INFORMATION TECHNOLOGIES AND GLOBALIZATION: NEW PERSPECTIVES OF TEACHING LEARNING PROCESS

By

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ABSTRACT

This article discusses how Information Technologies and globalization have opened new avenues and horizons for educators and learners. It discusses different experiences of using Information and Communication Technologies (ICTs) in teaching learning process world over in the age of globalization. It focuses on the ways these new trends have promoted opportunities of flexible learning; possible at any time and at any place in any discipline and a shift from teacher centered teaching to student centered learning. Presently, accumulated knowledge and experience occupies central place and students have direct access to it. They can develop collaboration to work in groups. Teachers have to work in groups for preparing and evaluating instructional materials and spend most of their time in coaching students how to retrieve and process information.

Keywords: Information and Communication Technologies, Globalization, Teaching Learning Process, Teacher education, E-learning, Cyber courses.

INTRODUCTION

Quality education paves path for national development. It enables individuals to adjust in the society as well as work for the society. Keeping in view the present situation of knowledge creation and processes of its dissemination in the world, the aim of education seems likely to train students understand and comprehend, and live and work in globally dynamic competitive environments and play their roles in worldwide knowledge society. It may require initiatives to promote skills and capabilities in learners so as to realize and adopt the opportunities in global perspective. Therefore, institutions imparting education and training can link such programmes with information technologies and globalization for innovative and effective teaching learning process in 21st century.

Globalization - Uniting the World of Knowledge

Age of information technologies and globalization the 21st century seems to affect all aspects of human life, particularly education and training. The concept of globalization is likely to be emerged with global (market) economy and it is (Field & Fegan, 2005) often linked with the rapid development of new information technologies and their supporting infrastructure. In education, it might have been used to project and exploit recent activities at institutions of higher education throughout the world. It is a process, which assimilates different systems and allows geographical boundaries to disappear (Teichler, 2002) in knowledge creation and its dissemination.

Its main concern is likely to promote knowledge society, where the emphasis is on the acquisition of knowledge, values and skills. It is likely to prepare learners in competitive environments/situations to expand their knowledge, understanding, skills and vision, so as to make them capable of taking better decisions about their future life and equip themselves with skills necessary for productive life. Therefore, it encompasses and accompanies the rapid expansion of information and communication technologies. Carnoy, (2000) stated that globalization has become available because of the development and infrastructure of information and communication technologies. ICT may be regarded as the result of knowledge explosion and used for its (knowledge) dissemination and vehicle for globalization. In this context globalization can be viewed as its by product and vice versa. Therefore, globalization seems to be based on information (knowledge explosion) and innovation-ICTs (for rapid expansion and dissemination of knowledge).

Globalization promotes worldwide interaction and competition of higher education institutions through collaboration and exchange of study programmes throughout the world. It encompasses and supports the worldwide mobility in academia in the areas of contacts and research as international reciprocal interchange (Frohriep, S., 2005) expands exchange of faculty and students that lead to new opportunities for advanced social interactions.

It extends opportunities of International mobility of faculty and students. The overall international mobility of students is visible from the increased student enrolment outside their native countries. According to DAAD (2003) the student enrolment was increased to 1.62 million in the year 2000. Comparing with total numbers of students worldwide, 100 million, an average of 1.6% of all students study abroad for shorter or longer duration of their higher education career.

Information and Communication Technologies- Providing Right Information at the Right Time to the Right People

Information Technology is used interchangeably with information and communication technologies. It is "any computer-based tool that people [students and faculty] use to work with information and support the information and information processing needs of an organization [University]" (Haag. 1998; pp. 517-518). Therefore, it includes computers and its related technologies such as world wide web, Internet, videoconferencing etc.

Information technology helps in promoting opportunities of knowledge sharing throughout the world. It can help teachers and students having up-to-date information and knowledge. Accurate and right information is necessary for professional development of academicians to work for effective teaching and learning; and information technology (Haag, 1998; p.10) "is a set of tools that can help provide the right people [students and faculty] with the right information at the right time [immediately]." Using information technology, students can make best decisions about their learning and programmes of study. It would provide students with opportunities to work in groups to support each other through effective communication and cooperation by sharing information and exchanging ideas to solve a problem or take advantage of opportunity.

