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“Impacts Of Modern Technology In Education System For Scientific Management Approach”

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Abstract:

Engineering and Technology plays an important role in every sphere of life. Technology has certainly changed the way we live. It is the mother of civilizations of arts and of sciences. Several manual tasks can be automated with the help of technology. Technology in education used as a tool for learning and teaching. Modern Technology infrastructure can help maximize student learning both in and outside of the classroom and support educators and academic leaders in achieving educational priorities and goals. Technology is reshaping modern education by providing access to information, enabling online learning, fostering interactive experiences, personalizing learning, enhancing collaboration, streamlining assessment, and promoting lifelong learning. The future of education is bright, and technology will play a crucial role in shaping it.

Key Words: Education, Technology, Scientific, Environment, Students, Importance.

Introduction:

Technology is the application of scientific knowledge to the practical aims of human life or it is sometimes phrased to the change and manipulation of the human environment. Technology plays an important role in every sphere of life. Technology has certainly changed the way we live. It is the mother of civilizations of arts and of sciences. Several manual tasks can be automated with the help of technology. Many complex and critical processes also can be carried out with help and greater efficiency of modern technology. It has revolutionized the field of education. So the importance of technology in education cannot be ignored. In fact with the onset of computers in education, it has become easier for

teachers to impart knowledge and for students to acquire it. The use of technology has made the process of teaching and learning much easier and enjoyable¹

The impact of technology can be felt in every possible field such as Education. The uses of modern equipments, technology and tools, the learning and interactivity of students increases. The transfer of knowledge becomes very easy and convenient as well as effective. Technology is transforming how students learn inside and outside the classroom and empowering educators to deliver immersive, personalized learning experiences that prepare students to thrive in the workplace of the future. One of the most significant impacts of technology on education is the unprecedented access to information. The internet serves as a vast repository of knowledge, allowing students and educators to access a wealth of resources at their fingertips. Students can now explore various subjects through online articles, videos, and academic journals. This access encourages independent learning and allows students to conduct in-depth research beyond traditional textbooks

Meaning of Technology

Meaning of technology is the “art of science.” When scientific and well-organized knowledge is used to do daily work, it is given the name of technology. The word “technology” is usually associated with machines. The use of scientific inventions, rules, principles and processes in different aspects of life comes under the use of technology. Many types of technologies exist including educational technology. Technology is embedded into every part of our lives because it provides a wealth of benefits, efficiency, access, connectivity and personalization etc². Technology in education used as a tool for learning and teaching. Technology infrastructure can help maximize student learning both in and outside of the classroom and support educators and academic leaders in achieving educational priorities and goals.

Meaning of Technology in Education:

When scientific, technical, and psychological principles and methods are properly used to make the teaching/learning process easy, simple, efficient, and effective. Today, scientific and technological inventions have affected every aspect of human life. Education, teaching and learning also been greatly affected by technology. In the field of education as a result of the latest research, discoveries, investigations and techniques have been developed, which are helping in achieving all the objectives of education. These competencies and skills, which are especially based on science, are given the name of educational technology. Developing technology proficiency prepares students for future career opportunities in every field³.

REVIEW OF LITERATURE

Dickson Mdhlalose , Gloria Mlambo (2023): The goal of this research is to comprehend how technology affects both teaching and learning in the classroom. Every piece of information included in this research was sourced from secondary sources. Examination of the pertinent literature found conflicting evidence regarding the effects of technology. Collaboration between teachers and students in the classroom is more effective than ever before, mostly due to advancements in information technology. It increases students' intellectual and academic horizons and increases their adaptability in the classroom.

FIRUZ KAMALOV, DAVID SANTANDREU CALONGE, IKHLAAS GURRIB (2023): To ensure the sustainable development and implementation of AI-driven technologies in schools and universities, it is imperative to have a thorough grasp of its effects on the current educational system. The purpose of this study is to examine the possible effects of artificial intelligence on education by reviewing and analyzing the body of research along three main axes: applications, benefits, and obstacles. This paper also discusses the probable drawbacks, moral dilemmas, and prospective directions for AI integration in education in the future. The use of AI in education can enhance learning results, efficiency, and access to high-quality education worldwide. Large segments of society can benefit from AI's scalability, which enables it to provide high-quality education globally.

