ICT – A must use tool for qualitative teaching-learning process

M. Maqbool Pala
Assistant Professor Computer Applications
Govt. Degree College (Boys) Anantnag

Abstract - Information is vital to the development of society and communication technology helps the information penetrate deep into all sections of society. Educated alone can change the outlook expressions of any society and education, therefore, be and in fact is the laboratory to test this tool (ICT). The use of ICT in education has changed the teaching –learning process from being one sided affair to an inclusive and student centric affair. Students are now learning by participating and sharing.

Keyword: ICT.

I. INTRODUCTION

Understanding and realizing the use of basic skills of ICT has now become part of education alongside reading and writing. Some administrators are repulsive to the use of ICT because of the misconceptions that ICT refers to computers and computing technology only. But ICT is beyond computers and computing though computers makes an essential component of ICT. ICT can be understood by thinking huge information stored on machines connected by telecommunication and the means to store and retrieve that useful information. Internet, e-mail, chatting, conferencing etc are the terms related to ICT. Present day electronic media is an example of ICT. The various kinds of ICT products having some kind of impact on education are teleconferencing, e-mail, chatting, audio/video conferencing, teleconferencing, radio broadcasts, CD's/DVDs and satellite supported programs.

ICT has undoubtedly affected teaching-learning process. ICT has potential to innovate, accelerate, enrich and deepen skills to motivate and engage students for societal benefit. ICT can be broadly divided into two categories: ICT for education and ICT in education. ICT for education refers to the development of information and communication technology components for quality teaching-learning process and ICT in education refers to the adoption of these components in teaching-learning process.

II. ICT IMPROVES TEACHING –LEARNING PROCESS

ICT has the potential to 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-learning process learners enjoy teaching through ICT.

Conventional teaching has emphasized content. For many years courses 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 favouring curricula that promote competency and performance. Curricula are starting to emphasize capabilities and to be concerned more with how the information will be used than with what the information is. 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 different 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. However, research studies show that most teachers do not make use of ICT to its potential to contribute to the quality of learning environments, although they value its potential quite significantly (Smeets, 2005).

III. THE PROMISE OF ICTS IN EDUCATION

ICTs have the potential for increasing access to and improving the relevance and quality of education.
ICTs greatly facilitate the acquisition and absorption of knowledge, offering unprecedented opportunities to enhance educational system, improve policy formulation and execution, and widen the range of opportunities for the learners. One of the greatest hardships endured by the learners, who live in the poorest countries, is their sense of isolation. The new communications technologies promise to reduce that sense of isolation, and to open access to knowledge in ways unimaginable till yester year.
However, the reality of the Digital Divide-the gap between those who have access to and control of technology and those who do not-means that the introduction and integration of ICTs at different levels and in various types of education will be a most challenging undertaking. Failure to meet the challenge would mean a further widening of the knowledge gap and the deepening of existing economic and social inequalities.

IV. ICTS PROVIDE BARRIER LESS ACCESS TO EDUCATION

ICTs are potentially powerful tool for extending educational opportunities, both formal and non-formal, to previously underserved lot—scattered and rural populations, groups traditionally excluded from education due to cultural or social reasons such as ethnic minorities, girls and women, persons with disabilities, and the elderly, as well as all others who for reasons of cost or because of time constraints are unable to enroll for education.

- Anytime, anywhere. One defining feature of ICTs is their ability to transcend time and space. ICTs make possible asynchronous learning, or learning characterized by a time gap between the delivery of instruction and its reception by learners. Online course materials, for example, may be accessed 24 hours a day, 7 days a week. ICT-based educational delivery (like educational material broadcast over radio or television) also dispenses with the need for all learners and the instructor to be in one physical location. Additionally, certain types of ICTs, such as teleconferencing, enable instruction to be received simultaneously by multiple, geographically dispersed learners (i.e., synchronous learning).
- Access to remote learning resources. Teachers and learners no longer have to depend only on printed books and other material in physical medium/media housed in libraries, in very less quantities, for their educational needs. With the advent of Internet and the World Wide Web, a wealth of learning material in almost every subject and in a variety of media can now be accessed from anywhere at any time by an unlimited number of users. This is significant for many schools that have limited and outdated library resources. ICTs also facilitate access to resource persons— mentors, experts, researchers, professionals, business leaders, and peers—all over the world.

V. ICTS CAN PREPARE ITS USERS FOR THE WORKPLACE

One of the most commonly cited reasons for using ICTs in the classroom has been to better prepare the current generation of students for a workplace where ICTs, particularly computers, the Internet and related technologies, are becoming more and more freely available. The ability to use ICTs effectively and efficiently is thus seen as representing a competitive edge in an increasingly globalizing job market. Technological literacy, however, is not the only skill required for high paying jobs in the market of global economy.
The potential of ICTs to promote the acquisition of these skills is tied to its use as a tool for raising educational quality, including promoting the shift to a learner-centered environment.

