



ERJ

Educreator Research Journal



Volume–IX, Issues–I
Jan – Feb 2022

Original Research

THE IMPORTANCE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN EDUCATION

Archana Baban Khade

PhD Research Scholar, Department of Education, JJTU, Rajasthan, India

Abstract :

The utilization of data and correspondence innovation (ICT) has acquired significance in the period, in the space of training, yet in an assortment of different teaches too. The essential objective of this review article is to foster an information on the worth of ICT in instruction. At all phases of school, ICT is utilized to improve the instructive framework. At the point when individuals use ICT, they can deal with their work liabilities viably. Also, its utilization has contributed fundamentally to the headway of undertaking and capacity execution. Before utilizing ICT, it is basic for individuals to have adequate information and data. Prior to utilizing ICT, one should be completely ready with it. The essential points considered in this exploration study are ICT strategy in training, the upsides of ICT in schooling, and the job of ICT in achieving changes in learning.

Keywords: *Education, Environment, Information and Communication Technologies, Knowledge, Learning*

Copyright © 2022 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

Introduction :

When doing explore and acquiring an information on the significance of ICT in instruction, it is basic to have an exact meaning of the term. Data and correspondence innovations (ICT) are shortenings for data and correspondence advances. These are the numerous specialized apparatuses and assets used to send, produce, convey, store, and oversee information. The improvement of ICT invades the professional workplace and furnishes state run administrations with productive framework. Another component that exhibits ICT's significance is that it improves the learning system, just as the construction and organization of instructive foundations. The web is regularly perceived as a solid power that has essentially helped with the progression of development and inventive practices. It has procured such significance in the cutting edge that individuals consider it as a fundamental component that helps the execution of their work liabilities. At the point when mechanical progressions happen, it is basic to guarantee that they advantage individuals, organizations, networks, and the nation all in all (Meenakshi, 2013).

In the space of instruction, yet additionally in an assortment of different disciplines, ICT has had a significant effect. Advances are making a huge commitment to the effective culmination of numerous exercises in all callings and areas. People are utilizing innovation to do an assortment of occupations and exercises, as per examines. These exercises incorporate bantering, sending messages, gathering data, finishing tasks, reports, articles, and activities, just as unwinding and delight. The headways in ICT have brought about progressions in the execution of assignments and exercises. At the point when individuals are relied upon to cooperate and as one to impact change, they should know about explicit attributes. These incorporate the advancement of basic, smart, legitimate, and normal dynamic capacities, the improvement of existing abilities and capacities, the extension of viable relational abilities, the capacity to work in a group, the capacity to manage issues and difficulties, the capacity to manage dynamic circumstances, the capacity to create mindfulness, the commitment in standard practice, and the viable utilization of advances (Meenakshi, 2013).

ICT Policy in Education :

Not just in India, but also in other parts of the globe, the importance of ICT in education has been recognised. The technology integration programme was established to assist schools in enhancing their technological infrastructures. The teaching skills programme acknowledged that there was a lower priority placed on computer usage in classrooms unless instructors had strong technical abilities. When instructors received technological training and concentrated on skill development, the emphasis was mainly on three key areas. These include the development of ICT skills and awareness, professional skills in ICT, and pedagogical skills (ICT in Schools, 2008). Apart from developing these talents, it is critical for them to participate in consistent practise to reinforce their abilities and skills. Engaging in frequent practise to improve technical abilities benefits not only instructors, but also pupils.

There is a need to raise the bar for ICT infrastructure in schools, particularly in rural regions. Regrettably, children in rural areas face setbacks and obstacles in their pursuit of scholastic objectives. Class eight pupils are unable to read English textbooks from the second grade. Students in class eight are incapable of solving arithmetic problems requiring simple division and so on. These issues are growing within the educational system as a result of insufficient teaching-learning techniques and instructional strategies. Another significant factor is that instructors in rural schools continue to utilise conventional teaching techniques and have not used ICT. When instructors do not use contemporary and creative techniques, it is obvious that they would have obstacles in carrying out their work responsibilities effectively and attaining academic objectives. As a result, the use of ICT in education is critical in both urban and rural areas.

