

## ICT IN PROFESSIONAL EDUCATION

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### ABSTRACT

*Technology is any of inter-related parts that are organized in a scientific manner for objectives attainment. The essential key factor education is change is technology. The era of rapid scientific & technological advancement that we are living in has brought a revolutionary change that is pervading every region of the world & creating a global information society. ICTs are emerging as open & distance modalities of higher education. It is used for developing course material, delivering & sharing content, communication between teachers, learners & the outside world, creation & delivery of presentations & lectures, academic research, administrative support, student enrollment, etc. ICT not only provides learning experience but also develops essential skill required for participation in global affairs, the knowledge of ICT & skills to use the same are extremely important for today's professionals. Use of technology has enabled the teacher & learner to identify & use technologies that integrate with their teaching & learning processes. This paper discusses issues related to ICT in professional education, - a core component in professional education & curriculum of ICT education offered in different institutes of professional education.*

**Keywords:** *ICT, Pedagogy, Curriculum*

### INTRODUCTION

Today's knowledge society has affected the world in different facets of life be it social, economy, political or cultural. In order to ensure that education moves forward in the right direction it has become imperative that appropriate changes are incorporated in education, particularly professional education.

In the coming times almost all decisions made in science and technology, economics and business development will be based on digital and electronic information.

Access to information is essential in generation of wealth and there is a strong link between a nation's level of development and the level of technological development.

Educators and policy makers believe that information and common technologies (ICTs) are of crucial importance to the future of education.

The present educational system across the globe emphasizes on integration of information and communication technologies (ICTs) in pedagogical practices to develop 21<sup>st</sup> century skills amongst learners. This situation calls for an enhancement of pre - service education on ICT for prospective professionals.

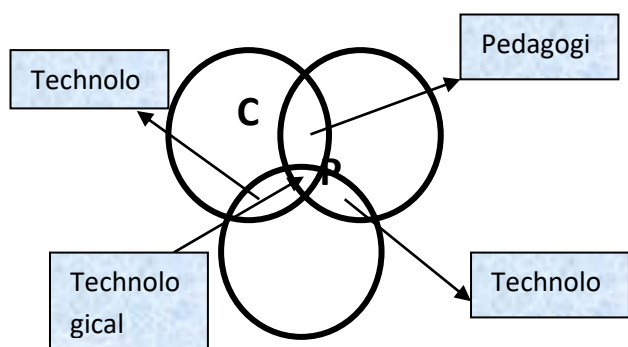
### TECHNO-PEDAGOGY: A SKILL

In Techno-Pedagogy, three areas of knowledge viz., content, pedagogy and technology are important.

"Good teaching is not simply adding technology to the existing teaching and content domain. Rather, the introduction of technology causes the representation of new concepts and requires developing sensitivity to the dynamic, transactional relationship between all three components suggested by the TPCK framework" (Koehler, 2005)

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**HIGH-TECH CLASSROOMS**

Infusion of ICT in professional education curriculum has brought into focus high-tech classrooms with on-line instruction. On-line communication facilitates group learning. Any member can communicate with all members in the given network. Each member in turn can reply not only to the sender but also to everyone else in the group.

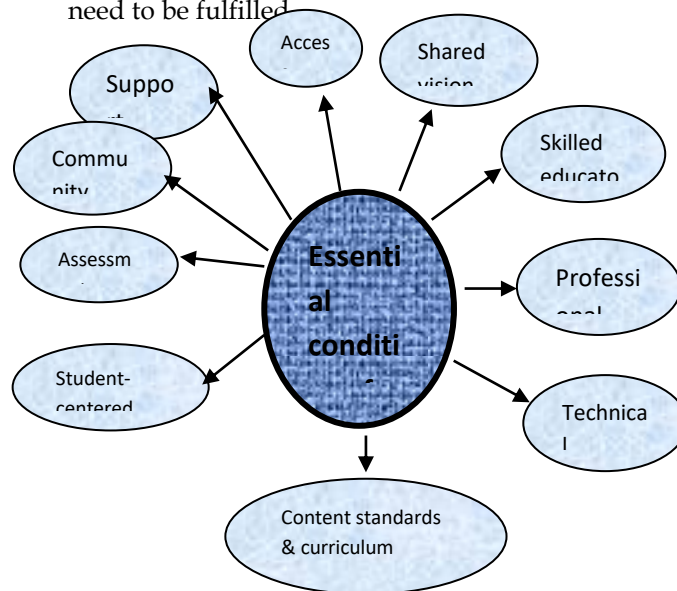
Electronic-based discussion groups can alter the classroom structure and dynamics. Through computers the images can be visualized and analyzed. It can display data from external sources. The denotations through computer can be wide. It can access data quickly to reach the desired segment. Real-time two-way communication offered by video-tape conferencing and distance learning can approximate traditional classroom delivery. The video recorder, cable television and the remote control may affect student’s expectation within the classroom and learning styles.

