

Applications of Information Communication Technology in Education

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Abstract: Information and communication technologies (ICT) have influence on the areas of human existence. They are playing an important role in the workplace working organization, point of trade, educational institutions, and places of entertainment. Moreover, the public thinks ICTs as change agents, affecting changes in a working situation, information handling and discussion teaching methodology, learning strategies, scientific procedures, and access to information and communication technologies. In this digital world, utilizing ICT in the classroom is essential for giving students a chance to learn and apply 21st-century skills. ICT improves the teaching-learning process, and its significance for teachers in their role as creators of pedagogical environments cannot be overstated. ICT allows teachers to present their teaching to students in an attractive and convenient way at all levels of education. In our country, ICT is playing a key role in making useful and attractive training programmes. Teaching and learning, especially in institutions that prepare teachers, must more effectively incorporate the use of technology such as the internet and interactive multimedia.

Keywords: ICT; Education; Communication; Teacher Training.

1. Introduction

Information and communication technologies (ICT) are connected to telecommunications-based information access technologies. Similar to information technology (IT), but with an emphasis on communication technologies rather than computers. The internet, wireless technology, and mobile phones all play important roles in today's classrooms. We now have more opportunities to apply ICT in teacher training programmes and improve teacher quality to teach students successfully. ICT is an engineering discipline of science, technology, and management techniques used in the handling of information, its application, and its relationship with the socio-economic and cultural environment.

Due to ICT, educational access is enhanced. Due to ICT, learning can occur at any time and from any place. As online course content materials are accessible whole time everywhere. Video conferencing classrooms enable both the taught and the teachers to interconnect at the same time. With ease and comfort, learning and teaching are not dependent on ICT. Existing research shows that there are many numbers of resources available for online learning and teaching, and knowledge can be obtained through the use of video and short form clips, audio and visual presentations, and so on. ICT has been shown to aid in the transformation of a teaching environment into a student-centered one. (2011, Castro Sánchez and Alemán).

According to Hawkins (2002), Trinidad et al. (2001), Suffori (2006), Bryant et al. (2003) and Ibe-Basej (2009) cited in Amajuoyi (2012), ICT plays a crucial role in teaching because it enhances students' information sharing skills and cognitive competence by encouraging higher-order reasoning skills. Fostering more learning communication, fosters a collaborative, participatory teaching environment and gives students access to educational resources. It boosts student attendance rates and makes it possible to develop

a fresh, more efficient curriculum. ensures that a more effective interactive learning environment is created through the use of a learner-centered and activity-oriented teaching/learning approach. and Promoting a greater understanding of data collection reduces the time spent measuring, recording, and analyzing data. It gives learners the ICT knowledge and abilities they need to succeed in the modern information economy. It enhances the standard of education and helps in school administration. It also helps the students to improve their learning qualities by providing access to information via ICT resources.

According to Lowther et al. (2008), self-sufficiency, competence, and originality are three main qualities that are essential for developing good quality teaching and learning with the use of ICT. Self-sufficiency refers to learners' ability to direct their own learning by using ICT. As a result, they gain the ability to work both independently and collaboratively. It's also possible for educators to assign projects that students can work on in teams. Students gain confidence in their ability to take intellectual risks and learn from their misunderstandings as a result of the increased opportunities for collaborative learning made possible by ICT.

According to Haddad and Jurich (2002), there are four fundamental problems with the use of ICTs in education in the twenty-first century. They are efficiency, affordability, equality, and sustainability. They emphasized how, in recent years, There has been a rise in curiosity on how ICTs most notably, the optimal use of computers and the internet used to increase the efficacy and efficiency of education at all levels, in official and informal settings.

In our society, a teacher is a vital figure in the field of education. He is always concerned with the welfare of taught and institutions. Skilled and trained teachers mold creative students into good social workers, office-bearers, writers, lawyers, artists, etc. for the nation. Friendly exchanges between teachers and students are possible. Our way of life has undergone innovative effects as a result of technology's quick development, which has also led to a change in society's expectations. Today's teacher education institutions are working to reorganize their educational curricula, school environment and infrastructure in an attempt to the teaching and learning technology gap between now and the future. They are doing this because they recognize the effect of technology on the place of work and daily life. Fast changes are being caused in society by ICTs. All spheres of life are affected by them. The effects are becoming more noticeable in institutions. Society is pressing institutions to adapt suitably to this modern technology since ICTs allow all learners and teachers additional alternatives for modifying learning and teaching to individual requirements.