Rationale

The present society is competitive where each individual can avail the opportunity of work and placement throughout the world. Knowledge is generated and disseminated by the universities through research and intellectual enlightement (Marga, 2005). Similarly, [Yang, A. 2005] emphasized the role of universities and stated that presently, universities have both an obligation and an opportunity to play a significant role, because they are the part of an increasingly interdependent world characterized by the global economy and the rapid development of communications' technology.

One of the basic requirements of knowledge society is to prepare students for participation and interaction in an information rich society for social adjustment and economic development. They should be able to participate in challenging environment, work with information and communication technologies playing an important role in restructuring and transforming the knowledge society.

Information technology extends opportunities of global interactions. Students can interact with the information interface, teachers and co-learners and learn. They can work in new settings getting rid of their routine work with ICTs. They may explore, review benefit the qualitative as well as quantitative data related to their programmes of studies; accessible through these ICTs. They can work on group projects participating in peer-learning activities and gain knowledge.

In an information rich society, there is a new paradigm for education where teacher may not be at the center of education. The teacher would play a new role in new settings. Accumulated knowledge and experience would occupy the central place, to which students could have direct access. The teacher would not control students' access of information as in the conventional classroom system. Students directly would receive and interact with

information of all kinds. They would transform information from one medium to another medium and create new knowledge as a result of their interactions with teachers and other students.

Branson R.K., (1991) stated that students learn not only from the teacher, but also they learn along with the teacher, and by interacting with one another. Indeed, students can learn more than their teachers using Information and Communication Technologies in the age of globalization.

ICT in Teaching Learning Process - Making Knowledge Accessible to all

The availability of information and communication technologies reinforces individual learning through on-line courses creating interactive learning environments. Education focuses on individual as well as group (collaborative) acquisition of knowledge, competencies and skills. Students can develop their desired competencies and skills through individual as well as group-learning strategies (collaborative). Collaborative learning seems to have effects on the performance of the students, tutors, academicians and supporting staff (technical staff) working together. Such collaboration supports the use of effective learning techniques and methods for acquisition of knowledge of the subject and social skills.

Gallo, M. A & Neno, R.B., (1985) viewed and explained the relationship between individualized instruction and programmed instruction. They related it with Skinners' theory and stated that "optimal learning takes place through individualized instruction", in which lessons are designed for the learners and each learner is under the guidance and tutelage of a tutor. In the present situation of student teacher ratio, individualized instruction may seem to be unrealistic. According to them, programmed instruction developed from the theories of Skinner provides individualized learning. Programmed instruction based on the three promises are given below.

- Students learn more rapidly if small pieces of information are presented to them at any one time.
- Students should be given the opportunity inorder to actively respond to the material.
- Students should be provided with immediate results indicating whether a response was correct.

Adults are likely to prefer to be independent and self-directed in their learning. Therefore, the individualized learning through computers seems appropriate for them. The concept of self directed learning may imply empowerment of learners or loosening of dependency on teachers' direction.

Computer technology can provide opportunities of self-directed learning. Students actively can participate in their learning and interact with faculty through Local Area and Wide Area Networks. [Hitlz, S.R.,1990, p.63] supported the efficacy of such instruction for self-directedness indicating that "results are superior for its features of well-motivated and well-access to necessary equipment. Those students also take advantage of the opportunities provided for increased interaction with their professors and other students and for active participation in a course". This interaction between student-student and student-tutors occurs through Wide Area Networks and Local Area Networks.

ICTs are playing a crucial role in restructuring the teaching learning process. Hussain, (2005) stated that the use of information and communication technologies promote collaboration between the peers of learners, learners and faculty, simulated learning environments, electronic books, digital libraries and virtual universities with a global learning environment. The new learning environments have introduced exciting potential for distance education with new approaches of knowledge creation and new ways of styles for learning. Such styles help the learners in achieving the objectives of their studies.