Benefits of ICT in Education :

The benefits of ICT in education have been identified in terms of aspects, which have been stated as follows:

A. Teaching-Learning Processes :

Teachers at all levels of school have made extensive use of ICT to impart knowledge and information to their pupils. Teachers at nursery schools utilise computers and the internet to improve pupils' knowledge of different topics. They demonstrate to pupils how to draw shapes, colour, and paint ideas on computers. The internet is used to watch cartoons or movies, as well as to see photos and other media. Students often begin learning the fundamentals of computers in secondary and senior secondary schools. They

may first feel insecure, but with sufficient practise, they may develop their technical abilities. After they have mastered the principles, consistent practise will assist them in refining their technical abilities. Teachers urge pupils to utilise the internet to help them get a better grasp of different topics. Students like using computers to complete assignments, papers, projects, and other documents.

In higher educational institutions, technology has been seen as an essential component of education for students pursuing bachelor's, master's, and doctoral degrees. When academics are needed to provide lectures on certain subjects, they prepare their learning materials using technology and the internet. On the other hand, when students are expected to complete assignments, papers, or projects, or even when they are needed to prepare for a test or exam, they use technology. Individuals pursuing doctorate degrees are expected to work on a thesis. Thus, people make use of technologies in order to get a thorough knowledge of the subject and to begin writing the project report. Delivering presentations on a variety of subjects is seen as an important component of teaching in primary, secondary, and higher education. These may be applied when people are technologically savvy. Thus, in order to accomplish academic objectives effectively, it is essential for people to develop their technical abilities.

B. Quality and Accessibility of Education :

According to research, kids find computers and laptops to be more efficient than handwriting when it comes to creating assignments, papers, and projects. Individuals used to write their assignments and reports by hand before the introduction of technology. When one writes by hand, one often has difficulties with corrections. However, while typing on a computer, repairs are simple. Individuals have discovered that copy, paste, and cut and paste choices are very helpful. The internet is considered as critical. Through the usage of the internet, people may get a thorough knowledge of a variety of themes, issues, and locations. As a result, it is seen as critical for enhancing the quality and accessibility of education. Students are often from nursery and primary schools. They are not well-equipped to use technology, but when they see images on the internet, they experience pleasure and generate desire to pursue education. Students enrolling in higher educational institutions, such as colleges and universities, may get a thorough knowledge of the importance of technology and how they have improved the quality and accessibility of education. Lecturers often explain topics and offer notes in classroom settings. However, students have a limited amount of time in which they must finish the whole curriculum. In certain instances, students are unable to grasp ideas well via class notes or lectures. In such instances, people turn to the internet for assistance in resolving their issues. The internet facilitates access to sufficient knowledge and information on a variety of ideas and issues. Additionally, people are able to observe pictures. As a result, individuals are able to enhance their knowledge and achieve targeted academic objectives via the usage of the internet. Another critical element that contributes to education's quality and accessibility is the research and writing process. Research and writing are inextricably linked to the work responsibilities of researchers and educators. When people are enrolled in doctorate programmes, their supervisors and instructors urge them to produce papers. Research and writing activities can be completed effectively only when people have access to technology and the internet. Individuals working in the field of education are expected to continually improve their knowledge and abilities in a variety of areas and undertake significant research. Additionally, they are expected to make proper use of technology in order to perform their work responsibilities. As a result, the internet and technology have gained significant importance.

