

# “ICT & Computing in Education”

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**Abstract—** Information and communications technology (ICT) is frequently used as an unmitigated synonym for information technology, It is a more skills term that stress the role of unified communications and the addition of telecommunications, computers as well as required enterprise software, middleware, and audio-visual systems, which make possible users to access, broadcast, and operate information. The idiom ICT is also used to refer to the union of audio-visual and telecommunication with computer networks through a sole cabling or link system. There are big economic incentive to become one the telephone network with the computer network system using a single incorporated system of cabling, signal distribution and management. On the other hand, ICT has no universal definition, as "the concept, techniques and applications concerned in ICT are constantly evolving on an almost on a daily basis. The broadness of ICT cover any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form, e.g. PCs, digital TVs, electronic-mail and robot. ICT's have recently encompass freshly of interest. It is a momentous research area on behalf of scholars around the whole world. Their natural world has decidedly quality the face of education over the last few decades. The use of ICT in education, more offline and online training session has become a main concern during the last decade. Nevertheless, very a small amount of have achieved progress. Indeed, a small percentage of schools in some countries achieved high levels of effective use of ICT and computing in different education areas to maintain and transform the online and offline teaching and wisdom process in many different subject areas. Other are still in the untimely segment of ICT and computing adopted in education and all various areas.

**Keywords—** Information technology, Telecommunications, audio-visual systems

## I. INTRODUCTION

The use of information and communication technology (ICT) such as Internet applications, CD-ROMs, video technology and various computer attachments and software programs have caused many changes in society. These changes have not just been of a technical nature but more importantly of a structural nature. Many of the major institutions of our society have changed and the way we live our daily lives have been impacted. However, the impact on education may just beginning to be felt as teachers integrate this new technology into their teaching. In the early stages of the use of ICT in teaching, looking at the experiences of teachers at a high school in the forefront provides some clues as to what possibilities and problems may be presented with this new technology. Information and Communication

Technologies have recently gained groundswell of interest. It is a significant research area for many scholars around the globe. Their nature has highly changed the face of education over the last few decades. The use of ICT in education and training has become a priority during the last decade. However, very few have achieved progress. Indeed, a small percentage of schools in some countries achieved high levels of effective use of ICT to support and change the teaching and learning process in many subject areas. Others are still in the early phase of Information and Communication Technologies adoption.

## II. ICT TODAY IN EDUCATION AT VARIOUS AREAS

In modern society ICT is ever-present, with over three billion people having access to the Internet. With approximately 8 out of 10 Internet users owning a Smartphone, information and data are increasing by leaps and bounds. This rapid growth, especially in developing countries, has led ICT to become a keystone of everyday life, in which life without some facet of technology renders most of clerical, work and routine tasks dysfunctional. The most recent authoritative data, released in 2014, shows "that Internet use continues to grow steadily, at 6.6% globally in 2014 (3.3% in developed countries, 8.7% in the developing world); the number of Internet users in developing countries has doubled in five years (2009-2014), with two thirds of all people online now living in the developing world." So, In another words... Information and Communications Technologies (ICT) education is basically our society's efforts to teach its current and emerging citizens valuable knowledge and skills around computing and communications devices, software that operates them, applications that run on them and systems that are built with them.

## III. IMPACT OF ICT ON WHEN AND WHERE STUDENTS LEARN

We are living in a constantly evolving digital world. ICT has an impact on nearly every aspect of our lives - from working to socialising, learning to playing. The digital age has transformed the way young people communicate, network, seek help, access information and learn. We must recognise that young people are now an online population and access is through a variety of means such as computers, TV and mobile phones. ICT applications provide many options and choices and many institutions are now creating competitive edges for themselves through the choices they are offering students. These choices extend from when students can choose to learn to where they learn.

### A. Any Place Learning

The concept of flexibility in the delivery place of educational programs is not new (eg. Moore & Kearsley, 1996). Educational institutions have been offering programs at a distance for many years and there has been a vast amount of research and development associated with establishing effective practices and procedures in off-campus teaching and learning. Use of the technology, however, has extended the scope of this activity and whereas previously off-campus delivery was an option for students who were unable to attend campuses, today, many more students are able to make this choice through technology-facilitated learning settings. The scope and extent of this activity is demonstrated in some of the examples below.

### B. Anytime Learning

In concert with geographical flexibility, technology-facilitated educational programs also remove many of the temporal constraints that face learners with special needs (eg. Moore & Kearsley, 1996). Students are starting to appreciate the capability to undertake education anywhere, anytime and any place. This flexibility has heightened the availability of just-in-time learning and provided learning opportunities for many more learners who previously were constrained by other commitments

## IV. IMPORTANCE

ICT/Digital Literacy – Today, everyone needs a basic understanding of ICT and how to make productive use of it, just to be good students, workers and citizens. Teaching people how to be competent basic users of ICT technologies is an important role of ICT education, so they will be successful in their academic and work careers, and so they can efficiently participate in modern technical society.

### A. ICT Infrastructure and their Support Applied Technology users

Beyond a basic user competency, our society also needs more knowledgeable and capable technical people to deploy, manage and maintain ICT equipment, software and systems, so they work well for users. In all industries, these people manage computer and communications hardware, software and applications; networked systems; online information sharing, communication and commerce systems; business processes making use of these systems; and user support.

### B. Dedicated in Business and Big to Small Industries Uses of ICT

As enabling technologies, ICT is used strategically in almost all businesses and industries. Many have developed specialized systems and uses of ICT, and many have specialized legal and regulatory requirements; quality control systems; integrations with production and research equipment and systems; security requirements; and software applications.

### C. ICT Research and Development Scientists

ICT fields themselves are under constant pressure to evolve and improve. We need people who deeply understand the science and technologies underlying ICT and who can work to advance the fields.

## V. SUMMARY AND CONCLUSIONS

This paper has sought to explore the role of ICT & computing in education as we progress into the 21st century. In particular the paper has argued that ICTs have impacted on educational practice in education to date in quite small ways but that the impact will grow considerably in years to come and that ICT & computing will become a strong agent for change among many educational practices. Extrapolating current activities and practices, the continued use and development of ICTs within education will have a strong impact on:

- What is learned
- How it is learned
- When and where learning takes place
- Who is learning and who is teaching

The upshot of all this activity is that we should see marked improvements in many areas of educational endeavour. Learning should become more relevant to stakeholders' needs, learning outcomes should become more deliberate and targeted, and learning opportunities should diversity in what is learned and who is learning. At the same time, quality of programs as measured by fitness for purpose should continue to grow as stakeholder groups find the offerings matched to their needs and expectations. To ensure that the opportunities and advantages are realized, it will be important as it is in every other walk of life to ensure that the educational research and development dollar is sustained so that education at large can learn from within and that experiences and activities in different institutions and sectors can inform and guide others without the continual need for re-invention of the wheel. Once again ICTs serve to provide the means for much of this activity to realize the potential it holds.

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