Computer supported collaboration can be one of the most promising innovations to improve the teaching and learning with the help of other related technologies. Collaborative or group learning refers to (http//www.cica-indiana.edu/CSCI95) instructional methods whereby learners are encouraged or required to work together on learning tasks. It is a distinguished form of learning from that of traditional "direct transfer" of knowledge, in which

the instructor is assumed to be the distributor of knowledge and skills.

The use of information and communication technologies updates the instructional pedagogies and makes the information/knowledge bank available to the learners at their own command (Moore, 1996). These create global interactive learning environment, for effective learning where students can learn through cyber courses. Instructors can electronically deliver all types of material through asynchronous delivery. Cyber courses create an electronic distance-learning environment. Due to the growth of electronic distance learning environment the distance and institutional barriers are disappearing. The Western Governors University (WGU) is a good example of its real application.

WGU (http://www.eus.wsu.edu) is an alliance of over 30 universities and colleges that have agreed to contribute courses. To earn their degree, WGU students living anywhere in the world can choose and complete courses from any of the participating institutions. The Tri-State Agricultural Distance Delivery Alliance is another similar example.

The development of Cyber courses by professional education companies is at competitive stage. The Florida Community College System announced the purchase of a commercially produced introductory chemistry Cyber courses to be used by all the students in the state (http://www.distancelearning.com.html).

Cyber courses can incorporate advanced media and present material in a manner that allows students to explore the materials in a more investigative and less linear manner. This encourages students to be less passive and more active in the learning process. Cyber courses involve the students in the learning activities and their active participation results in effective learning.

Kennedy, & Agnew, (1998) stated that Cyber courses are not only asynchronous, but also they allow the utilization of all currently available media and provide an effective means of communication. These courses can also be offered to students attending institutions that lack expertise in a particular area. On-line students can access experts from other institutions and even from the private enterprise as well.

Interactivity, perhaps can be the advantage of online learning. Many universities of the world might be finding the ways to bring the benefits of classroom through on-line courses. Web-based teaching and learning would call for a serious reconsideration of the effectiveness, especially in the light of increased demand for education and opportunities for increased learners' motivation by new technologies, if integrated with knowledge based design sites. Well thought instructional design for any web-based teaching can contribute to moving learners' expectation from promises to performance while taking the course on the web.

Through on-line courses over the web, learners may have greater control over their learning. There may be greater retention of the material on a well-designed system and information would come alive as learners pull the materials to themselves. The World Wide Web operates in close relation with human brain in processing the information. Gonzalez, (1998, p.110) stated:

The human mind operates by association with an item in its grasp, it snaps instantly to the next stage that is suggested by the association of thoughts in accordance with some intricate web of trails carried by the cells of the brain. It has other characteristics, of course, traits that are not frequently followed are proven to be fade, items are not fully permanent; memory is transitory. Yet, the speed of action, the intricacy of trails, the detail of mental pictures, is awe-inspiring beyond all else in nature.

Researches on the ways in which people learn, according to Gonzalez, (1998) reveal that, while learning, people often switch quickly from one question or request to another. Internet-based performance support enables learners to switch quickly from one piece of information to another, until their inquiry is satisfied.

The overall advantage of an Internet-based performance support is that learning can be systematically integrated with the work. A learner, faced with a problematic situation, can find the resources needed in order to overcome the situation to improve the

performance. This promotes experience-based learning involving learners not as passive recipients of information, but rather as active learners whose process of inquiry actually helps to construct the foundation for the next stages of learning. The length of the learning cycles can be longer or shorter, depending upon the situation and context.

Use of web-technologies can create an opportunity for change from traditional, formal, structural and classroom based-training to continuous knowledge sharing.

