Role of Information Technology in Education Sector: A Review

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ABSTRACT

Technology today has become an essential in our lives. From science to management to daily routine, technology covers all spheres of our life making all the activities easy and time effective. In regards of education sector, there has been a shift to digital learning. In present times with so many things happening around, it is not possible for anyone to keep up to so much of information, events, data or records by themselves. Information technology aids this issue and provides all the required information to the teachers as well as students. One of the many advantages of IT is that its application has made the whole process of learning interesting. With the current generation being tech-friendly, the proper use of these advancements can ensure enriching communications and widespread imparting of education. This study's goal is to draw attention to past studies on the role of information technology and its effects on the educational system. This paper also shows the few drawbacks of IT in education sector along with many advantages.

Keywords: information technology, education sector, effects, advance technologies, information communication technologies

I.   INTRODUCTION

The penetration of technology has transformed education with e-classroom via- internet. Technology has reshaped the education structure, now the availability of education for everyone at any time, any subject from anywhere in the world is in just one click. In virtual classrooms there is no limit to accessibility but in physical classroom modes there are limited number of students that can enroll in schools, colleges and universities and when we talk about the learning point of view in virtual mode there is an infinite amount of knowledge which students scan acquire with affordable prices. Wikipedia reports that there are more than 70 million educational blogs on YouTube. In addition, there are many additional educational websites with a variety of knowledge-sharing pages offered by acknowledged subject specialists in every discipline. This drastic change enhances student-teacher connectivity through advance technologies like virtual and artificial intelligence. Learning pattern of students with is more interactive way through advance technologies via- virtual and artificial intelligence. Application of technology for education services in which student can operate system to avail various multidisciplinary education from remote locations such as home, and office with the use of computer, smart phones and with the help of internet connectivity just a click. It is an effective way of interaction of teachers with their students at minimal cost. Success of virtual education depends on student's acceptance of technology.

Due to the pandemic that affected people worldwide, schools and colleges were closed as part of lockdown measures to contain the virus, which caused academic disruption. To continue academics, educational institutions engaged virtually with students and teachers via high-tech interactions through online mode (mobile, laptop, personal computer) via different apps like Zoom. Use of information technology at large scale during the pandemic appeared to be the best platform to continue delivering education to the students. Even after the pandemic got controlled this still continued providing various benefits to all researchers, teachers, students and also academician to promote their education, research worldwide.

II.   OBJECTIVES OF STUDY

1. To study the role of information technology in education sector.
2. To understand the advancement of technologies, changing the way of learning.

III.   RESEARCH METHODOLOGY

This research comprises of two parts. The first part deals with the information technology and decision-making applications that are being adopted by education industry worldwide, while the second part deals with the software solutions available from software companies to support such information technology in education sector. The education industry has changed the way of providing education conducting their routine work and making real-time

decisions, necessitating a methodology to keep track of all ongoing software packages provided by various software solution providers like IBM, HP and so on.

IV.   REVIEW LITERATURE

1. **R. Raja, P. C. Nagasubramani (2018),** in their paper have defined that technology is one of the greatest gifts of God after the gift of life. It is the mother of civilizations, arts, and sciences. Technology has undoubtedly altered our way of life. It has impact on various aspects of life and has redefined living. Without a doubt, technology is important in all aspects of life. Several manual tasks can now be automated, thanks to technological advances. Furthermore, with the aid of modern technology, many complex and critical processes can be carried out with greater ease and efficiency. Living has changed, and for the better as a result of the application of technology. Education has been transformed by technological advances. The importance of technology in schools cannot be overstated. Indeed, with the start of new technology we need to learn how to adopt that technology in easiest way.

2. **Dr. Behera Hadibandhu (2020)**, in this article research reflects about world rapidly moving to digital ways.According to him, education revolutionised their system, to provide quality education. He has also discussed positive attributes and various challenges faced in education sector and the implementation of advance portals of information technologies.

3. **George Gisa, Johnson Mary Johnsy, Dr. Reddy Chandra Ravi (2021),** in their paper analyse that Indian education is one of the world's largest and oldest educational system. With unprecedented changes revolving around the educational sector, the use of ICT had a massive impact on the teaching and learning process. The review study includes a taxonomy study as well as a detailed study into the methods and techniques, and findings of these works. The study's results showed that using ICT in teaching and learning has a positive effect. Furthermore, when compared to developed countries, emerging countries such as India use ICT at a very low rate.

V.   IMPORTANCE OF IT CLASSROOM

The objective of using smart classrooms is to improve the performance of students. Edu-tech leads to better study quality and communication, which improves students' skills and knowledge. Students can also access their study materials from anywhere in the world, making revision and learning easier. The implementation of edu-tech is revolutionizing.

VI.   TECHNOLOGIES CHANGE FACE OF EDUCATION SYSTEM

1. Virtual Reality:
Virtual reality and augmented reality are new technological advancements that add a new dimension to the classroom. Students can visit remote areas and encounter ancient civilizations by using VR equipment. This is an intriguing addition to the learning process, as it allows for close encounters that are not possible in reality. Augmented reality users can interact with a complete real-world environment that has been blended with digital elements. It has been demonstrated that using these two technologies, the student engagement has improved.

2. Robotics:
Technology assists students in becoming acquainted with the modern society by facilitating real concern, acquiring knowledge. Robotics instructs students to all aspects of the STEM system (science, technology, engineering, and mathematic).STEM learning necessitates critical thinking and problem solving, and students can acquire knowledge and get various solutions through robotics approach.

