ROLE OF ICT IN EDUCATION: A CASE OF INDIRA COLLEGE

Prof. Janardan Pawar, Ms. Ashvini Shende, Ms. Sarita Byagar, Prof. Shivendu Bhushan

Department of Computer Science, Indira College of Commerce and Science, Pune

ABSTRACT

Information and communication technologies (ICT) have become universal unit in all aspects of existence. ICT increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. The use of ICT in education lends itself to more student-centred learning. The Paper is divided into 4 sections. Section 1 briefs us about Definition, Introduction and Literature Review of ICT. Section 2 explains use of ICT in various aspects. Section 3 explains advantages of ICT. Section 4 explains use of ICT at Indira College.

Section 1

INTRODUCTION AND DEFINITION

ICTs stand for information and communication technologies and are defined, for the purposes of this primer, as a “diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information.” Two major assumptions underlie the role of ICT: the first is that the proliferation of these technologies is causing rapid transformations in all areas of life; the second is that ICT function to unify and standardize culture. It is on the basis of these assumptions that the term “media culture”, incorporating the phenomena of information and globalization, these technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony.

In recent years there has been a groundswell of interest in how computers and the Internet can best be harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and non-formal settings. But ICTs are more than just these technologies; older technologies such as the 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 forty years been used for open and distance learning, although 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 in developing countries, if these are used at all, due to limited infrastructure and the attendant high costs of access.

LITERATURE REVIEW

Information and communication technology (ICT) is a force that has changed many aspects of the way we live. If one was to compare such fields as medicine, tourism, travel, business, law, banking, engineering and architecture, the impact of ICT across the past two or three decades has been enormous. The way these fields operate today is vastly different from the ways they operated in the past. But when one looks at education, there seems to have been an uncanny lack of influence and far less change than other fields have experienced. A number of people have attempted to explore this lack of activity and influence [1].

ICTs have become within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy. However, there appears to be a misconception that ICTs generally refers to ‘computers and computing related activities’ [2].

This is fortunately not the case, although computers and their application play a significant role in modern information management, other technologies and/or systems also comprise of the phenomenon that is commonly regarded as ICTs. Pelgrum and Law (2003) state that near the end of the 1980s, the term ‘computers’ was replaced by ‘IT’ (information technology) signifying a shift of focus from computing technology to the capacity to store and retrieve information. This was followed by the introduction of the term ‘ICT’ (information and communication technology) around 1992, when e-mail started to become available to the general public [3].

ICTs cover Internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centres, commercial information providers, network-based information services, and other related information and communication activities [4].

Information and communication technology (ICT) may be regarded as the combination of ‘Informatics technology’ with other related technology, specifically communication technology. The various kinds of ICT products available and having relevance to education, such as teleconferencing, email, audio conferencing, television lessons, radio broadcasts, interactive radio counselling, interactive voice response system, audiocassettes and CD ROMs etc have been used in education for different purposes [5].

The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning, and research [6]. ICTs have the potential to innovate, accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change[7].

Section 2-: Use of ICT in various aspects

ICT ENHANCING TEACHING AND LEARNING PROCESS

The integration of information and communication technologies can help revitalize teachers and students. This can help to improve and develop the quality of education by providing curricular support in difficult subject areas. To achieve these objectives, teachers need to be involved in collaborative projects and development of intervention change strategies, which would include teaching partnerships with ICT as a tool.
Three conditions are necessary for teachers to introduce ICT into their classrooms: teachers should believe in the effectiveness of technology, teachers should believe that the use of technology will not cause any disturbances, and finally teachers should believe that they have control over technology [8].

ICT ENHANCING THE QUALITY AND ACCESSIBILITY OF EDUCATION

One of the most vital contributions of ICT in the field of education is Easy Access to Learning. With the help of ICT, students can now browse through e-books, sample examination papers, previous year papers etc. and can also have an easy access to resource persons, mentors, experts, researchers, professionals, and peers-all over the world. 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 [9].

ICT enhances the quality of delivery of education so that learners can access knowledge anytime and from anywhere. It can influence the way students are taught and how they learn as now the processes are learner driven and not by teachers. This in turn would better prepare the learners for lifelong learning as well as to improve the quality of learning. In concert with geographical flexibility, technology-facilitated educational programs also remove many of the temporal constraints that face learners with special needs (Moore & Kearsley, 1996). Students are starting to appreciate the capability to undertake education anywhere, anytime and anyplace.

ICT ENHANCING LEARNING MOTIVATION

ICT changes the characteristics of problems and learning tasks, and hence play an important task as mediator of cognitive development, enhancing the acquisition of generic cognitive competencies as essential for life in our knowledge society. Students using ICTs for learning purposes become immersed in the process of learning and as more and more students use computers as information sources and cognitive tools, the influence of the technology on supporting how students learn will continue to increase.

Section 3 Advantages

Conventional teaching has emphasized content. For many years course have been written around textbooks. Teachers have taught through lectures and presentations interspersed with tutorials and learning activities designed to consolidate and rehearse the content. Contemporary settings are now favoring curricula that promote competency and performance. Curricula are starting to emphasis capabilities and to be concerned more with how the information will be used than with what the information is.

