

USING TECHNOLOGY (ICT) IN EMPOWERING TEACHERS FOR QUALITY EDUCATION

Sanjoy Ghosh

ABSTRACT

One of the most powerful tools for empowering individuals and communities is making certain that any individual who wants to receive Quality education can do so-----Christine Gegerie.

The quality education depends upon the quality of teachers. Teacher's education plays a vital role developing quality education which is the present requirement in the modern information and communication era. The quality of teachers education programmes depend on the quality teaches educators who are the teachers of teachers. Teachers should be well equipped with the latest knowledge in their subject by undergoing orientations refreshes courses seminar. Quality development courses, summer & winters school programme etc. management skills, communication skills, god qualities to incase among the teachers trainees.

The teachers educators should be a friend philosopher and guide to teachers trainees a be a role model to the teachers trainees. The techno- teachers are one who integrates the content with technology in the classroom. The teachers have to use the simple technology the higher technology that is black board to space board. The ICT heralds the world of known the screen hence the learners learning will the demands of the society at large. Education is the backbone of a nation. The introduction of I.C.T.s in the education has proper implications for the whole education process especially in dealing with key issues of access equity, management, efficiency pedagogy and quality.

Information and communication technology is a force that has changed many aspects of the way we live. In developing countries education is also linked to a whole batch of indicators of human development. Education women influence the health of children and family size. The experience of Asian Economies in particular in the past two decades has demonstrated the benefits that public investment in education can bring. Integrating ICT in teaching and learning is high o the educational reforms agenda. Often ICT is seen as vital tool to fully participate in the knowledge society.

Introduction:

ICT is a scientific technology and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters (UNESCO, 2002) ICT stands for information and Communication Technologies. ICT is a part of our lives for the last few decades.

Affecting our society as well as individual life. ICT which is now broadly uses in educational world, Teachers, student administrator and every people related to education are popularly used ICT. Teachers use ICT for making teaching learning process easy and interesting.

An appropriate knowledge base is essential for creating powerful learning environments and for as adequate provision of supporting instructional material. In the process transforming information to

knowledge, the teachers play an important part. Teaching is a process in which the teachers and student create an interactive environment. Teaching is one of the way through which the teachers and students create an interactive environment in teaching learning process of it requires major improvement in education.

It consists of three words information communication and Technology. Information refers to any representation of knowledge such as facts, data or opinions in any medium or for including textual, numerical graphic, narrative or audiovisual forms.

Communication is the process and transforming information from a sender to a receiver with the use of a medium. Teaching is the practical form of scientific knowledge or the science of application of knowledge to practice Information and

Communication Technology implies the knowledge skills and understands needed to exchange information verbally or non- verbally through speech , action or any electronic machine such as telephone, cellular's phones, fax, radio, television, video, computer, e-mail, etc, in addition to these system hardware and software, satellite system, videoconferencing etc. also come under

|

Objectives of the study:

The study was conducted to achieve the following objectives

- a) To study the potential scope, usage and limitations of technology integration in the overall education environment, in effective practice in institution building and on the students learning and overall development.
- b) To study the of ICT awareness among the trained teachers.
- c) To compare the Level of awareness about ICT among male and female trained teachers.
- d) To compare the Level of ICT awareness
- e) To examine the relationship between technology integration and the constructivist. Teacher centric autonomous learning environment,
- f) To study the impact of technology integration in schools in the light of the debate between social constructivism and technology determinism and explore the relationship between technology and cultural, economic and ethical bases of society as manifest in the education better.

Methodology

This present study is based on secondary sources like books, Articles, Journals, Thesis , university news, Expert opinion and website etc. the method used is descriptive Analytic method.

Review of Related Literature

In education ICT is the support materials in the hands of the human resource which involves in the educational process In order to enhance the quality of education.

Dash (2007) remarked that information and Communication Technology is an important instrument learning environment into a rich student centered environment. This new learning environment development by ICT, called interactive learning Environment.

According to Jaywalk (2011) the teacher education system empowered by ICT driven infrastructure can have a great opportunity to come up to the centre stage and ensure academic excellence, quality instruction and leadership in a knowledge based

society.

