

Barriers to ICT in Higher Education

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Abstract

Information and communication technology (ICT) 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 information and communication technology is helpful in dealing with this situation. Computers and telecommunications are the principal technologies reshaping higher education. Although ICT has pierced every field of our life including the field of education, but the impact of ICT in the field of education has not been extensive as in other fields like tourism, travel, business, banking, engineering, architecture etc. There have been several barriers to use of ICT by the teachers of higher education. Researchers have been interested in finding the barriers or constraints which affect the use of ICT by the teachers. Present paper discusses internal and external barriers as lack of confidence, lack of motivation, attitudes and beliefs of teachers, technophobia, lack of resources, lack of professional development opportunities etc.

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 it possible to make access of education to most distant areas.

Information and communication 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 telecommunications 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 efficiently of teaching-learning process and for making education more creative and innovative.”

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, many schools and colleges are provided with technological equipment and facilities, still all is not well. Due to some practical problems, these equipment 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.

There have been several barriers to use of ICT by the teachers of higher education. Researchers have been interested in finding the barriers or constraints which affect the use of ICT by the teachers. Several barriers have been identified.

Barriers to ICT

These barriers can be classified into two broad categories—

1. Internal barriers

Internal barriers may be defined as those barriers which are within the teachers. These barriers may be the part of their personality, beliefs and attitudes. These are described as following—

Lack of Confidence:

Lack of confidence and comfort level in teachers may be responsible for not using ICT in their teaching. **Gifford (2004)** examined the relationship among teacher beliefs and attitudes, confidence levels, learning styles and technology implementation. Results of the study indicated that teachers possessed positive attitudes and beliefs related to technology in the classroom, yet low levels of confidence and comfort integrating technology into classroom practice. Low level of confidence and comfort were proved as barriers in the integration of ICT in their teaching. Moreover, the fear of failure in front of others also drags their confidence down.

Attitude and Beliefs of the Teachers:

The role of teachers' belief and attitude is vital in the integration of technology in the classrooms by the teachers. Teachers' pedagogical belief and beliefs about how technology could help them achieve their instructional goals did affect their perception and practice of technology integration **Chen (2008)**. He investigated the influence of teacher belief on the technology integration by the teachers and revealed that beliefs of the teachers affected their technology integration.

Lack of Motivation:

Internal motivation as well as external motivation leads a person to the desired goal. Lack of motivation may also be a barrier in using ICT by the teachers. Teachers are not motivated by their colleagues, seniors and the head of the institutions where they are working. Sometimes use of technology in the teaching –learning process by the teachers is not recognized or praised by the management it also leads to lack of motivation of performing better.

Lack of Time:

Although teachers of higher education get more time as compared to the teachers of primary and secondary teachers still they often complain of lack of time to accomplish their duties. **Nanjappa (2004)** revealed that there were many factors that prevented teachers from using computers. Teachers did not have sufficient access or lacked sufficient time to plan and evaluate integration lesson.

Resistance to Change:

Another obstacle which resists the teachers to apply ICT is that they are satisfied or used to the present situation and they don't want any change in that. In spite of several facilities and equipment available in the institutions teachers are comfortable with traditional methods of teaching. They may be afraid of sparing extra time for learning new things and facing competition with their colleagues.

Technophobia:

It is a fear towards the use of new technology. It is found that most of the teachers have some kind of fear, they hesitate or feel inadequately prepared to use any type of technology in teaching.

2. External barriers

External barriers may be defined as the barriers which are caused by the environment or the external circumstances. These are described as following—

Shortage of Trained Teachers:

This is one of the crucial barriers. There is emphasis on use of technology by the teachers. However, there is lack of trained teachers. Teachers are not interested in learning new things and sometimes they do not find suitable opportunities of technology training. Consequently, education system suffers.

Lack of Resources:

Funds are required for infrastructure and for employing trained person. Due to lack of funds required facilities and material is not available in many colleges. In our country most of the colleges lack resources and are dependent upon the government aid to fulfill the needs of the college. Lack of resources hinders ICT use by the teachers.

Lack of Professional Development Opportunities:

Professional development opportunities help the teachers to enhance their professional growth and keep them updated. Lack of these facilities hinders technology use also. **Sharma (2005)** examined the effects of professional development on the skills development and technology integration by the teachers. Results indicated that the teachers found the professional development provided to them was valuable and effective in increasing their knowledge as well as the integration of technology in their classroom.

Lack of Appropriate Software:

In India there is a wide diversity in language and dialects. Software is mainly available in English and not in different regional languages, it also prevents technology use. There is lack of culture free software which could be used by the teachers of any language and region.

Lack of Maintenance:

Another hurdle in integrating technology by the teachers is the lack of maintenance of the technological equipment. Due to financial problems or careless attitude technological equipment are not kept maintained. Lack of regular use of the equipment is also responsible for their bad condition.

Lack of Continuous Updating and Renewal of Courses:

In the technological field there are continuous changes, new courses and latest software versions are available in short period of time, so continuous training and proficiency is needed to be up to date with the changing scenario. Institutions generally do not keep pace with the changing technology and provide obsolete information.

Thus, after discussing the various factors which hinder the technology use by the teachers of higher education, it is needed to deal with these hurdles. Until these barriers are tackled technology can neither be fully utilized nor can it take the education to its heights.

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