainly concerned with developing basic educational skills such as literacy and numeracy. Therefore, many adult education teachers do not see the need for ICT integration. Indeed, many view ICT as a distraction (Ginsburg *et al* 2000). These authors also assert that the ability to use ICT effectively is equally as important as learning the basic skills of reading and writing. In the twenty first century, it is no longer an issue as to whether ICT should be used in the education system. The majority of learners, irrespective of age, have access to ICT and learners need to become competent in using ICT for career preparation. This increased ICT access has resulted in many learners today being comfortable with technology and not afraid to use technology to learn. Strommen and Lincoln (1992) and Sutherland *et al* (2000) support this by declaring that from 10 a young age, learners encounter technology all around them. Many believe that this is the main aim for ICT use in today's classroom³. Many learners want and expect more from their educational experience, alongside their qualifications. Indeed, a wide range of individual goals exists within any single learning environment, especially for the adult learner. Alexander (2000)⁵ argues that educational goals may be influenced by local and national employment trends and highlights the fear that the any countries economy may fall behind other countries if they do not integrate ICT effectively in education.

For many adults, returning to education can be their first step to resuming learning within a structured learning environment (Keogh and Downes 1998). Many will encounter ICT in education for the first time. Not all learners though will learn more effectively if ICT is used (Healy 1998: Townsend 1997). Consideration needs to be given to the differences between learners and how they learn (Ross and Schulz 1999). In response to this differentiation, ICT has the ability to integrate pictures,

video, animation, text and sound. Abrams (1996) stated that this multi-sensory element helps individual learners to learn in different ways, as it can be tailored to meet their differing learning styles. Similarly, educators should avoid ICT resources that consist of a series of attractive images, sounds and video that offer little educational value (Aldrich *et al* 1998). Adult learners may be apprehensive about returning to education.⁷

Despite this, ICT may not match the expectations of its users and some software fails to promote higher order thinking skills (Kirkpatrick and Cuban 1998). The use of ICT requires a deviation from the more behaviourally based instructional applications of computer technology towards exposure to more interactive and multifaceted ICT, which is seen to facilitate the aforementioned higher order thinking skills (Baron and Goldman 1994). A learner's favoured learning approach is intrinsically linked to their preferred learning style. Consequently, these cannot be ignored in deciding how to integrate ICT into a learning environment.⁶

Effectiveness of ICT in open and distance Education Learning

ICT is a major factor in shaping the new global economy and producing rapid changes in society.⁷

Embedding ICT in teaching-learning process is a major initiative in all branches of education; ICT has a particularly important role to play in developing provision for bilingual learners. This is concerned with exploring new ways of working with bilingual learners as well as facilitating more established techniques. The increased use of ICT to deliver and enhance aspects of educational provision is now an emerging practice for all learners belonging to rural and geographically remote and mainly monolingual areas thus having advantages in overcoming geographical barriers.

For example video conferencing facilities developed to enable isolated learners to share learning with others in remote areas can also be used to reduce linguistic isolation by allowing same first language learners to discuss and communicate remotely.

Learners Support Services are an important part of Distance Educational system. Since the learners in ODL system are not directly involved in the regular classroom teaching-learning process having direct interaction with the teachers regularly, they are provided with adequate Learners Support Services.

Such support services include the pre-admission counseling, admission process, provision of study materials both in print media and audio visual forms, subject specific academic counseling, audio visual viewing facilities, participation in teleconferencing, ICT facilities for e-learning, library services, laboratory support facilities, academic career guidance, information

services related to rules, regulations, procedures, schedules, etc.²

The role of ICT to speed up the delivery of the support services has now become inevitable for the distant learners. It also considers the shift from mass produced generic resources to tailored, personalized support and communications and sets this in the context of globalization of the economy and the changing expectations of students as 'consumers.'⁴

ICTs in Distance Education

The use of technologies in distance education has become crucial in the modern world as competition increases, while markets open to the world, as it becomes a global village. The quest for better qualifications and good employment positions drive people to equip themselves suitably through any possible means. Any institution that uses accessible technologies to reach its clients, while providing affordable education courses at the comfort of its learners, has a good chance to prosper and take a fair share of the market. Kendall and Van Weert (2005), agrees strongly in their study, which emphasize the growing importance of lifelong learning with ICT. It is thus important to accept that such a project is most effective in building a nation-wide professional learning community, as was experienced by Trewern and Billowes, (2005).³

Jenny Leach (2004:145) argues that, teachers and schools in poor environments could benefit from the many advantages that ICT is currently affording richer peers, whilst leap-frogging expensive mistakes made in more developed countries. Mobile digital devices that have, to date, been largely aimed at the business market, can be exploited by teachers and students for a range of professional and learning experiences

Furthermore, it is most important to recognize the added value provided in allowing learners and tutors to involve themselves in dealing with electronic teaching and learning materials. Sakariaslipinge (2004), in his study of how technology transforms teaching and learning, emphasized the outcome of a series of research that proved that students who have access to computers at home tend to achieve higher scores. At this point, although the home computer market is gaining momentum in Namibia, it is still insignificant in terms of ICT needs for learners. Therefore institutions of learning and their partners have the responsibility to continually explore possibilities to introduce ICTs in education.⁶

CONCLUSION

ICT is being utilized in every part of life. Due to the increasing importance of the computer, students-the

future citizens cannot afford to keep themselves aloof from this potential medium. In education, use of ICT has become imperative to improve the efficiency and effectiveness at all levels and in both formal and non-formal settings. Education even at school stage has to provide computer instruction.

However ICT today is mostly focused on the use of Computer technology. ICT is not only improving the effectiveness of formal education but also raise the level of education in various fields like adult education, distance education, problem solving education etc.

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