ICT makes education easier, Oye Shallsuku and Iahad (2012) revealed in their study that that the use of ICT would make education system more effective for university undergraduate learners.

Swamy (2010) found in his study about sound Internet awareness and competence among high school students and teachers, Adebowale (2012) found that only a small percentage of teachers possess a high level of awareness on ICT.

Sasikala (2010) found in the study that there was no significant difference between Male and Female B.Ed students in their ICT awareness

Beena and Mathur (2012) found that the role of ICT in transforming teaching and learning and seeks to explore the awareness of teachers educators about use of information and Communication technology for effective teaching learning programs will be offered and delivered in the teacher training institution.

Rajasekar and Dineshan (2013) , ICT is a magic term in the field of education it includes the use of technological devices for simplifying technical learning oricess, possessing the knowledge of ICT is really the need of the hour. Especially as teachers the need of ICT knowledge is vey much reaquired of B.Ed students in order to carry out the process of teaching and Learning smoothly.

Definition of ICT

Information and Communication Technology consist of the hardware, software, network and media for collection storage processing, transmission and presentation of information (voice, Data, Text. Images) as well as related service.

E-Learning, commonly associated with higher education and corporate training, e-learning encompasses learning at all levels both formation the Internet an internet (LAN) or extranet (WAN) whether wholly or in past, for course delivery, interaction and/or facilitation.

Information and Communication Technology (ICT) strongly an contribute to universal all to education, equity in education , the delivery of quality leaning and reaching teachers professional development and more efficient education management, governance and administration. Introducing ICT as a tool to support the education sector has initiated substantial discussions since the late 1990s. Ad decade ago the emphasis was Technical and Vocational Education Training and training teacher.

ICT IN EDUCATION:

Information and Communication Technologies (ICT) provide a variety of tools that can open up new possibilities in the classroom. Means the use and knowledge of digital technology, communication tool, network to access, manage integrated evaluate and create information in order to function in a knowledge society by the teaches who were B.Ed trained.

In the preset study the ICT awareness was assessed on following components such as knowledge about computers, Internet, Electronic Mail (E-mail), world Wide Web (www) , Broadcasting Technology (Radio and Television), associated human interactive materials that enhance the secondary trained teachers to employ tem for wide range of teaching learning processes in addition to personal use, overall ICT

ICT can particularly help tailor the educations process to individual students needs and they can also provide learners with the crucial digital competences needed in our knowledge based economy. The introduction of ICT in the higher education has profound implications for the technology that has the capacity to promote and encourage the transformation of education form a teachers directed enterprise towards. Educational system and social transactions. It provides favorable learning environment so that stands can participate actively and is learners entered in the sense that it can accommodate learner's needs and interests. The use of multimedia makes classroom interesting, livelier and improve the student's achievement. In the process of conventional learning emphasis was given on contents. It ist the need of the day to improve quality of structured of the syllabus by enforcing competence and performance based approach towards it.

Accordingly the subject wise text books and reference book have been written. On such curriculum requires. Access to information types and different forms. Students- centered learning through information access and inquiry. With the help of technologies it is possible promote transformation of education form teachers centered instruction. It supports independents learning and unknowingly insists to think on alternative theories for learning. The conventional teaching process has focused on teachers planning and leading students through a series of in structural Sequence to achieve desired outcome it depends on the process of personal understanding. In this domain. Learning in viewed as the construction of meaning rather than memorization of facts, student centered models.

Some of the important functions of ICT such ICT as a change agent in learning process, the impact of ICT on place “When” and “where” to learn improve quality of education, enhancing educational management. It role in higher education are discussed below

Functions of ICT in Education.....

- ICT as a Change Agent in Learning Process.
- The Impact of ICT on place when & where to learn.
- Improve the Quality of Education
- Role of ICT in Higher Education.
- ICT Enhancing Educational Management

• ICT as a Change Agent in Learning Process:

ICT has improved the way students / Teacher work learns play and most importantly communication. Its approach motivates the students for learning. Actually ICT has unique importance to provide opportunities to learn to meet in a virtual space with other uses, members and practitioner expects to discuss issues answer questions and even participate in simulations and management game without having to leave their office or home.