Some faculty use e-mail and discussion lists to cover basic issues so that classroom time can be devoted to discussion and high-contentious issues. Through

electronic mail system students can query the answer remotely through modems. Through e-mail complete documents can be transmitted and assignments can be reviewed.

**ESSENTIAL CONDITIONS FOR IMPLEMENTATION OF ICT IN PROFESSIONAL EDUCATION**

For successful integration of ICT in professional education, as per International Society for Technology in Education (ISTE) the following conditions for its implementation need to be fulfilled



**Figure showing essential conditions.**

**Essential conditions**

- **Shared vision:** for shared vision, proactive leadership and administrative support is required. In addition to this, the collaborative environment necessary for creating a shared vision is also needed to sustain that vision.
- **Access:** educators should have adequate and consistent access to current technologies, (computer labs, software,

microscopes, internet, word processing, etc.).

- **Skilled educators:** teachers must be skilled in the use of technology for learning. They must be able to apply technology in the presentation and administration of their coursework and facilitate the appropriate use of technology by their candidates.

- **Professional development:** educators should have consistent access to professional development in support of technology use in the teaching learning process. Development could be sustained through coaching and periodic updates.

- **Technical assistance:** it is a critical factor for successfully implementing ICT in professional education. Educators should be given technical assistance to use and maintain technology.

- **Content standards and curriculum resources:** educators should learn to integrate technology to bring suitable resources from the real world to a content, provides tool for analyzing and synthesizing data and conveys content through a variety of media and formats.

- **Student-centered teaching:** use of technology by students should be an integral part of instruction. Students should be given opportunities to identify problems, collect and analyze data, draw conclusions and convey results using tools to accomplish this task. Faculty should model the use of ICT to demonstrate their usefulness and appropriateness.

- **Assessment:** there should be continuous assessment of the effectiveness of technology. This will provide information regarding the learning strategies used, potential problems and data for altering policies and instructional strategies.

- **Community support:** community and school partners should provide expertise, support and resources for technology implementation in professional education.

- **Support policies:** school and university policies, financing and reward structures related to technical assistance should support the use of technology rather than obstruct it e.g., internet access to unwanted images and information at school level.

#### ADVANTAGES OF ICT

Computer based teaching programs facilitate:

- a) Dynamic visual presentation
- b) Provision for rehearsal of basic skills
- c) Improvement of learning and understanding.
- d) Access to data and saving of staff's tutorial time.

Information technology in effect has the following advantages:

- It enables greater imaginative understanding through increased access to information and new ways of accessing and communicating information.
- It gives the individual the power to take risks and make mistakes that are costly in terms of time/material.

- It provides new forms and structure for representing knowledge and individuals' relationship with it.
- It increases the opportunity for interrelation and application of data.
- It provides opportunity to develop clear logical thinking, sequential understanding and study skills.
- It enhances the learner's capacity to reflect upon and the teachers' opportunity to intervene in the learning.
- It facilitates distance learning via electronic networks, open learning through student-controlled learning pathways.

#### **OBSTACLES IN ICT IMPLEMENTATION**

ICT education scenario is struggling with the following problems:

- Only awareness development level of objectives is being achieved regarding the use of ICT.
- Technology, pedagogy and content integration is not there. All are taught separately creating confusion among students.
- Approaches to ICT education at schools is mainly concentrating on 'ICT Skills Development Approach', neglecting integration of other parts.
- Non-availability of proper infrastructure
- Lack of proper access to computer materials, lack of support in times of crises, lack of decision-making authority on part

of teacher to decide academic level activities etc.

#### **CONCLUSION**

For education to reap the full benefits of ICT's in learning, it is essential that pre-service and in-service professionals have basic ICT skills and competencies. Professional education institutions must provide the leadership-model the new pedagogies and tools for learning. To accomplish these goals, professional education institutions must work effectively with different stakeholders in the educational system. They also need to develop strategies and plans to enhance the teaching-learning process with professional education program and to assure that all future professionals are well prepared to use the new tools for learning.

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