Ilkogretim Online - Elementary Education Online, 2020; Vol 19 (Issue 1): pp. 845-851
http://ilkogretim-online.org
doi: 10.17051/ilkonline.2020.661912

Role Of Information And Communication Technology In Education

Dr. Sameena Basu Assistant Professor, School of Education and Training Maulana Azad National Urdu University Hyderabad

Dr. Raihana Malik Assistant Professor, School of Education and Training Maulana Azad National Urdu University Hyderabad

ABSTRACT

Information and communication technology (ICT) have become commonplace in all sectors of modern life, including education and business. Over the past twenty years, the use of Information and communication technology has profoundly altered the practices and procedures of practically all types of business and governance. Although Information and communication technology has begun to make an appearance in education, its impact has not been as widespread as it has been in other disciplines. In today's society, education is a very socially oriented activity, and effective education has traditionally been linked with strong teachers who have a high level of personal touch with their students. However, as the world rapidly moves into digital media and information, the role of Information and communication technology in education is becoming increasingly significant, and this relevance will continue to expand and evolve in the twenty-first century. The use of information and communication technology has a significant impact on the development of educational curriculum. This paper examines the impact of information and communication technology on modern higher education, as well as prospective future advancements. This paper also discusses the integration of teaching and learning, technological advancement, educational issues, the impact of Information and communication technology on what, how, where, and when students study, and the role of teachers in the development of Information and communication technology for future applications.

Key Words: Information, Communication, Technology, Education

Introduction

If the 18th century is referred to as the age of reason, the 19th century as the age of industry, and the 20th century as an era of deep scientific and technological advancements, then the 21st century could be referred to as the age of learning. People everywhere are

becoming more active in learning new knowledge and abilities on an ongoing basis throughout their lives, and from nearly every aspect of daily life at this moment.

The creation of educational curricula is significantly influenced by advances in information and communication technology. Educational institutions all across the world are being encouraged to integrate information and communication technology into their teaching, learning, assessment, research, administration, and professional development. This is especially true in Asia. In light of the information, skills, and competencies required by the younger generation in order to live in an increasingly sophisticated technological world, this greater emphasis is warranted, among other things. The Internet of Things is a powerful force that has altered many parts of our daily lives. When comparing fields such as health, tourism, travel industry, law, banking, engineering, and architecture, the impact of information and communication technology has been immense during the past two or three decades.

In education, information and communication technology has begun to establish a foothold, although its impact has not been as widespread as it has been in other disciplines. In today's society, education is a very socially oriented activity, and effective education has traditionally been linked with strong teachers who have a high level of personal touch with their students. The use of information and communication technology in education has shifted the focus from teacher-centered learning environments, which has created a gap between teachers and students. However, as the world moves more rapidly into digital media and information, the role of in education is becoming increasingly important, and this importance will continue to grow and develop in the twenty-first century.

The twenty-first century is experiencing an explosion of knowledge in the fields of science and technology, particularly in the field of computer technology. These transformations place a significant demand on the knowledge and role that the learner will perform in the not-too-distant future. As the learner grows older the challenges confronted and the solutions worked out will become increasingly sophisticated. When growing up in a progressive world, learners should learn to be “active as well as passively adaptable.” In order to keep pace with changes in society, the role of educators in the present times must change as well.

As we progress through the present time, a variety of factors are exerting significant pressure on the adoption of information and communication technology in education; and current trends indicate that we will soon see significant changes in the manner in which education is planned and delivered as a result of the opportunities provided by information and communication technology.

Technological Advancement

As a support system, technology has made its way into the classroom, primarily in the form of television literacy and computer literacy. Computer literacy includes wire, web, and windows that enable connectivity, networking, and application development. When we play something into a wall, we are allowing someone to become connected to us, which means we must develop new patterns of defense, comprehension, and evaluation to protect ourselves. We require a fresh approach to education.

If you want to see any educational reform succeed, it all starts with having high-quality instructors, and that starts with having a successful teaching-learning process in the classroom. As a result, one of the most significant problems for education has been the development of a new generation of educators who are capable of using a variety of technological tools into all phases of academic and administrative, research and extension activities.

Teachers must be able to shine in their field of study. Teachers would surely not want to appear to themselves or their students as if they were in a situation where they were completely out of their element. As a result, no one can afford to ignore the benefits that the use of information and communication technology provides to teachers, students, and administrators. An effective combination of intense training, supervision, and support is required to alleviate educators' apprehension about accepting their new roles.

Challenges Ahead

The greatest way to utilize computing and communication technology for effective teaching and learning is something we are not very good at. We must better understand which components of learning may be effectively facilitated by technology, and which aspects require traditional classroom contact with the associated social and interactive context, in order to make informed decisions.

Impact of Information and Communication Technology on What is Learned

Traditionally, lectures and presentations have served as the primary mode of instruction. Curriculum places greater focus on capabilities and is more concerned with how information will be used than with what information is being provided.Curriculum based on competency and performance is used in this setting and is strongly supported and encouraged.