• The impact of ICT on place, when & Where to learn:

In the past there was no or little choice for students in terms of method & manners in which programs have been delivered. Students are typically heing forced to accept what have been delivered. ICT applications provide many options choices in the dame case. It is the good opportunity for students to undertake education anywhere, anytime and anyplace. The use of ICT has extended the scope of offering programs at a distance. The off-campus delivery was an option for students who were unable to attend the campuses. Toda, many students are able to take this choice through technology facilitated learning settings eng. In many instances, traditional classroom learning has given w ay to learning in work based settings with students able to access courses and programs form their workplace.

• Improve the quality of Education :

ICT encompasses the effective use of equipment and programs to access, retrieve, store, organize, manipulate and present data and information.

Improving the Quality of education and training is a critical issue, particularly at a time of educational expansion. Television, videos and multimedia computer software that combine text sound and colorful moving images can be used to provide challenging and authentic content that will engage

the student in the learning process. Interactive radio likewise makes 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.

The transmission of basic skills and concepts that are the foundations of higher order thinking skills and creativity can be facilitated by ICT through drill and practice. It has also been used to improve access to and the quality of teachers training.

For example 1996 in Indra Ghandhi National Open University was held satellite based on-way video and two-way audio conferencing and supplemented by print-materials and recorded video, to train 910 primary school teachers and facilitation from no district training institution in Karnataka state.

• ICT Enhancing Educational Management

It is noted that Information Communications Technology in schools can improve quality with less cost. Old ICTs are still cost-effective for provision of education to out-of-school children and youth in developing countries. New ICTs have a very large potential for teacher education in larger quantity and better quality. A combination of old ICTs to widen coverage and access and new ICTs to provide interactivity are supposed to be cost-effective for teacher education. If a nationwide network of community learning centers equipped with computer laboratories with broadband access and trained staff to access online distance learning and to provide tutoring support could be set up in developing countries until a computer is available at home, there are possibilities for these countries to take advantage of the benefits of e-learning mentioned above. Computer software programs are being used in time tabling and school management to improve the use of staff time, student time and space, thus reducing costs significantly.

• Role of ICT in Higher Education:

ICT is a challenge to integrate ICTs with universities, into their strategies and educational process. The role of ICT in the education at higher level is recurring and unavoidable it should be implemented at national & international level. It will be helpful to improve quality and flexibility, the widening access to the field of tuition; Improvement in learning achievement; Reduction of adult illiteracy rate, with sufficient emphasis on female literacy; Expansion of provisions of basic education and training in other essential skills required by youth and adults; Increased acquisition by individuals and families of the knowledge, skills.

ICT will be helpful in developing a system of collecting & disseminating educational information by promoting technology literacy. ICT will increase variety of educational services & medium and promote equal opportunities to obtain education & information.

There are some following barriers that hinder teachers in the use of Information Communications Technology (ICT)

1. Lack of teacher competence:

The barrier, which is directly related to teacher confidence, is teachers' Competence in integrating ICT into pedagogical practice (Becta 2004). Newhouse (2002) found that many teachers lacked the knowledge and skills to use the computers and were not enthusiastic about the change and integration of supplementary learning associated with bringing computers into their teacher practices.

2. Resistance to change and negative attitude

According to him considering different teachers' attitudes to change is important because teachers' beliefs influence what they do in classrooms. According to Empricia (2006), teachers who are not using new technology such as computers in the classroom are still of the opinion that using ICT has no benefit. Much research into the barriers to the integration of ICT into education found that teacher's attitude and an inherent resistance to change were a significant barrier Becta (2004), Watson (1999). Watson (1999) argued that integrating the new technologies into educational settings require change and different teachers will handle this change differently.

3. Lack of teacher confidence

According to Becta (2004), much of the research proposes that this is the major barrier to the uptake of ICT by teachers in the classroom. Some studies have investigated the reasons for teacher's lack of confidence with the use of ICT several researchers indicate that one barrier that prevents teachers from using ICT in their teaching is lack of confidence. Dewas (2001) sees this as a contextual factor which can act as a barrier.