Students are given rich settings and real-world problems in authentic learning situations. Numerous elements of effective educational experiences are incorporated into classes by many teachers. When teachers established strong learning environments for their students and when there were more computers provided to learners, the chance of utilizing open-ended ICT applications—which are predicted to enhance the power of learning environments—was greater. It's also important to improve teachers' abilities to use ICT to promote effective learning environments. (Smeets 2004). Information and communication technologies (ICTs) are associated with internet connections and computers and are used to transfer information for the purpose of learning.

Information technology (IT) is referred to as information and communication technology (ICT), which encompasses all technological tools, including the world wide web, wireless connectivity, mobile phones, computer networks, software, development tools, YouTube videos, social networks, and other online services and services that enable users to connect, obtain, store, transmit, and try to influence relevant data.

2. Definitions of Terms used concerning ICT

Electronic learning: Tinio (2002) describes e-learning as a program in which the internet, an intranet Local Area Network, or an extranet Wide Area Network, completely or incompletely used for online courses and transmission and/or assistance. Internet-based learning i.e. web-based is a type of e-learning that consists of learning through the use of a web portal such as a model, writing board, or simple browser.

E-Learning has altered the way students are taught. Unlike the conventional chalk and talk teaching method, eLearning clarifies, simplifies, and increases the effectiveness of learning.

Live Chat: People having joint interests can exchange thoughts and opinions, and discuss educational issues and problems through internet chat with each other. Internet technologies are useful to assist

students in solving educational issues. Web sites i.e. www, mobile messaging, video call, teleconference, compact disc database, word processing, internet etc. are used in live chat.

Distance Education: According to Simonson, M. Berg and A. Gary (2016). Distance learning can also be referred to as e-learning, distance education, or online learning. It is a form of learning in which students and teachers are actually disjointed during the teaching-learning process, technological aspects are used to encourage student-teacher and student-student communication. Distance learning has customarily been aimed at distance learners, such as laborers, working staff of armed forces, nonresidents, or people living in far-flung areas that are unable to attend regular classes. Distance education is beneficial for those who are employees and want to pursue higher education alongside their careers.

Blended learning: Blended learning is also called hybrid learning; it is a teaching approach that combines online teaching resources and chances for internet communication with conventional place-based instructional methods. Both the teacher and the learner must be physically present, and certain pupils must have control over time, location, path, or speeds. Face-to-face classroom activities are blended with desktop material and delivery activities, even if pupils still participate in "concrete block" educational systems with a teacher present. Blended learning is also used in environments for training and professional development.

Good situations and reliable tasks are presented to students in authoritative learning situations. Many teachers incorporate several ingredients of powerful learning situations into their classrooms. When teachers created strong, effective learning experiences for their students and when students had accessibility to even more computers, the chances of utilizing open-ended ICT applications that are necessary to add to the power of learning environments was better. Furthermore, teachers' abilities to use ICT as a tool to promote powerful learning environments should be developed (Smeets, 2004).

The term "learning environment" refers to the combination of teaching methods, learning techniques, links to socio-cultural context, and opportunities for learning. It includes components of human behaviour and culture, including the crucial role motivation, plays in learning, and it necessitates analysis and, at times, a reevaluation of the roles both instructors and students play. The emphasis on computer ICT in classrooms is broadening to encompass elements outside hardware, software, and the network, going beyond the improvement of learning environments. The students use computers and the internet to enhance their knowledge, skills, perceptions, and curiosity which are useful in everyday life.

3. Application of ICT in education

This It has been proved that the use of ICT in the classroom has enhanced the level of motivation in students causing them to become more active and involved in their studies. ICT has enabled the teachers to use innovative academic materials and adopt new teaching methods and techniques so that students may become more active and curious in a collaborative way and work diligently.