1. Competency and performance-based curricula

The moves to competency and performance-based curricula are well supported and encouraged by emerging instructional technologies. Such curricula tend to require:

- access to a variety of information sources;
- access to a variety of information forms and types;
- student-centred learning settings based on information access and inquiry;
- learning environments centred on problem-centred and inquiry-based activities;
- authentic settings and examples; and
- teachers as coaches and mentors rather than content experts.
2. Information literacy

Another way in which emerging ICTs are impacting on the content of education curricula stems from the ways in which ICTs are dominating so much of contemporary life and work. Already there has emerged a need for educational institutions to ensure that graduates are able to display appropriate levels of information literacy, “the capacity to identify and issue and then to identify, locate and evaluate relevant information in order to engage with it or to solve a problem arising from it”. The drive to promote such developments stems from general moves among institutions to ensure their graduates demonstrate not only skills and knowledge in their subject domains but also general attributes and generic skills.

Traditionally generic skills have involved such capabilities as an ability to reason formally, to solve problems, to communicate effectively, to be able to negotiate outcomes, to manage time, project management, and collaboration and teamwork skills. The growing use of ICTs as tools of everyday life have seen the pool of generic skills expanded in recent years to include information literacy and it is highly probable that future developments and technology applications will see this set of skills growing even more.

3. Student-centered learning

Technology has the capacity to promote and encourage the transformation of education from a very teacher-directed enterprise to one which supports more student-centred models. Evidence of this today is manifested in:

- The proliferation of capability, competency and outcomes focused curricula
- Moves towards problem-based learning
- Increased use of the Web as an information source, Internet users are able to choose the experts from whom they will learn.

The use of ICT in educational settings, by itself acts as a catalyst for change in this domain. ICTs by their very nature are tools that encourage and support independent learning. Students using ICTs for learning purposes become immersed in the process of learning and as more and more Students use computers as information sources and cognitive tools, the influence of the technology on supporting how students learn will continue to increase.

4. Supporting knowledge construction

The emergence of ICTs as learning technologies has coincided with a growing awareness and recognition of alternative theories for learning. The theories of learning that hold the greatest sway today are those based on constructivist principles. These principles posit that learning is achieved by the active construction of knowledge supported by various perspectives within meaningful contexts. In constructivist theories, social interactions are seen to play a critical role in the processes of learning and cognition. In the past, the conventional process of teaching has revolved around teachers planning and leading students through a series of instructional sequences to achieve a desired learning outcome. Typically these forms of teaching have revolved around the planned transmission of abody of knowledge followed by some forms of interaction with the content as a means to consolidate the knowledge acquisition. Contemporary learning theory is based on the notion that learning is an active process of constructing knowledge rather than acquiring knowledge and that instruction is the process by which this knowledge construction is supported rather than a process of knowledge transmission.

As mentioned previously, any use of ICT in learning settings can act to support various aspects of knowledge construction and as more and more students employ ICTs in their learning processes.
5. Any place learning

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, and 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.

- In many instances traditional classroom learning has given way to learning in work-based settings with students able to access courses and programs from their workplace.
- The advantages of education and training at the point of need relate not only to convenience but include cost savings associated with travel and time away from work, and also situation and application of the learning activities within relevant and meaningful contexts.
- The communications capabilities of modern technologies provide opportunities for many learners to enroll in courses offered by external institutions rather than those situated locally.
- These opportunities provide such advantages as extended course offerings and eclectic class cohorts comprised of students of differing backgrounds, cultures and perspectives.
- The freedoms of choice provided by programs that can be accessed at any place are also supporting the delivery of programs with units and courses from a variety of institutions. There are now countless ways for students completing undergraduate degrees for example, to study units for a single degree, through a number of different institutions, an activity that provides considerable diversity and choice for students in the programs they complete.

6. 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 (eg. Young, 2002).

- Through online technologies learning has become an activity that is no longer set within programmed schedules and slots. Learners are free to participate in learning activities when time permits and these freedoms have greatly increased the opportunities for many students to participate in formal programs.
- The wide variety of technologies that support learning are able to provide asynchronous supports for learning so that the need for real-time participation can be avoided while the advantages of communication and collaboration with other learners is retained.
- As well as learning at anytime, teachers are also finding the capabilities of teaching at anytime to be opportunistic and able to be used to advantage. Mobile technologies and seamless communications technologies support 24x7 teaching and learning. Choosing how much time will be used within the 24x7 envelope and what periods of time are challenges that will face the educators of the future.

Section 4 Case of Indira College

By referring above all points that is advantages of ICT, Indira College is always concern about Quality education hence providing various ICT tools at Indira College listed below.
1. College provides ERP software through which students are notified about notices.
2. College Provides wifi through which students can access internet based applications through which they can access information about various subjects.
3. Teaching – Learning Tools like Powerpoints, Overhead Projectors, LCD Projectors have become part of mundane teaching which helps the students to understand and become more familiar with the concepts and exposes them to practicality of any subject.
4. E-Books are also given to students using which they can get many references for their study purpose.
5. A very substantial gizmo which is available to all the students is the “MICROSOFT OUTLOOK E-Mail ID”, which each student gets when they are admitted in college. This unique Email-ID helps them to connect with all other students as well as their teachers too. There is a feature called as “SKYDRIVE” through which students can upload their assignments as well as download data from there. Each class group is created through which the whole class can be notified about any information.
6. The library has its own website through which the students can check availability of books online and also download previous year question papers of their specific course.
7. Videos related to new updates in technologies related to their subjects are shown in the class so as to make the students familiar with the upcoming developments.

REFERENCES