

## **Information & Communication Technology and Education**

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### **I. Introduction**

The development of every society depends on the technologies of information and communication of that society. By the term 'Information and Communication Technologies for Development' (ICT4D) we mean the use of Information and Communication Technologies (ICT5) in the fields of socioeconomic development. ICT4D is not only used as technology but also emphasises on having a better understanding of community development, poverty, agriculture, healthcare and basic education. In this way ICT4D has been proved really helpful not only in the fields of technology but also for the all round and persisting development of society. Richard Heeks suggests that the I in ICT4D is related to "library and information sciences", the C is associated with "communication studies", the T is linked with "information systems" and the D for "development studies". It is important as it works as a bridge between digital divide and economic development by ensuring equitable access to modern communication technology. It is one of the most powerful tool for the economic and social development. ICT4D deals with disadvantaged populations anywhere in the world, but it is more popular in applications in developing countries. It aims directly at poverty reduction and assisting aid organizations or non governmental organizations or governments or businesses to improve socio-economic conditions. It has an interdisciplinary research area as the number of research projects, conferences and publications are increasing day by day. The results, drawn through this are much more scientific and are easy to measure the effectiveness of any project. ICT has produced an informal community of technical and social science researchers, which developed out of the annual ICT4D conferences.

When we talk about information and communication technologies in social sciences, we mean teaching and learning the subject that enables an understanding between the functions and effective use of information and communication technologies in the fields of social sciences. But it is possible only if the educators are trained in using technology and have a good understanding of it. Technology is used to enhance learning, therefore it is important for educators to be comfortable using it to ensure that students get the full advantages of educational technology. Class room teaching and teaching with technology are quite different from each other. In a technical setting teachers must be trained in planning, creating and delivering instructions. For this we need a pedagogical approach. In social sciences teachers are required to find a way to assess students on what they are taking away from a class and meaningful, known knowledge especially within an e-learning setting. ICT changes our design methods, perspectives and values. When a teacher is planning an instruction he/she has to consider his/her subject according to the perspective of the topic, for it they have to think like a sociologist or a economist or a political scientist etc. etc..... In this way technology does not mean that using interactive electronic boards and LCD power point presentations is the most effective. So many more applications are available for students to be hands on with their learning and gain deeper knowledge than they could before.

### **II. Communication Technologies in Education :**

ICT training does not mean to focus mainly on technology knowledge and skills while overlooking the relationships between technology, pedagogy and content. By using ICT teachers can apply it to enhance their students' learning. Teachers need opportunities to practice effective technology integration strategies in supportive contexts during technology courses, technology integrated method courses and field experiences. Effective use of technology in the classroom need regular updates about the new technologies and opportunities to implement it as well. By spreading ICT among teachers we can improve students' technology skills.

Information Technology in Education is the effect of the continuing development in information technology on education. The pace of change brought about new technologies has a significant effect on the way people live, work and play worldwide. New and emerging technologies challenge the traditional process of teaching and learning and the way education is managed. It has a major impact across all curriculum areas. Easy worldwide communication provides instant access to a vast array of data, challenging assimilation and assessment skills. Rapid communication, plus increased access to IT in the home, at work and in educational establishments, could mean that learning becomes a truly lifelong activity-in which the pace of technological change forces constant evaluation of the learning process itself. The use of communication tools such as e-mail, fax, computer and videoconferencing overcomes barriers of space and time and opens new possibilities for learning. The use of such technology is increasing and it is now possible to deliver training to a widely dispersed audience by means of on demand two way video over terrestrial broadband network. Colleges are making

increasing use of the Internet for changing context of rigorous academic standards- the following are needed by students, citizens and workers in the Digital Age :-

- **By Digital Age Literacy we mean** : Basic Literacy, Scientific Literacy, Economic Literacy, Technological Literacy, Visual Literacy, Information Literacy, Multicultural Literacy, Global Awareness etc.
- **Inventive Thinking** : can encourage Adaptability and Managing Complexity, Self Direction, Curiosity, Creativity and Risk Taking.
- **Effective Communication Skill** : involves Teaming and Collaboration, Interpersonal Skills, Personal Responsibility, Social and Civic Responsibility and interactive communication etc.
- **High Productivity** : is possible if prioritizing, Planning and Managing for Results and ability to produce Relevant High Quality Products.

### **III. Non-traditional Students or Distant Learners :**

At the same time that colleges and universities are graduating their first Net Generation learners, most campuses are experiencing an influx of **Non-traditional** students. Three-quarters of all under graduates are “non-traditional” according to the National Centre for Educational Statistics, non traditional students are defined as having one or more of the following characteristics :-

- Delayed enrollment.
- Attend part-time.
- Work full time.
- Financially independent as defined by financial aid.
- 35% of undergraduates are adult learners.
- 70% of all adult learners are female.
- 80% of adult learners are employed.
- Among adult learners 70% have a degree as their goal; the other 30% are seeking a certificate or a specific set of skills.

### **IV. Future Trends in Technology and Learning :**

The move to digital data is blurring the boundary between broadcasting, publishing and telephony by making all these media available through computer networks. These developments are not only giving learners access to vast libraries and multimedia resources, but also live access to tutors and natural phenomena through out the world. ICT can be helpful in social sciences in following ways :-

- Easier access for students to material will enhance the role of teaching as manager of learning process rather than source of content.
- IT tools as word processors and spreadsheets will help student to learn more productively.
- The boundaries between one institution and another and between institutions and the outside world will become less important.
- ICT revolution creates rapid and disruptive changes in the way in which people live, work and play.
- It will make the new generations work more competently and confidently.
- Learning will be made natural and lifelong process as a result of constant change to skill requirements.
- It is creating solutions to the process of living and learning.

### **V. Concluding Remarks :**

Educating students is the primary goal of colleges and universities. However, reaching that goal depends on understanding those learners. Only by understanding the Net Generation can colleges and universities create learning environments that optimize their strengths and minimize their weaknesses. ICT has changed the generation and now it is changing higher Education.

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