



USE OF ADVANCED ICT IN FUTURE TEACHER EDUCATION

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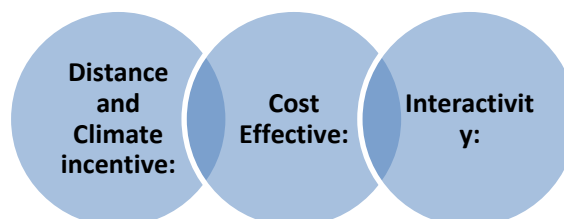
Introduction

In recent years, many surveys which have been conducted on education system say that Information and Communication Technologies (ICT) help enhance learning outcomes and improve access to education. ICT literacy is the ability to use digital technology, communication tools and/or networks to define, access, manage, integrate, evaluate, create and communicate information ethically and legally in order to function in a knowledge society. "To succeed, it is not enough to master technical skills: we must also know how to apply them within an information society", theme behind ICT literacy. Here, I would like to discuss few important things about role of ICT in education.

As we know, with the help of Internet, we are now able to access any information right in front of our monitor and also explore the whole world just at our finger tips. Some great people initiated the mission of improving the areas that were away from the developed regions. The first thing that needs to be focused in order to develop an area is the education of the people over there. So, ICT can be a great tool to enhance education in such areas where it is difficult for those people to study in technology focused schools.

ICTs are often associated with the most expensive and complex computer based technologies, however, they also include conventional technologies such as radio, television and telephone technology. Once after the invention of internet, the transfer and exchange of information has become the easiest task.

The following are the benefits of ICT tools in education:



➤ Distance and Climate incentive:

It does not matter where you're or how the weather is, you can still access and learn with ICTs.

➤ Cost Effective:

To conduct professional development training for teachers in the rural areas, we need a huge amount of investment to buy ICT tools, once we have bought these tech devices, we can provide an awesome learning experience at very low cost. Near-zero maintained devices like Chrome books are available at a very low cost to teach educators effectively using technology.

➤ Interactivity:

ICT tools are interactive and engage educators easily in their own learning. To effectively harness the power of the new information and communication technologies (ICTs) to improve learning, the following essential conditions must be known:

- Students and teachers must have sufficient access to digital technologies and the Internet in their classrooms, schools, and teacher education institutions.
- High quality, meaningful, and culturally responsive digital content must be available for teachers and learners.
- Teachers must have the knowledge and skills to use the new digital tools and resources to help all students achieve high academic standards.

New possibilities are emerging which already show a powerful impact on meeting basic learning needs, and it is clear that the educational potential of these new possibilities has barely been tapped. These new possibilities

exist largely as the result of two converging forces, both recent by-products of the general development process. First the quantity of information available in the world-much of it relevant to survival and basic well-being-is exponentially greater than that available only a few years ago, and the rate of its growth is accelerating. A synergistic effect occurs when important information is coupled with the second modern advance-the new capacity to communicate among the people of the world. The opportunity exists to harness this force and use it positively, consciously, and with design in order to contribute to meeting defined learning needs.

Teacher education institutions are faced with the challenge of preparing a new generation of teachers to effectively use the new learning tools in their teaching practices. For many teacher education programmes, this daunting task requires the acquisition of new resources, expertise and careful planning.

In approaching this task it is helpful to understand:

- the impact of technology on global society and the implications for education
- the extensive knowledge that has been generated about how people learn and what this means for creating more effective and engaging student-centred learning environments
- the stages of teacher development and the levels of adoption of ICTs by teachers
- the critical importance of context, culture, leadership and vision, lifelong learning, and the change process in planning for the integration of technology into teacher education
- the ICT competencies required of teachers related to content, pedagogy, technical issues, social issues, collaboration, and networking
- the importance of developing standards to guide implementation of ICTs in teacher education
- the essential conditions for successful integration of ICTs into teacher education

- important strategies to consider in planning for the infusion of ICTs in teacher education and managing the change process.

ICTs and Teacher Education:

Information and communication technologies (ICTs) are a major factor in shaping the new global economy and producing rapid changes in society. Within the past decade, the new ICT tools have fundamentally changed the way people communicate and do business. They have produced significant transformations in industry, agriculture, medicine, business, engineering and other fields. They also have the potential to transform the nature of education-where and how learning takes place and the roles of students and teachers in the learning process. Teacher education institutions may either assume a leadership role in the transformation of education or be left behind in the swirl of rapid technological change. For education to reap the full benefits of ICTs in learning, it is essential that pre-service and in-service teachers have basic ICT skills and competencies. Teacher education institutions and programmes must provide the leadership for pre-service and in-service teachers and model the new pedagogies and tools for learning. They must also provide leadership in determining how the new technologies can best be used in the context of the culture, needs, and economic conditions within their country. To accomplish these goals, teacher education institutions must work closely and effectively with K-12 teachers and administrators, national or state educational agencies, teacher unions, business and community organizations, politicians and other important stakeholders in the educational system. Teacher education institutions also need to develop strategies and plans to enhance the teaching-learning process within teacher education programmes and to assure that all future teachers are well prepared to use the new tools for learning.

We need a global society to use ICT. The new knowledge-based global society is one in which:

- the world's knowledge base doubles every 2–3 years;
- 7,000 scientific and technical articles are published each day;
- data sent from satellites orbiting the earth transmit enough data to fill 19 million volumes every two weeks;

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As is the case for other sectors of the wider economy and society, education will need to come to terms with the new technologies. This could require substantial public and private sector investments in software research and development, purchase of hardware, and refurbishment of schools. It will be difficult for national policy-makers to resist finding the

necessary resources, whatever their sensibilities for expenditure on education, although without international co-operation and assistance the poorest countries could fall still further behind. Parents and the public at large, in the industrial countries at least, are unlikely to accept for too long the notion that education should be less well equipped with the new technologies than other areas of social and economic activity. The traditional educational paradigm is often characterized by the following views of learning:

- Learning is hard.
- Learning is based on a deficit model of the student.
- Learning is a process of information transfer and reception.
- Learning is an individual/solitary process. In a study of schools in the United States, the National
- Learning is facilitated by breaking content/instruction into small isolated units
- Learning is a linear process

Changes In Views Of The Learning Process

In contrast to the traditional teaching-learning paradigm, a new paradigm of the teaching-learning process is emerging, based on three decades of research in human learning, that encompasses the following views of the

Human learning process:

- Learning is a natural process
- Learning is a social process
- Learning is an active and not a passive process
- Learning may either be linear or non-linear
- Learning is integrative and contextualized
- Learning is based on a strength model of student abilities, interest, and culture
- Learning is assessed through task completion, products, and real problem solving of both individual and group efforts.