"Education Requires Media Support": The Need of The Present Global Village Promoting Rapid Diffusion of Information Technology in Higher Education

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Abstract

We live in a highly technological world. Compared to the past, however, technology today is developing much more rapidly and diversely. As society moves toward ever more advanced stages, the impact of technology on society becomes increasingly significant. If a person does not prepare for a technological society, he/she risks becoming isolated from the society. Thus, the concept of technological literature has been accentuated. Wiens and Wiens (1996), however, pointed out that our current technological society has a problem. According to these researchers, "our use of and dependence on technology is pervasive and yet our understanding of technology in society is elementary". For example, when people think about technology, some may refer to products of technology such as the computer, television, video, and so on and others may have the misconception that technology is mainly comprised of the computer and the areas like engineering, science, and instructional technology. Perhaps some of the causes of this problem could be attributed to the lack of pervasive technology education. Even though there are numerous examples of authors promoting technology education, the literature does not document an attitude shift in actuality. Considering efforts from educational systems and administrators to equip educational institutions with technologies and modify curriculum to become more aligned with the new technological era, various factors can affect the ultimate utilization and benefit from these technologies. This article explores differentaspects of information technology and higher education.

Key words: *information technology, higher education, highly technological world.*

Introduction:

In recent years, the rapid diffusion of educational technology in education has increased the attention and expectation given to its integration in teaching teachers. Educational technology is considered as the most prominent development produced by modern technology in the twentieth century. The emergence of educational technology imposed a lot of variables in all cognitive and practical aspects, and educational technology came to beapplied in various fields to form a powerful tool for keeping and processing of information and transfer (Alsharhan, 2000). Furthermore, the relationship between the teacher and students has been subject to unparalleled alteration. The teacher's role, the learning context and the course content function, are challenging factors that need to be redefined, as the students became more engrossed in using educational technology as a means of communication and information (Barad, 2009). In addition, students were perceived as very active agents with regard to the changed process and in implementing the new thoughts and ideas, as their attitudes and beliefs may impede or support the educational reform success such as using creative technology program (Ismail, Almekhlafi, and Almekhlafy, 2010).

People may well agree that we live in a technological society even when they actually do not know the meaning of technology and its extent. The term 'technology' has been used for a long time and has a common meaning for everybody. Pytlik, Lauda, and Johnson (1985) defined technology as "a study of the technical means undertaken in all cultures, which involves the systematic application of organized knowledge and tangibles for the extension of human Acuities that are restricted as a result of the evolutionary process" (p.7). According to this definition, technology has existed for along time. However, most people generally prefer to call the present a 'technological society' because the role of technology is much more pronounced and critical to society.

Today, for example, it seems evident that some technological literacy is required of all people who live in our society. The project titled 'Technology for All Americans' was initiated to "offer those who are interested in technology education as an essential core subject a clear vision for what it means to be technologically prepared, how this preparation can be achieved at a national level, and why it is important for

our nation" (Satchwell&Dugger, 1996, p. 6).

Some educational institutions and teachers were unsure of how educational technology could help them to achieve their goals, therefore, end up purchasing a staggering amount of hardware and software that they do not know how to use it (Frase, 1996). With increased demands made by administrators and increased expectations from students and their parents, foreign language faculty appeared to have no other choice but to embrace technology in language teaching (Adolph & LeBlanc, 1998).

White (2004) as mentioned in Boulter (2007) indicated that technology is a driving power in education especially in the current century, some teachers resisted utilizing technology in teaching, because no one provided them with a satisfying explanation of how technology empowers them. Whether technology is accepted or not by teachers, the educational institutions mandate the merging of educational technology into academic programmes. Many researchers claimed that student's attitudes regarding the role of technology were the most essential factor in determining the content and scope of their use of technology in their classrooms (Albirini, 2006; Hermans, Tondeur, Van Braak, &Valacke, 2008).

Sang, Valcke, and Tondeur (2009) suggested that student's integration of educational technology into classroom instruction was powerfully mediated by their interrelated belief systems. Their attitudes, whether positive or negative, affect their response to technologies. As Gilakjani and Leong (2012) indicated that the success of students' learning with educational technology depends largely on the attitudes of teachers, and their desire to adopt technology in teaching process.

In the twenty-first century emerging technologies are spreadng at extraordinary speed and these innovations have turned this world into a global village. In the field of distance education these innovations have bridged the distance of all learners to a large extent. Technological innovations have great influence on all aspect of our personal, professional and educational lives. In the field of education distance learning is a growing trend where the distance between teacher and student is bridged with media, and in this age of science innovative technologies are the best media to cover this gap.