3. Artificial Intelligence:
Many believe that using technology in the field of education would make the students extra attached to machines, devices and less socially ready. We can see that this generation's children are spending more time with mobile phones and other electronic devices. Even a baby who is as young as an year old calms down and becomes more interested in the mobile phone display. Studies are being conducted to determine how it will affect the brain, but for the time being, artificially intelligent machines will play a significant role.

4. Activity Based Learning:
Education was confined to reading books and listening to teachers, both of which were tedious for many students and exhausting for teachers. Some educational institutions attempted to implement activity-based education, which motivated students and increased their interest level to some extent yet not getting the desired effect.

VII.   INFORMATION TECHNOLOGY PLAYS A VITAL ROLE IN EDUCATION SYSTEM

- **Proper Knowledge Imparts Better Result:** Without a doubt, technology promotes students' overall development. Technology is a powerful tool for promoting a better and healthier educational system around the world. Technology's most important role in education is to make learning quite approachable, interesting, and enjoyable. The advancement of technology in education sector leads to increased student knowledge and skills.
- **Students will Learn with Fun**: According to research, digital learning technology helps the majority of students to achieve better grades. Aside from academic advancement, technology-based learning allows students to learn more using a wide range of sources without complete reliance on teachers.
- **Quick Adaptability**: The good news is that children adapt quickly to technology. Nowadays, software programming is a popular subject among children. Even before they reach the age of adolescence, they can learn, analyze, and create software. This demonstrates how the brain is gradually evolving from its current state to a higher level of understanding machine language. There are also many social groups online for every field where students can interact with others who share their viewpoint. Because group discussions and knowledge-sharing blogs are on the rise, it is not entirely accurate to say that society is becoming less socially capable. It's just that the medium of communication has shifted to a new platform.
- **Effective Communication**: The advent of technology has significantly improved communication and collaboration. Education technology has also enhanced communication and collaboration among teachers, parents, and students. The early initiation of technological tools and programmes makes it far easier for students to adopt new approaches. Ed-tech is an excellent tool for preparing children for their future challenges that they may experience. Students will be able to overcome obstacles and put their abilities to better use if they have a valuable asset. Although technology has many advantages, it cannot replace humans because humans are always required for decision-making, supervisory, and intrusive thoughts.
- **Cope up with Digitalization**: Technology increased students' interest in learning many folds, and modern technology assisted students in improving their critical thinking and analytical skills, which are essential for dealing with any type of challenge. It has not only assisted students in becoming successful, but also in excelling. This applies not only to schools, but also to higher and professional education.

VIII.   DRAWBACKS OF INFORMATION TECHNOLOGY IN EDUCATION SECTOR

- Primarily focus on over-reliance on technology may result to a difficult to break dependency. This seems to be particularly true for learners who rely on technology for almost everything. When students are accustomed to receiving information quickly and in a format that is familiar to them, the prospect of switching to traditional methods may have seemed bit overwhelming.
- Another common drawback of technology in education is its tendency to reduce student-to-student interaction. Instead of interacting with one another, students increasingly rely on technology for communication and collaboration. This can be harmful to crucial attributes such as emotional and social intelligence development.
- The application of technology in education can result in a lack of critical thinking abilities. Students may be less inclined to analyze or question the validity of what they are learning because information is so readily available and often presented in a simplified format. This can lead to misunderstandings of key concepts or a general misinterpreting of the information.

IX.   CONCLUSION

Education can be defined as a two-pillar based approach where first pillar includes student adaptation of knowledge via hi-tech interaction through virtual method like mobile, laptop, personal computer and tablets etc. Whereas, the second is pillar denotes the classroom and blackboard-based teaching. From techno addicted student point of view, e-learning means anytime from anywhere, where teachers and students who are not technology friendly, they found it difficult to accept the change but advent with technology in education have shown positive impact on education sector. It has brought a revolution in education as this has outreached children in rural areas, providing wide range of knowledge and developing the skills and building strong relationship with its student. While there are some drawbacks to using technology in teaching, there are also numerous potential benefits. Technology, when used correctly can be a powerful tool for improving learning and increasing engagement. In terms of technology in education, we will see significant advancements in the coming years. The approach is to use the above-mentioned projection monitor in conjunction with what it has been argued to be the most pressing need of school performance. Expect to see more of the three now-accepted innovations, CMSs, distance learning portals, and more networking technologies on campus and in classrooms, with the updated versions in the coming years. This is due to the fact that these innovations are still in their early stages of adoption, and there is ample room for supplemental innovations in these categories. Devices that assist students take better responding and study from them.

REFERENCES

1. Ghavifekr Simin, Wan Rosdy, & Wan Athirah. (2018). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science, 1*(2).
2. Behera Hadibandhu. (2020). Role of information technology in education system. *International Journal of Creative Research Thoughts, 8*(9).
3. Gocen Ahmet, & Aydemir Fatih. (2020). Artificial intelligence in education and schools. *Research on Education and Media*, 12(1). doi: 10.2478.
4. Raja R., & Nagasubramani P.C. (2018). Impact of modern technology in education. *Journal of Applied and Advanced Research*. Available at: https://dx.doi.org/10.21839/jaar.2018.
5. George Gisa, Johnson Mary Johnsy, & Dr. Reddy Chandra Ravi. (2021). The role of ICT in teaching and learning with special reference to Indian education system: - A narrative review of the literature. *Turkish Online Journal of Qualitative Inquiry (TOJQI), 12*(8).