VI. ICTS CAN HELP IMPROVE THE QUALITY OF EDUCATION.

Improving the quality of education and training is a critical issue, particularly at a time of educational expansion. ICTs can enhance the quality of education in several ways: by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by making teachers training mandatory. ICTs are also changing tools which, when used appropriately, can promote the shift to a learner-centered environment.
Motivating to learn. ICTs such as videos, audios and multimedia computer software that combine text, sound, and colorful moving images can be used to provide challenging and authentic and attractive content that will engage the student in the learning process. Interactive radio likewise can be made effective and interest generating by making use of sound effects, songs, dramatizations, comic skits, and other performance conventions to compel the students to listen and become involved in the lessons being delivered. More so than any other type of ICT, Internet ready computers can increase learner motivation as it combines the media richness and interactivity of other ICTs with the opportunity to connect with real people and to participate in real world events.
Facilitating the acquisition of basic skills. The imparting of basic skills and concepts that are the foundation of higher order thinking skills and creativity can be facilitated by ICTs through drill and practice. Educational multimedia programs use repetition and reinforcement to teach the alphabet, numbers, colors, shapes and other basic

concepts. Most of the early uses of computers were for computer-based learning (also called computer-assisted instruction) that focused on mastery of skills and content through repetition and reinforcement.

Enhancing teacher training. ICTs have also been used to improve the quality of teacher training as the advantage of the Internet can be taken to provide better teacher professional development opportunities to in-service teachers. The government-funded institutions can offer web-based courses for primary and secondary school teachers. Online tutorials can also be offered, with some courses requiring occasional face-to-face meetings. At Indira Gandhi National Open University, satellite-based one-way video- and two-way audio-conferencing was held in 1996, supplemented by print-materials and recorded video, to train 910 primary school teachers and facilitators from 20 district training institutes in Karnataka State. The teachers interacted with remote lecturers by telephone.

VII. ICTS CAN HELP TRANSFORM THE LEARNING ENVIRONMENT INTO A LEARNER-CENTERED ONE.

Appropriate use of ICTs can catalyze the shift in both content and pedagogy. If designed and implemented properly, ICT-supported education can promote the acquisition of the knowledge and skills that will empower students for lifelong learning.

When used appropriately, ICTs—especially computers and Internet technologies— enable new ways of teaching-learning rather than simply allow teachers and students to do what they have done before. These new ways of teaching-learning methodologies constitute a shift from a teacher-centered pedagogy—in its worst form to one that is learner-centered.

Active learning. ICT-enhanced learning channelizes tools for examination and analysis of information, thus providing a platform for student inquiry, analysis and construction of new information. Learners therefore learn as they do and work on real-life problems in-depth, making learning less abstract and more relevant to the learner's life situation. In this way, and in contrast to memorization-based or rote learning, ICT-enhanced learning promotes increased learner engagement. ICT-enhanced learning is also "just-in-time" learning in which learners can choose what to learn when to learn.

- *Collaborative learning*. ICT-supported learning encourages interaction and cooperation among students, teachers, and experts regardless of where they are. ICT-supported learning provides learners the opportunity to work with people from different cultures, thereby helping to enhance learners' teaming. It models learning processes done throughout the learner's lifetime by expanding the learning space to include not just peers but also mentors and experts from different fields.
- *Creative Learning*. ICT-supported learning promotes the conversion of existing information to creation of real-world products rather than giving back the received information.
- Integrative learning. ICT-enhanced learning promotes an integrative approach to teaching and learning. This approach eliminates the artificial separation between the different disciplines and between theory and practice that characterizes the traditional classroom approach.
- *Evaluative learning*. ICT-enhanced learning is student-directed and problem solving. Unlike static, text- or print-based educational technologies, ICT-enhanced learning recognizes that there are many different learning pathways and many different articulations of knowledge. ICTs allow learners to explore and discover rather than merely listen and remember.

VIII. CONCLUSION

The introduction of ICT can act as a catalyst in stimulating teachers and students to work in different ways. These can be characterized by teacher-student and peer discussion, analysis, assistance and feedback. The students can exploit opportunities arising to ask for help while teachers can assess progress and understanding of the students. As the learning here becomes autonomous and learner-centered, teachers can encourage and support students' independent thinking. Teachers role here becomes very highly complex and demanding as they require diverse and responsive strategy for mediating interaction between students technology.

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