The journey of Information Technology since history:

For technology, the terms ***visual education*** and ***visual instruction*** were used originally because the materials which were available to the teachers were three dimensional objects, photographs and silent films which depended upon sight. Later on, when sound was added to films audio recordings became popular, then the terms audio visual education and audio visual instruction and audio visual devices came into existence. For the first time, in 1926 ***Pressey***used "***Teaching Machine***" in the field of education. During 1930-40 **Lumsdain,Glaser** and others used scrambled books, cards and boards in teaching. However, these materials did not influence education very much. During 1950s ***Skinner*** developed "***Programmed Learning***"instructional material which was supposed to be the direct form of education technology.

Radio was the next technology to gain attention. Soon schools, colleges, department of education and commercial stations were providing radio programming to schools. Nevertheless, radio did not have the impact on school as its advocates had hoped. In the beginning, poor audio reception and cost of equipment were cited as obstacles to use. Ultimately, due to these problems efforts to promote radio instruction in schools were abandoned. Soon television became available. ***Instructional television*** was focus of attention during the 1950s and 1960s. However, instructional television prospered only where there was substantial public, corporate or commercial support. Instructional television needed proper development of educational programmes and fund for maintenance of equipment and it was impossible to broadcast instructions when individual teachers needed it.

The next prominent technology to capture the interest of educators was the ***computer***. With the appearance of micro computers, these were made available to the students. Though students had limited access to computers still developed countries were using computers for teaching–learning process with great zeal. Last but not the least ***Internet*** has made computer technology more valuable. Internet is ocean of knowledge, full of liveliness, flexibility, speed and provides material according to the need of individual. That is why this latest technology has acquired an important place in the field of education. Along with these the latest version of mobile phones, I-phone, tablets are also establishing their

presence in imparting education.

***"Education requires media support"*—Information Technology and Higher Education**

At the dawn of the twenty-first century, new and rapidly improving technologies are in the process of transforming higher education. Technology has the potential to revolutionize the traditional teaching and learning process. It can eliminate the barriers to education imposed by space and time and dramatically expand access to lifelong learning. Students no longer have to meet in the same place at the same time to learn together from an instructor. Fundamentally, modern technologies have the ability to change the conception of a higher education institution. No longer is a higher education institution necessarily a physical place with classrooms and residence halls where students come to pursue an advanced education. Distance education through satellite has made access to education possible in most distant areas. In this regard ***The National Policy on Education, NPE 1986*** has rightly emphasized on the function of educational technology that, "In order to avoid structural dualism, modern educational technology should reach out to the most distant areas and most deprived sections of beneficiaries simultaneously with the areas of comparative affluence and ready availability."

Educational technology is aimed at maximizing learning experiences and making teaching- learning more effective and efficient. In the recent years there has been an explosion of knowledge and population. To meet the challenges of quantity and quality, it has been felt that educational technology is helpful in dealing with this situation. Computers and telecommunication are the principal technologies reshaping higher education. Due to advances in each of these domains, electronic-mail, fax machine, the World Wide Web, CD-Rom and commercially developed simulations and courseware are altering the daily operations and expanding the mission of college and universities.

The Programme of Action, 1986 has therefore enunciated, "Education requires media support which is related to the curriculum as well as enrichment. Curriculum based education also requires materials which the teaching can draw upon both through various materials and media. Learning experiences can be provided through maps, models, transparencies etc. Audio and video technology offers considerable

potential for improving the quality of education especially at higher levels. Thus, educational technology can play an important role in increasing efficiency of teaching-learning process and in making education more creative and innovative."

Powerful forces are promoting higher education's adoption of new technologies. The rapid advance of globalization, that is lowering international barriers and transforming business world, is also expanding the potential reach of colleges and universities. With sophisticated communication technologies, institutions of higher education are no longer limited to student markets on educational resources in their geographic regions. Likewise, the growing need for lifelong learning opportunities to keep pace with social, economic and technological changes fuels demand for accessible alternative to traditional real time, campus based instruction. In addition, competition among higher education institutions contributes to advancement of technology within colleges and universities.

Suggestions for promoting use of Technology

To improve the quality of education it is needed to take the full advantage of technology in education. To achieve this goal there are some suggestions which can be helpful in promoting use of technology. The suggestions are given below:

- Faculty members need to feel that effective use of technology is expected for all appropriate courses and situations. The attitude of teachers should change and management should make provisions for the proper use of technology that are available for improving quality of higher education.
- There should be support from the institution, as well as encouragement to use model teaching that takes advantage of technology. Administrative support can be in the form of funding, or in restructuring schedules.
- Not only that the equipment, material, hardware, and software should be made available but also necessary provisions should be made for their effective utilization in the field of education.
- Proper monitoring and evaluation are necessary for ascertaining the extent of utilization and quality of training programmes so that on the basis of their findings required improvement can be brought

about in the process of production and utilization.