Electronic learning environment through Internet can have and maintain variety of learning materials that are appropriate for different learning styles. It can facilitate people to communicate, construct meaning, and learn new things to explore and discover opportunities to apply what they know. With its use, the students of developing countries have good linkage with the developed countries. They would get access to various topics of their choice. Bothun, (1998, p.28) discussed its effectiveness in learning through distance education. It was experienced at the University of Oregon, which had offered four ten-week Distance Education classes for two - and - a half years, including Physics 161: Energy and the Environment; Physics 162: Alternative and Renewable Energies; Astronomy 121: Solar system Geology; and Astronomy 123: Cosmology and the Origin of Life. About 150 students had taken these courses world wide.

Its achievement was given as among the 150-distance education students enrolled in the four courses, 125 completed the requirements in eight to ten weeks. This proves it is possible to deliver courses in this manner that reflects the information-oriented nature of survey courses. Such courses require little student monitoring which would more easily allow students to work at their own pace.

Edelson, P., and Pitman. V., (2001) have given the achievements of Internet at Indira Gandhi National Open University (IGNOU) which launched its CIC, BCA and MCA programmes online in July 1998. Since then, Internet has been acting as a medium to provide different support services to the learners including counseling and assignments, and the learners were assured to have easy access to Internet. The University created Internet Access Points (IAPs) for those who did not have easy access to Internet.

After the implication of online course program it was found that learners do not go through the information material provided by the University and depend on other live resources to get information. Another important aspect that is obvious from the evidence is that even though the learners were not computer literate, they were easily benefited from the Internet.

A large number of universities of the world generally distance education institutions and virtual universities in particular are using Internet in their teaching learning approach. Its success has been acknowledged by various Universities of the world as pointed out by Sherry, L., (1996).

The University of South Florida has set up a mentoring system and an on-line discussion for the participants of telecommunications course. Athasbasca University assigns ten students for one mentor in the Master of Distance Education Programme. The University of Wisconsin uses audio-conference seminars to link instructors together. The University of British Columbia uses tele-conferences with other students and tutors, as well as a telephone tutoring system. Georgia College has an electronic BBS with on-line resources, electronic conferencing, and a Teacher Clearinghouse for contacting other teachers interested in tele-communications.

Pakistan is a developing country, yet all public sector universities are using ICTs for students support services. Virtual University of Pakistan is imparting knowledge at graduate and postgraduate level using information and communication technologies (ICTs). University offers courses on the Internet and monitors teaching learning process through its Learning Management System (LMS). It also telecasts lectures on its virtual television channels. Students from all over the country take admission and continue their studies. Similarly, Allama Iqbal Open University is offering its French online programme for those who want to learn French language.

Teacher - Leader of the Team

In the age of information technology, effective and efficient learning is potentially possible at any time and any place, on any topic, in any sequence, at any age. Bringing large groups of students together for content-centered presentation by teachers can no longer be justified as the dominant method of instruction.

Teachers would have to work with learners in helping and assisting them in managing and processing information. They would work in groups preparing and evaluating instructional materials and organizing data into accessible forms. They will spend their time in coaching students, helping them to learn through reviewing the huge information. They will offer group presentation. Presentation will not be used to provide new information instead, presentation will be carefully constructed to model how the discipline uses information to answer existing questions and solve current problems. They will also demonstrate the potential for using information to formulate new questions and to construct problems for the future of the discipline. Information technology would help to develop students' ability of judging the validity and precision of information, and the students would be able to analyze and explore information to achieve certain objectives.

Challenges for Teachers- Demands of the Day

The teachers in the 21st century have to face challenges of updating and upgrading their knowledge and pedagogical skills in the age of ICTs & Globalization. They have to learn the appropriate use of Information & Communication Technologies (ICTs) either in the classroom instruction, or at a distance as an e-teacher or e-moderator of open and distance education system. According to [Ham, V. & Davey, R., 2005] it is a challenge that has caused teachers to reflect their perception and the ways they adapt new educational changes without compromising the quality of education. It specifies the role of teachers in the age of ICT and globalization as it (role of teachers) changes from sole 'transmitters of knowledge ' to e-teachers; to play the role as mentors or coaches (Volman, M., 2005) and facilitators (that are the so-called 'e-moderators' (Salmon, G., 2004).

