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Tools of Information and Communication Technologies (ICT) used in Education

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Abstract:

The revolution in technology at global level impacted many sectors and give the boost in global economy. The educational sector is also majorly affected by this technology. The educational institutes have implemented Information and communication technologies (ICTs) to expanding educational opportunities to developing and undeveloped countries. ICT has becomes within a very short period one of the main basic component of modern society. Most of the countries have understood the importance of ICT and began to become expert within the basic skills and ideas of it as a part of the core of education. In the field of ICT there are many technology and its tools are involved to make the teaching and learning process effective and interesting. ICT is like a tree that include many branches of communication device or application, encompassing: radio, television, cellular phones, computer, and network hardware and software, satellite systems and so on, also includes various services, applications and tools related to them, like videoconferencing and distance learning. These technologies are effectively used for educational purposes, namely to support and improve the training of scholars and to forma learning environments.

Keywords: Education, Information and Communication Technology, Learning, Teaching, Radio, Internet.

I. Introduction:

From the past fifteen years, the change in the Globalization and technology have accelerated together and created a new global economy. “Powered by technology, fuelled by information and driven by knowledge. This new emerging global economy have serious consequences nature and purpose of educational institutions, today’s technological world have a growing access of information, and schools are not able to transferred properly the prescribed set of information from teacher to student over a fixed period of time, Rather, schools must promote “learning to learn,” i.e. the acquiring the knowledge and skills that help to continuous learning over the lifetime.

The radio and television, as well as newer digital technologies such as computers and the Internet are included in Information and communication technologies (ICTs) are the powerful enabling tools for educational revolution. When these ICT tools used properly are useful in expanding of access to the education strengthen the connection with education to the increasingly digital workplace, and lift educational quality by, among others, helping make teaching and learning and engages in active process connected to real life.

However, from the past several decades introducing different ICTs in the classroom and other educational institution up to the full potential has not been done yet. The effective implication of ICTs into the educational system, is a complex, multi feature process that involves not just technology also need enough initial capital, getting the technology is the not that difficult but the curriculum and pedagogy, institutional readiness, teacher competencies, and long-term financing, among others.

ICTs involve information and communication technologies and are defined, “diverse set of technological tools and resources used to communicate, and to form, disseminate, Store, and manage information.” These technologies include the Internet, computers, broadcasting technologies (radio and television).

Each technology in ICT holds a great potential in itself. The five levels of technology use in education are explained by Haddad and Draxler: presentation, demonstration, drill and practice, interaction, and collaboration. Skills in ICT makes students eligible for IT jobs, derived from undeveloped region needed for enhanced living and employment opportunities.

The tools of ICTs are audio/video cassettes, print, Television broadcasts, and radio, computers or the Web are utilized in presentation and demonstration, the essential of the five levels. The networked computers and the Internet are the ICTs that enable interactive and collaborative learning best; ICT should not be used only for presentation or demonstration, to access the full potential in educational is not to be used only for presentation or demonstration

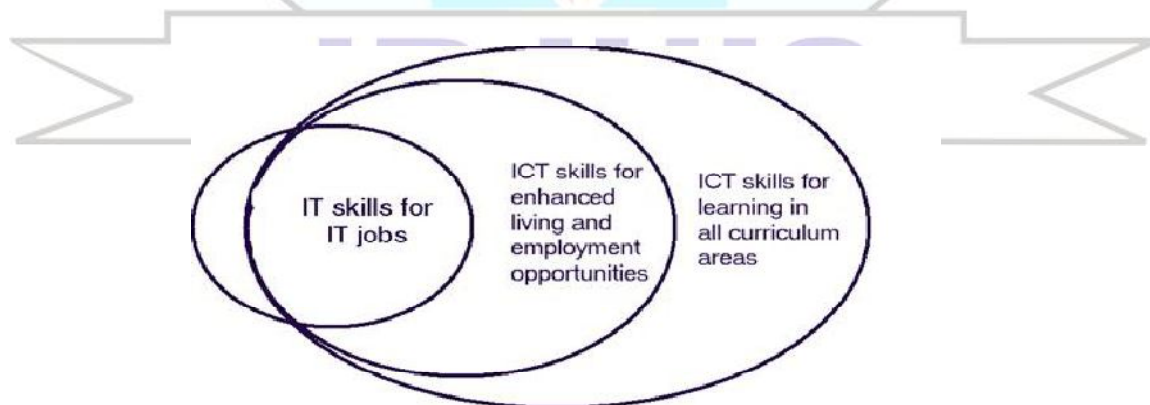


Fig. Relationship between different kinds of ICT use in learning
(Source: <http://www.educ.utas.edu.au>)

II. The Applications of Radio and TV in education:

Radio have been used at a large extent as educational tools since the 1920s and television have been used since 1950s,

There are majorly three approaches to the use of radio and TV broadcasting in education.