C. Learning Environment :

The widespread usage of ICT has made a major contribution to the improvement of learning environments. Prior to the introduction of technology, when students prepared their papers using pens and pencils, they had difficulties making changes. In other instances, the work was discovered to be messy due to scribbling. This upset instructors, and as a result, pupils suffered academic setbacks. Thus, it can be said that with the usage of ICT, students are using computers and organising their tasks. With the advancement of technology, students and instructors have developed a greater capacity for rational and logical thought. Teachers are capable of implementing suitable assessment techniques and assessing students' academic achievement. Individuals are able to accomplish their academic objectives via significant usage of technology. ICT is transforming teaching and learning processes by infusing learning environments with aspects of life. ICT is seen as a potentially transformative instrument for expanding educational possibilities (Noor-Ul-Amin, n.d.). Individuals in the modern age believe that changes to the entire system of education can be achieved solely via the use of ICT. Administrative staff employees at schools, colleges, and universities are also using technology to perform different job tasks. These include, but are not limited to, technical, clerical, management, and administrative positions. When instructors and staff members are recruited, one of the main criteria is that they, in addition to possessing educational credentials and abilities, be proficient in the use of technology. When people lack technical skills, they enrol in training centres to improve their technical abilities. As a result, it can be said that ICT has made a critical contribution to improving the overall learning environment.

D. Learning Motivation :

Learning technology is not an easy task. When people of all types and backgrounds and ages utilise technology, they feel vulnerable and frightened. However, when teachers impart information to students, they advise them to participate in frequent practise with the main goal of honing their technical abilities. When people are well-equipped with technology, they may work on their computers for more than eight hours. They are able to increase their motivation and commitment to their job. On the other side, when people realise that they may utilise technologies for leisure and enjoyment, they become more motivated to acquire technology-related knowledge. Apart from PCs and laptops, additional technologies such as smartphones, mobile phones, tablets, and notebooks are utilised in the modern day.

ICTs such as videos, television, and radio, as well as multimedia computer software that mixes text, sound, and vibrant moving pictures, may be utilised to provide engaging and reliable material that encourages students' involvement in teaching-learning processes. In certain instances, mostly in English and Hindi, when instructors have finished the lesson plan and the video of the lesson plan is also accessible on the internet, teachers need students to view the video in order to assist comprehension. Through good listening, people may raise awareness of a variety of issues. ICT alters the nature of issues and educational activities. As a result, they make a major contribution to cognitive development by functioning as a mediator. When students and instructors utilise ICTs to enhance teaching-learning techniques and instructional tactics, they may increase work satisfaction, accomplish academic goals and objectives, and advance the entire educational system (Noor-Ul-Amin, n.d.).

E. Scholastic Performance :

After gaining a thorough knowledge of ICT, it was determined how effective it is at enhancing the educational system, teaching-learning techniques, and instructional methodologies. To improve academic achievement, instructors and students must collaborate and integrate their efforts. Teachers must have a thorough knowledge of their pupils' needs and expectations. They must put into practise teaching-learning techniques and instructional strategies that are appropriate for their circumstances. Whereas, it is critical for students to pay sufficient attention in class and maintain a consistent study schedule. Even when technology is not accessible and instructors are forced to transmit ideas to pupils orally, teachers use the internet to get a thorough grasp of the topics and to prepare their lesson plans appropriately.

ICT is often recognised as making a significant contribution to expanding access to education, reiterating the relevance of education in more digital educational environments, and encouraging an increase in superiority and eminence. The use of ICT and the implementation of teaching-learning techniques are inextricably linked (Noor-Ul-Amin, n.d.). Within educational institutions, ICT has significantly enhanced teaching and learning techniques. However, in addition to gaining a grasp of academic ideas, a variety of additional duties and activities are arranged. These include, but are not limited to, workshops, seminars, conferences, contests, and events. Students, mainly in schools, get instruction in extracurricular activities such as dance, music, singing, painting, handicrafts, and role playing. Thus, when instructors transmit knowledge and information to pupils in terms of these ideas, they also use technology to aid in their comprehension. When people are unable to get instruction in a variety of topics, they often turn to the internet to supplement their knowledge. Thus, it can be said that when people use technology appropriately, they are able to enhance their academic and extracurricular performance.