Likewise Murphy, Mahoney, Chen, Mendoza-Diaz, & Yang, (2005) have explained the nature of their new role. According to them, mentoring is a one-to-one relationship between an expert and a learner in which the expert guides the learner by behavioural and cognitive modeling, academic and career counseling, emotional and scholastic support, advice, professional networking, and assessment. Coaching is observing learners' performance and providing encouragement, diagnosis, directions, feedback, motivation, monitoring and regulating learner performance, provoking reflection, and perturbing learners' models. Facilitating is providing technical, pedagogical, managerial, and social activities that maintain sustained and authentic communication between and among instructors and students.

The e-teachers apply their pedagogical skills to help learners to achieve their educational objectives in social, interactive and networked teaching learning environment and process information into knowledge (Eisenberg, 2005; Cabero, 2006). Teachers' role shifts from 'content expert' to 'facilitator of learning'. According to Lentell, (2003), teachers should facilitate and guide their students in learning process to develop knowledge and understanding.

Knowledge building and learning in the age of ICTs and globalization is based on the constructivist theory. According to which knowledge is developed by means of the active involvement of the student, where collaboration and negotiation of meaning are fundamental; and where (Blázquez & Alonso, 2005) individuals create or construct knowledge by attempting to bring meaning to new information and to (Rovai, 2003) integrate this knowledge with their prior experience.

The e-teacher as a mentor, coach or facilitator, plays multiple roles. According Stigmar, (2005) and Cabero, (2006) these roles can be outlined as follows:

- Managerial Role: The teacher plans the teaching programme, which includes objectives, timetable, rules and procedures, content development and

delivery methods and establishment of the practical work and interactive activities.

- Intellectual Role: This is the traditional teaching function. The teacher should know the syllabus and the particular subject, which will inform the learning content.
- Social Role: This is considered as the fundamental function in e learning; the teacher should create a comfortable learning atmosphere, interact with the students and follow their activities. The teacher should animate, motivate and facilitate feedback. In order to fulfill this dynamic role, the teacher should design activities specifically for each objective and content, as well as motivating and encouraging the students.

In order to perform these teaching functions, teacher should have to develop a series of abilities and strategies (Alonso, 2005; Wong, Quek, Divaharan, Liu, Peer & Williams, 2006) that can be divided into:

i) Professional: knowing the material, the contents, activities, didactic methods and teaching plan, etc.

ii) Technical: although it is not necessary for them to be as expert as the support personnel, they should have basic skills, which allow them to carry out their function appropriately, etc.

iii) Personal: interacting, giving feedback, receptive capacity, initiative, creativity, empathy etc.

In e-learning situations the teacher does not act independently, but rather forms part of a system in which she/he facilitates learners in interactive teaching learning settings. She/he convenes the process through negotiation and creating relationship between content and methodology of its delivery by a series of intervening elements. Thus, one can distinguish between human elements (student, teacher and support personnel) and non-human elements (content and technology) of the process. In this context, it is argued that in every learning process there exists a negotiation of knowledge (content) between teacher and student, facilitated by the necessary support personnel within a structure of a marked technological character (not forgetting that such technological means are no more than mere instruments, given that the principal object will always be learning).

Conclusion

The 21st century is the age of information technologies and globalization. These have enhanced and created new opportunities for learners as well as for teachers to compete throughout the world in challenging environments. They may have new aspirations and expectations availing equal academic opportunities at all levels. Globalization has promoted International connectivity and competition of academia, whereas, information technology has opened new horizons of global interactions. The usefulness of ICTs lies in its capabilities and appropriate use in teaching learning process. These are being used all over the world right from (functional) literacy level to higher education level. Students can learn at their own pace from their homes and work place interacting and participating in networked learning environments.

ICTs have helped the teachers in presenting contents, and facilitated students in reviewing and exploring the information. Students can work on group projects, participate in peer-learning activities to equip with knowledge and skills necessary for professional life. They can learn quickly and work in teams in comfortable, reliable and creative ways.

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