4. Lack of effective training

Pelgrum (2001) found that there were not enough training opportunities for teachers in the use of ICT in a classroom environment. The barrier the most frequently referred to in the literature is lack of effective training. According to Becta (2004), the issue of training is certainly complex because it is

important to consider several components to ensure the effectiveness of the training. There were time for training, pedagogical training, skill training and an ICT use in initial teacher training. Cox et al (1999) argue that if teachers are to be convinced of the value for using ICT in their teaching, their training should focus on the pedagogical issues.

5. Lack of time:

Several studies indicate that many teachers have competence and confidence in using computers in the classroom, but they still make little use of technologies because they do not have enough time. According to Sicilia (2005), the most common challenge reported by all the teachers was the lack of time they had to plan technology lessons, explore the different Internet sites, or look at various aspects of educational software.

6. Lack of technical support:

Sicilia (2005) argue that technical problems were the major barriers for teachers. These technical barriers included waiting for website to open, failing to connect to the Internet, printers not printing, malfunctioning computers and teacher having to work on old computers. Without both good technical support in the classroom and whole - school resources, teachers cannot be expected to overcome the barriers preventing them from using ICT (Lewis, 2003). Pelgrum (2001) found that in the view of primary and secondary teachers, one of the top barriers to ICT use in education was lack of technical assistance.

7. Lack of accessibility:

Toprakci (2006) found that low numbers of computers, oldness and slowness of ICT systems and scarcity of educational software in the school were barriers to the successful implementation of ICT into education. Several research studies indicate that lack of access to resources, including home access, is another complex barrier that discourages teachers from integrating new technologies into education. Empirica (2006) found that lack of access is the largest barrier and the different barriers to using ICT in teaching were reported by teacher, for example a lack of computers and a lack of adequate material.

Conclusion:

Education determines standard of society. Education has a vital role in building the society. What does ICT offers that the conventional classroom teaching does not? The quality education

helps to empowering the nation in all aspects by providing new thoughts and the ways of implementation of various technologies. There are number of effective teaching & learning methodologies in practice. Technology is the most effective way to increase the student's knowledge. It facilitates construction of knowledge by providing students with experience that are otherwise expensive, time consuming or simply impossible to provide. The role of ICTs in education is recurring and unavoidable. Rapid changes in the technologies are indicating that the role of ICT in future will grow tremendously in the education. ICT also focuses modification of the role of teachers. It energizes the classroom and enables students to develop good study habits and spirit of knowledge sharing. The need of the day is to create partnership in the learning process itself that is between teachers and learners. Teacher education is criticized often as too content - oriented, providing knowledge, which is narrow and limited. There has been no shortage of advice and guidance on what effective teaching entails. It forces the teacher to look beyond the text book and traditional methods. In addition to classroom teaching, they will have other skills and responsibilities. Teachers will act as virtual guides for students who use electronic media. It also helps students for building successful careers and lives, in an increasingly technological world ultimately, the use of ICT will enhance the learning experiences of students. Also it helps them to think independently and communicate creatively.

Reference:

- Empirica (2006). Benchmarking access and use of ICT in European schools 2006: Final report from Head Teacher and Classroom Teacher Surveys in 27 European countries. Germany: European commission.
- International Education Studies Vol. 3, No. 2; May 2010 "The Role of Information and Communication Technologies (ICTs) in Delivering Higher Education - A Case of Bangladesh"
- Jef Peeraer Factors Influencing Integration of ICT in Higher Education in Vietnam Lewis S. (2003). Enhancing teaching and learning of science through use of ICT: Methods and materials School Science Review, 84(309), 41-1.
- Picchio, R., (2001), Instructional Design and Self-Directed Learning in the EFL Classroom, Learning Technology, 3(4). <http://www.itu.int/osg/spu/visions/papers/educationpaper.pdf> <http://www.unesco.org/new/en/unesco/themes/icts>
- British Educational Communications and Technology Agency (Becta) (2004). A review of the research literature on barriers to the uptake of ICT by teachers. Retrieved August 13, 2008 from <http://www.becta.org.uk>.
- Ajit Mondal and Dr. Jayanta Mete University of Kalyani, Kalyani, West Bengal "ICT in Education: Opportunities and Challenges.
- Dawes, L. (2001). What stops teachers using new technology? In M. Leask (ed.), Issues in teaching using ICT (pp. 61- 79). London: Routledge.