ICT's Impact In Changing Learning :

The function of ICT in affecting changes in learning has been highlighted in terms of the following factors: Management Education – In management education, the primary factors considered are: improvements in learning achievement; a focus on adult illiteracy and the elimination of female illiteracy; expansion of basic education and skill development programmes for individuals; and an increase in the acquisition of education by individuals and their families, primarily in terms of required knowledge, skills, and abilities. To adequately address these issues, it is critical for people to expand their expertise and understanding of ICT. The importance of ICT has been widely acknowledged in the development of people' skills and talents, enabling them to fulfil their livelihood possibilities (Desai, 2010).

- Supporting Distance Learning - Distance learning is prevalent in higher educational institutions (Desai, 2010). Distance learning is the process of learning when instructors and students live at a physical distance from one another. When students live at a distance, technology is seen as critical in aiding learning. Students and teachers communicate through email; students submit homework and reports and get feedback. They amass and distribute instructional materials and promote technological literacy. Students often gain an effective grasp of academic topics via this method of learning. The lack of organisation in class lectures is one of the main drawbacks of remote learning.
- Student-Centered Learning — It is feasible to change the educational system via the use of ICT. It is critical for instructors to use teaching-learning techniques and instructional strategies in such a way that

they benefit pupils. By using the internet on a large scale, ICT can enhance student-centered learning. Apart from the internet, students often utilise Microsoft Word to complete homework, projects, and reports. Presentations are created using Microsoft PowerPoint, while spreadsheets are created using Microsoft Excel. As a result, they are used in accordance with the kids' educational needs.

- Assisting in the Formation of Knowledge – ICTs' development as a learning tool has made significant contributions to not just knowledge growth, but also knowledge creation. It is the instructors' responsibility to guarantee that pupils grasp academic ideas satisfactorily. They must guarantee that they are well prepared and have the necessary expertise and understanding about the topics. Additionally, they should be capable of resolving issues and responding to students' inquiries. Teachers prepare by reading books, articles, and other supplementary resources. However, the use of technology has increased in popularity as a means of effectively training employees to fulfil work needs in a well-organized way.
- Supporting Basic Education - In India, there are a large number of people who have faced difficulties and obstacles throughout their educational journey. When people drop out of school before their educational abilities are polished or have never been enrolled in school and want to get education afterwards, ICT is said to be making a major contribution to their skill development. Rural areas have benefited from the development of educational and training establishments. Individuals enrol in them in order to improve their technical capabilities. As they are aware that technology and the internet enable them to produce knowledge on a variety of subjects, interact with others, and participate in leisure and recreational activities.
- Supporting Constructivist Learning - Constructivism is a learning paradigm that believes that learning occurs when people build meaning and new information based on their previous knowledge and experiences. Educationists refer to it as emergent pedagogy, in contrast to the long-established behaviourism perspective on learning. The use of ICT in education promotes constructivist learning more than other modes of instruction. Students become more aware of their duties and committed to studying when they do so. Students are becoming more engaged in the completion of their assignments via the use of computers, mobile devices, and the internet. As a result, instructors' roles as advisors and guides to pupils are diminishing. Additionally, educators are pleased with their kids' performance (Mikre, 2011).
- Active Learning — ICT-enhanced learning mobilises instruments for information inspection, analysis, and computation. The primary goal is to provide a platform for students to enhance their learning skills via active participation in efficient communication processes and activities and duties. When instructors deliver a lesson plan, they often use specific techniques and strategies to pique students' attention and motivate them to study. Role plays are a very effective technique. Students are invited to take on the roles of various characters and then act out scenes from the plays. They not only get a firm grasp of the ideas, but also enjoy the process of learning. As a result, it is critical for instructors and students to acquire knowledge about effective teaching-learning techniques in order to encourage active learning.
- Promoting Integrated Learning — ICT-enhanced learning encourages an integrative approach to teaching and learning processes. This method removes the artificial divisions between distinct fields and between theory and practise that characterise conventional thinking (Mikre, 2011). Simply said, when technology is used to enhance learning, people not only get a thorough knowledge of practise, but also create

awareness about a variety of issues. For example, when people are doing research, they use the internet to gain information and comprehension about a variety of subjects and ideas. Furthermore, they type material using Microsoft Word. As a result, integrated learning is promoted via the use of ICT.