It is common for such curriculum to necessitate access to a wide range of information sources.

The use of student-centered learning environments based on information availability and inquiry.

Problem-solving and inquiry-based activities are central to the learning environment's design.

Teachers should serve as coaches and mentors rather than specialists in their subject areas.

With the increasing use of information and communication technology as tools of everyday life, the pool of genetic skills has grown in recent years to include information literacy, and it is highly likely that future developments and teacher applications will result in this set of skills expanding even further.

Impact of Information and Communication Technology on How Students Learn

Technology is also assisting in the transformation of the way learners are learning. Moving from context-centered curricula to competency-based curricula is often associated with shifting away from teacher-centered forms of instruction towards student-centered forms of instruction.

Any Place Learning

The benefits of providing education and training at the site of need include not only convenience but also cost savings related with travel and time away from work, as well as the placement and application of learning activities in relevant and meaningful contexts.

Because of the communication capabilities of current technology, many learners have the opportunity to enroll in courses offered by external academia rather than those offered by local institutions. These classes comprise of learners from different origins and ethnicities. In addition to facilitating the delivery of programmes containing units and courses offered by a wide range of educational institutions, the freedom of choices provided are accessible at any time and from any location.

Anytime Learning

Students are beginning to recognize the benefits of being able to pursue education at any time and from any location they want.

Learning has evolved into any activity that is no longer restricted to predetermined timetables and time slots as a result of the advancement of online technology.

Teachers are discovering that the ability to teach at any moment is opportunistic and can be used to their advantage.

Learners are free to participate in learning activities whenever they have the opportunity.

The continuous and growing use of information and communication technology in education in the next few years will serve to expand the temporal and geographical options that are already available. As information and communication technology access rises among students, so will the number of opportunities available to them.Students and teachers should be taught how to construct their own educational environments and be able to do so using many different possibilities offered by information and communication technology.

The Impact of the Teacher

In order to have requisite level of knowledge regarding information and communication technology application and to create a powerful learning environment for the students, a teacher needs a wide range of educational and didactical abilities.

- Outstanding Pedagogical, Didactic, Educational and Psychological Craftsmanship
- High level of expertise in the subject concerned
- Thorough understanding of contemporary educational technologies
- Capability of customizing student directing processes to meet individual needs

A teacher's basic requirements include the following abilities:
- Creativity
- Flexibility
- Logistical abilities
- Project management abilities
- Administrative and organizational abilities
- Ability to work in a group

Teachers themselves take steps to address any potential deficiencies in their knowledge and abilities.

Determining Factors

The factors that determine the successful application of information and communication technology

Organizational preconditions (vision, policy, and culture)
Personnel support (knowledge, attitude, and skills)

Technical preconditions (infrastructure)

The aim should be established exclusively by providing facilities within educational institutions.

High-speed local area networks (LANs) and wide-area networks (WANs) between educational institutions, as well as broad-band Internet access, are available at all educational institutions.

Outcomes

Students and teachers use technology to find information. Online encyclopedias like Encyclopedia Britannica Online include extensive content with multimedia and interactive links. Thousands of e-books and online articles and journals on any topic imaginable make research easy and rewarding. Teachers can use thousands of photos, info graphics, videos, maps, animations, games, and other resources to engage learners. The wide availability of educational resources today encourages learner to research more and follow their own interests. Thus information technology is vital to the autonomous learner's progress.

Expression and Creativity

Information and communication technology also influences how students express themselves and reflect on their learning. Students can use digital recording features on smart phones, tablets, and other electronic devices to index the world and add their own viewpoint to existing knowledge to create original content. Students can produce media using audio, photo, and video editing software and share it on the Web. Students' participation in the learning community, whether on an institutional social media site or across the entire Internet provides their work greater relevance and affirmation.

Interaction and Cooperation

Information and communication technology allows students and teachers to interact and collaborate more easily. Many courses have online discussion forums, chats, and video conferencing with Learning Management Systems like Blackboard and Moodle. Students and teachers may examine modifications and submit comments in real time using collaborative office software, speeding up the feedback process. Through online classes and educational networks, geographically distant students and the underprivileged can connect and participate with learning communities.

Student Success and Learning

Teachers use information and communication technology to assess student learning results. Standardized tests, student portfolios, rubrics, and surveys all produce data that

can be studied by an educational institution to identify areas for improvement. Administrators analyze patterns in the data and make judgments about curricular adjustments and budget allocations based on charts and graphs provided by databases and statistics. Technology has an important part in assessment and evaluation, as well as curriculum development.

Conclusion

The plethora of possibilities created by technological innovation is mind-boggling. The education sector must assume a leadership position in the transformation of the educational process in order to enjoy the full benefits of information and communication technology. Information and communication technology must be integrated into the learning process if education is to be meaningful, engaging, entertaining, and accessible to all.

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