Internet and mobile technologies (ICTs) also have a major positive impact on fostering the growth of perspective and elevating the quality of communication. Students who make extensive use of ICT improve their abilities to search for and compare information from different sources and to organize that information in meaningful ways. Yet there are further benefits:

1. Students' interest in learning increases: With the help of modern media like YouTube channels, websites, graphics, and games, even traditionally boring topics can be made engaging. When used effectively, multimedia content can be a powerful teaching tool that helps students gain a deeper understanding of a wide range of topics.
2. Increases student interest in studying: Classical subjects have become more impressive as a result of the use of resources such as YouTube channels, web links, images, and games.
3. Multimedia: It is an extremely useful tool for attempting to bring various subjects to the attention of students in a detailed and informative manner.
4. Interactive Role: The use of ICT in the classroom fosters an active and interactive attitude among students, who are engaged in learning and are playing the main role in their class.
5. Collaborative Attitude: The use of various online technologies certainly helps students improve cooperation. It is much easier for them to work in a group, work collaboratively, and gain knowledge from one another.

6. Development of Imagination: ICT tools foster the development of all class participants' collective imagination and also their initiative.
7. Creation of Enthusiasm: Teachers are energized by ICT, which allows for the full incorporation of high-quality learning activities into students' understanding. This is the single most important factor in a student's success in school.
8. Managerial Tools: ICT software and hardware are managerial tools or digital proxy servers, but they serve a more integrated role in the classroom and lesson plan.
9. Close Interaction: Close interaction between students and teachers is created through various channels, in a less structured and more impulsive manner.
10. Updating of Knowledge and Content: All information and knowledge can be updated frequently in the online environment. Moreover, the tools and content can be improved according to the local and nearby realities.
11. Students' Engagement: Teachers use technology in education that enhances students' engagement and attention, allowing them to remain focused and create transparency in their concepts.
12. Use of ICT in School and Home: It is the best way to link school and home, as it increases positive communication and pellucidity, to create plausible environment Parents, may contact to school staff to know the position of their offspring. Due to engaging parents, students will be motivated and ultimately standard of education will be raised.
13. Effective Use of ICT for Family and School: Increased interaction and clarity, as well as the creation of a positive environment, can be done by the use of ICT. Involvement of family will also enhance students' motivation and, as a result, improvement in education will take place.
14. Rate of Retention: When teachers use technology for teaching their students, the rate of retention of new concepts and students can retain information in their minds for a long time.
15. Teaching Methods: By the use of ICT, teaching methods and techniques have been improved and the quality of education is made better.
16. Better Result: Due to ICT students deliver better results and improve their knowledge skills.
17. Contentment: ICT is helpful to both the student's and the teacher's growth, as it provides a teacher with real contentment when their students learn something completely.
18. Use of Technology: When we use technology in the classroom, learning becomes more enjoyable because students learn more when they engage in visuals. It has been proved that when interacting with visuals, the human mind acknowledges even faster and more effectively.

4. Conclusion

To address the need of today's teachers who would like to learn how to utilize ICT successfully for their teachings, a very well-teacher training programme is crucial. To properly examine training options and make such changes feasible for everyone, teacher trainers and administrators must comprehend the elements determining the efficacy and cost-efficiency of various approaches to ICT usage in teacher training.

Our teaching-learning process will be too smooth and easy to comprehend for any sort of student in our country if ICT is used in teaching training programmes by the Institute of conducting teaching training programmes. Every sort of learner in our society would be able to comprehend our teaching and learning process since it will be so seamless. Finally, more focus should be placed on the specific roles that ICT plays in providing multimedia simulations of effective teaching methods, trying to deliver customized training programmes, assisting in overcoming teachers' isolation, continuously connecting individual teachers to a larger teaching community, and working collaboratively among teachers. It is important to look into the intended and unintended consequences of using ICT to support teacher professional growth.

ICT develops perception and level of communication in the learners. It makes the teachers use new and international learning materials and apply new teaching techniques and methods. Students become more conscious, active and work diligently. The proper use of ICT provides opportunities for students in the classroom to become active participants and update their knowledge. The effective use of ICT in teacher training programmes is very crucial because it will increase the teaching quality, and motivational level of teachers, and ultimately benefit will go to the nation.

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