- Transforming Curriculum and Course Content - Individuals may gain a comprehensive knowledge of a variety of ideas and disciplines via the usage of the internet. For example, when instructors transmit information to students about morality and ethics, they may utilise the internet to access many examples and case studies that aid in the students' comprehension of morality and ethics. Occasionally, textbooks offer just a short overview of topics. As a result, instructors use the internet to alter the curriculum and course material. When instructors teach mathematical topics, they also urge pupils to utilise the internet to find examples and problems that will aid in their comprehension.

Conclusion :

The use of ICT has made a significant commitment to numerous progressions in the instructive framework. The individuals from the instructive foundations are not just ready to work on their insight and perception as far as number of components, yet in addition can complete the obligations and exercises operatively. As such, the securing of abilities and gifts works with the execution of errands and exercises. The upsides of ICT in schooling are all around recognized on an assortment of levels. These incorporate instructing learning techniques, instructive quality and openness, learning climate, want to learn, and scholarly accomplishment. At the point when instructive organization staff individuals are exceptional as far as innovation use, they can improve educating learning measures, instructive quality and openness, learning climate conditions, and scholastic execution. Moreover, kids foster a longing to consider and endeavor determinedly toward scholastic goals. ICT's job in changing learning can be summed up as far as the accompanying: the board schooling, support for distance learning, understudy focused learning, support for information development, support for fundamental instruction, support for constructivist learning, support for dynamic learning, support for imaginative learning, support for integrative learning, and backing for educational plan and course content change. These are only a couple of the spaces in instruction where ICT has worked with change. Subsequent to acquiring an exhaustive information on these features, one might see the value in how ICT has been useful in improving the whole instructive framework. People might further develop their correspondence capacities after they have expanded their insight into ICT. They are additionally ready to submit reports and papers to their teachers and different understudies thusly. At last, one might say that the use of ICT is basic in helping understudy instruction and learning.

References :

1. Desai, S. (2010). Role of Information Communication Technologies in Education. Bharati
2. Vidyapeeth's Institute of Computer Applications and Management, New Delhi. Retrieved May 19, 2019 from
3. [https://www.bvicam.ac.in/news/INDIACom%202010%20Proceedings/papers/Group3/INDIACom10_110_Paper%20\(1\).pdf](https://www.bvicam.ac.in/news/INDIACom%202010%20Proceedings/papers/Group3/INDIACom10_110_Paper%20(1).pdf)
4. ICT in Schools. (2008). Inspectorate. Retrieved May 18, 2019 from
5. <https://www.education.ie/en/Publications/Inspection-Reports-Publications/Evaluation-Reports-Guidelines/ICT-in-Schools-Inspectorate-Evaluation-Studies.pdf>

6. Meenakshi. (2013). Importance of ICT in Education. *IOSR Journal of Research and Method in Education*, 1(4), 03-08. Retrieved May 18, 2019 from <http://www.iosrjournals.org/iosr-jrme/papers/Vol-1%20Issue-4/B0140308.pdf>
8. Mikre, F. (2011). The Roles of Information Communication Technologies in Education
9. Review Article with Emphasis to the Computer and Internet. *Ethiopia Journal of Education and Science*, 6(2), 1-16. Retrieved May 18, 2019 from <https://www.ajol.info/index.php/ejesc/article/viewFile/73521/62437>
10. Noor-Ul-Amin, S. (n.d.). An Effective use of ICT for Education and Learning by Drawing on
11. Worldwide Knowledge, Research, and Experience: ICT as a Change Agent for Education (A LITERATURE REVIEW). University of Kashmir. Retrieved May 19, 2019 from <https://www.nyu.edu/classes/keefer/waoe/amins.pdf>

Cite This Article:

Archana Baban Khade, (2022). The importance of information and communication technologies in education. Educreator Research Journal IX Feb 2022. 50-57