- Teachers must be adequately trained to use technology. Teachers' training and continuing education is needed. Teachers should know how to operate the technology and how to integrate it into the curriculum. Training sessions, workshops can be arranged for in-service and pre–service teachers.
- Technological resources must be sufficient and accessible. There should be accessibility of new technologies to both teachers and students. Technical assistance should be readily available so that use of technology should not be interrupted.
- Effective technology use requires long term planning and support. Such a plan should consider funding, installation, integration of equipment and ongoing management of the technology. The plan should also express a clear vision of the goals of technology integration.
- Technology should be integrated into the curricular and instructional framework, technology cannot exist in isolation. The individual student and his ongoing need within the learning process must also be carefully considered.
- Parents and community members can help in motivating the use of technology in the neighborhood schools. All can help in providing technical support. Parents can use e-mail to facilitate communication with teachers and administration. It will promote technology use.
- Support from government is crucial in this regard. Adequate funding and appropriate policy making can help to assure that technology is accessible to all on an equal basis. Development of software and video programmes that meet educational content standard should be ascertained by the government.

Conclusion

In the present era, technology has become an Integral part of our lives. Every day there is a new gadget or software that makes lives easier. Making lives easier is not, however, the only role that technology plays in our lives. Infact, it is playing a key role in making every aspect of life better. Technology has opened new doors to untouched aspects of life and has

tremendously affected every field of human life. The field of education is not an exception. It is playing an increasing role in the field of education. Technology in educational field is changing the traditional role of the stakeholders of education. New information and communication technology has introduced many changes in the present educational system. Interactive technologies have affected the very nature of teaching and learning. Technology offers the opportunity to change the roles that teachers and students have traditionally played. As technology advances, it is used to benefit students of all ages in learning process. Technology used in classroom helps students to absorb the material. Projection screens linked to computer allow students to see their notes instead of simply listening to a teacher who is delivering a lecture.

Technology helps teachers to acquire and update knowledge; consequently there is a shift in their role from being the soul source of knowledge and instruction to being a facilitator of student's learning, which is acquired from many sources. Technology also helps the teachers to meet the individual learning needs of their students more effectively and to provide learning experiences ranging from remediation to enrichment. Technology helps in accomplishing the administrative tasks. Teachers may use technology tools for record keeping, scheduling, monitoring and reporting student's progress and managing daily practices. It is also helpful in availing professional development opportunities such as software or internet workshops and graduate level courses in information technology.

Technology encourages student collaboration, project based leaning and higher order thinking. It makes students more engaged and more active learners, because there is a greater emphasis on inquiry and less on drill. Direct experiences through various media and technology make the subject clearer and the learner is motivated to learn. It provides students the learning experiences that are more pleasant and convenient than the traditional lecture, textbooks or classroom discussions. Technology helps in creating an environment that makes exploration possible. Technology is a powerful tool for problem solving, conceptual development and critical thinking. It involves the individual using technology to gather, to organize and to analyze information and using this information to solve problems.

Though India has made tremendous progress in the field of technology, the same technology is not properly being used in the teaching-learning

process, Although efforts have been made to promote technology use and many schools and colleges are provided with technological equipment and facilities, still all is not well. Due to some practical problems, these equipments and facilities are not being fully utilized and they have become a part of exhibition, consequently, old and conventional methods of teaching–learning remain in practice.

Many barriers to technology adoption exist within colleges and universities. Academic traditions, such as faculty-centered lecture, make many professors reluctant to adopt alternative instructional strategies as using the computer or telecommunication device. The cost of many technological applications also prohibits their easy adoption at many resource-limited institutions. Limited support to help faculty and staff members learn how to take full advantage of technology is another factor inhibiting more widespread use of technology in colleges and universities. Another problem is to help faculty in learning how to integrate information technology into their teaching. Further, there is a lack of adequate user support, shortage of trained teachers, a lack of time, infrastructure and continuous updating of training programmes which hinder technology use. Higher education's investment in technology hardware is by itself, not sufficient to reap the full benefits of new technology advances. Thus, technology will neither reap its full potential nor revolutionize higher education if the barriers to its adoption are not resolved satisfactorily by individual institutions or the educational system as a whole.

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