1) Direct class teaching: where teachers are replaced by broadcast programs on a temporary

2) School broadcasting: the complementary teaching and learning resources which are not available anywhere are provided by broadcast programming to access them with ease.

3) General educational programming over community: the general and informal educational opportunities are provided from national and international resources.

The best example for *direct class teaching* approach is Interactive Radio Instruction (IRI). Where every day an already made direct teaching and learning exercises of 20-30 minute. These radio lessons are developed around a particular learning objectives at particular levels of maths, science, health and languages are implemented to improve the classroom teaching and are much more useful in poorly trained classroom teachers in undeveloped schools. IRI projects is widely implemented in Latin America and Africa. In Asia countries like Thailand country implemented the IRI in 1980; Indonesia, Pakistan, Bangladesh and Nepal implemented their own IRI projects in the 1990s.

The difference between IRI and most other distance education programs are not only to expand educational access but also to raise the quality of learning. Many research around the world has shown that many IRI projects had showed the positive impact on learning outcomes and educational fair and from the economic point of view it is a cost-effective strategy relative to other strategies.

In Asia, there are nearly 44 radio and TV university in China which also includes China Central Radio and Television University, Universitas Terbuka in Indonesia, and Indira Gandhi National Open University have made extensive use of radio and television which are used extensively for direct class teaching and for school broadcasting to reach a maximum populations, In the year 2000 Japan's University of the Air broadcasted 160 television and 160 radio courses. Each Course included lectures of 15 45-minute once a week for 15 weeks broadcast nationwide, these Courses are Aired from 6 am to 12 noon on the University-owned stations, along with this students are also provided with print materials, face-to-face instruction, and online tutorials

School broadcasting, is like a direct class teaching, but its range is up to the national level and developed for a range of subject areas. School broadcasting do not substitute the teacher but is used to improve the quality of traditional classroom teaching and learning. The teacher can decide how they will integrate the broadcast materials into their classes in School broadcasting hence it is more flexible than IRI. In developing countries, the Ministry of Education and the Ministry of Information

Collaboratively work on school broadcasting.

General educational programming is the affordable non-formal educational opportunities for all types of learners.

This *educational programming includes* broad range of programmes which are news programs, documentary programs, quiz shows, educational cartoons, etc., in some cases any radio or TV programs which includes informational and educational content can be considered under this type.

III. Teleconferencing and its use in education:

Teleconferencing refers to “It is a interactive electronic communication among people located at two or more different places.” Teleconferencing involve four types based on the nature of interactivity and the sophistication of the technology 1) Web-based conferencing; 2) audio-graphic conferencing, 3) videoconferencing; 4) audio conferencing.

Audio conferencing: voice messages are exchanged over a telephone network in real-time *Audio conferencing*. Text and still images such as graphs, diagrams or pictures of low-bandwidth also can be exchanged alongside voice then this sort of conferencing is named audio graphic. Computer keyboard or by drawing/writing on a graphics tablet or whiteboard are used are created by using Non-moving visuals. *Videoconferencing allows the exchange of moving* images along with voice and graphics. Videoconferencing technology use a satellite link or television network (broadcast/cable). *Web-based conferencing* includes transmission of graphic, audio and visual media via the Internet. Requirement for *Web-based conferencing are* computer with a browser and the synchronous and asynchronous communication is possible in *Web-based conferencing*.

IV. Use of computers and Internet in teaching and learning:

The instructional use of computers and the Internet mainly includes three general approaches-

1. To increase the technological literacy by Learning about computers and the Internet
2. These technological tools helps in learning across the curriculum.
3. Computers and the Internet facilitates the learning of technological skills along with curriculum applications.

V. Why it is important to learn about computers and the Internet?

Computers and the Internet helps in to develop the technological literacy, It typically includes:

1. Fundamentals about its basic terms, concepts and operations.
2. Handling of keyboard and mouse.
3. Learning about the productivity tools such as word processing, spreadsheets, data base and graphics programs.
4. Use of search engines and email for the research and collaboration work.
5. Awareness of impact of technological changes on social environment.

Technological literacy is important in because student have to learn about the technology and then the technology aid in learn about anything.

VI. What to learn in the computers and the Internet?

Learning about technology means focus on how to implement the technology in curriculum. It includes:

- Use of productivity tools for the Presentation, demonstration, and the manipulation of data.
- Use of curriculum related applications such as educational games, drill and practice, simulations, tutorials, virtual laboratories, visualizations.

Acquire of information and resources on Hard disk or online such as encyclopaedia, interactive maps and atlases, electronic journals and references.

VII. Use of computers and the Internet in distance education:

Most of the higher educational institutions started the distance education courses that uses the power of Internet to improve their programme's reach and quality. The Virtual University of the Monterrey Institute of Technology in Mexico deliver their courses to students throughout Mexico and in several Latin American countries by using the combination of Print, live and recorded broadcasts. Similarly in 1997 the African Virtual University uses satellite and Internet technologies to provide distance learning education to individuals in various English and French-speaking countries throughout Africa and it is also funded from the World Bank.

REFERENCES:

1. Blurton, C., "New Directions of ICT-Use in Education". Available online <http://www.unesco.org/education/educprog/lwf/dl/edict.pdf>; accessed 7 August 2002.
2. Bosch, A., "Interactive Radio Instruction for Mathematics: Applications and Adaptations from Around the World"; available from http://www.techknowlogia.org/TKL_active_pages2/CurrentArticles/main.asp?FileType=HTML&ArticleID=255; accessed 15 August 2002, p. 45.
3. For a convincing argument for the need to transform notions of "schooling" in light of technology driven social change see Thornburg, David (2000), "Technology in K-12 Education: Envisioning a New Future"; available from <http://www.air-dc.org/forum/abthornburg.htm>; accessed 3 July 2002.
4. Haddad, Wadi D. & Alexandra Drexler (2002), "The Dynamics of Technologies for Education", in Haddad, W. & Drexler, A. (eds.) *Technologies for Education: Potentials, Parameters, and Prospects* (Washington DC: Academy for Educational Development and Paris: UNESCO), p. 9.
5. http://searchciomidmarket.techtarget.com/sDefinition/0,,sid183_gci928405,00.html
6. Iwanaga, M., "The Present and the Future of Multimedia in Japan's Open Learning"; available

from <http://www.ouhk.edu.hk/cridal/gdenet/Technology/technology.html>; accessed 11 January 2002
Rao, V. Rama, “Audio Conferencing—A Technological Prescription for Interactive Learning”; available from <http://www.clrec.org/rama>; accessed 14 August 2002.

7. Kumar, R. (2008). Convergence of ICT and Education. *World Academy of Science, Engineering and Technology*, 40(2008), 556-559.
8. Perraton, H. and C. Creed, “Applying New Technologies and Cost-Effective Delivery Systems in Basic Education”; available from http://unesdoc.unesco.org/images/0012/001234/12348_2e.pdf; accessed 31 May 2002.
Perraton and Creed use the term “general children’s programming” to refer to the broad target audience of basic education. Although their discussion is limited to this level of education, the broadcasting approaches they identify may also be applied to other educational levels.
9. Richmond, Ron. *Integration of Technology in the Classroom: An Instructional Perspective*. SSTA Research Centre Report #97-02; available from <http://www.ssta.sk.ca/research/technology/97-02.htm#BIBLIOGRAPHY>; accessed 30 October 2002.
10. Techn Know Logia, “Are You Talkin’ to Me?: Interactive Radio Instruction”; available from http://www.techknowlogia.org/TKL_active_pages2/CurrentArticles/main.asp?IssueNumber=2&FileType=PDF&ArticleID=46; accessed 29 May 2002.
11. Tinio, V. L. (2003). ICT in Education.
12. US Department of Labor (1999), *Future work—Trends and Challenges for Work in the 21st Century*. Quoted in *EnGauge*, “21st Century Skills,” North Central Regional Educational Laboratory; available from <http://www.ncrel.org/engauge/skills/21skills.htm>; accessed 31 May 2002.