Lortie, K. L. (2020): People's lives around the world have been profoundly impacted by the changes brought about by modern technology. New and developing technology have supplanted the conventional teaching and learning methods in the field of education. All facets of education, including curriculum, teaching strategies, classroom instruction, etc., are being significantly impacted by modern technology. Education is now a lifelong process due to rapid communication and greater access to information technology (IT) at home, at work, and in educational institutions. Global information sharing opportunities are facilitated by modern technologies. This article emphasizes how crucial contemporary technology is to the field of education and to classroom instruction.

Abhipriya Roy (2019): Education has changed and new educational opportunities have been made possible by the efficient use of technology in the classroom. Different educational technologies have helped both teachers and students; students are becoming increasingly interested in using technology to learn, while teachers have learnt how to incorporate it into their lessons. With the use of cutting-edge educational technologies, teachers and students may now work together in real time, breaking down barriers between education. Nonetheless, we must ensure that educators use technology to support learning rather than to take their place. The systematic teaching-learning process is hampered by excessive usage of technology.

R. Raja, P. C. Nagasubramani (2018)→ Technology is God's gift. Without a doubt, technology has altered our way of life. It has reshaped living and affected many aspects of life. Without a doubt, technology has a significant impact on all aspects of life. Technology has made it possible to automate a number of manual chores. Additionally, with the aid of contemporary technology, numerous intricate and crucial procedures can be completed more easily and effectively. In actuality, the introduction of computers into the classroom has made it simpler for both teachers and students to learn new material. Technology utilization has increased the enjoyment of the teaching and learning process.

Role of Technology in Education:

1. Educational technology affects the science of education and the art of teaching.
2. It fully reflects the influence of Science and Technology.
3. Educational technology affects the student, teacher, administrator and the entire academic environment.
4. Educational technology proves helpful in the spread of education.
5. It is capable of bringing necessary changes in the learning situation to fulfill the educational objectives.
6. The various rules and inventions of science are the basis of educational technology.

Need for Educational Technology in Communication & Management:

Educational technology is needed in the field of education. The need for educational technology in education is due to the following reasons⁴:

1. It gives positive emphasis to the development of the latest methods for effective education.
2. Educational technology makes the teaching process scientific, objective, clear, simple, easy, interesting and effective.
3. Educational technology gives proper guidance to solve teaching problems.
4. It provides proper guidance to make the teaching/learning process effective, such as setting of teaching goals, examining the initial behavior of students, selecting and organizing appropriate curricula, appropriate teaching methods, strategies and supporting materials..
5. It includes the use of all types of arts, methods, materials, skills, principles, and instruments of Science, Psychology and Technology.
6. Educational technology controls the waste of energy and time in the teaching process.
7. It also lays emphasis on the development of appropriate evaluation methods for measuring behavior change and for checking the results of the teaching process.

8. After the evaluation process by examining the final behavior of the students, emphasis is also given to providing the expected reinforcement and support required.

Benefits of Technology for Students:

The use of technology in education also gives students ownership over how they learn, making education relevant to their digital lives. Access to new digital learning tools, such as AI-based applications that adjust question sets and feedback based on student answers or PC-based VR learning opportunities can help increase student engagement for their academic development.

Online Learning: The Rise of E-Learning Platforms:

The advent of online learning platforms has revolutionized education by providing flexible learning options for students. Digital and AI-based tools can help teachers maximize their available time and alleviate some of their workload. E-learning is particularly beneficial for non-traditional students, such as working professionals or those with family obligations, as it removes geographical barriers and allows access to quality education without the constraints of a physical classroom.

Many institutions are now blending traditional classroom experiences with online components, creating hybrid models that enhance engagement and promote personalized learning experiences. Technology has facilitated the development of interactive learning tools that actively engage students in the learning process. Tools such as educational games, simulations, and virtual reality experiences provide immersive environments where students can explore concepts in a hands-on manner. Video conferencing capabilities can extend the teaching and learning environment, enabling virtual one-on-one sessions between students and teachers. With access to devices and digital resources both in and outside the classrooms, students are inspired to become problem-solvers, critical thinkers, collaborators, and creators and develop a lifelong love for learning⁵.

Preparing Students for a Rapidly Changing World: In an era of rapid technological advancement, the need for lifelong learning has never been more critical. Technology equips students with the skills necessary to adapt to a constantly evolving job market by encouraging a mindset of continuous learning and self-improvement. Online courses, webinars, and virtual workshops provide opportunities for individuals to expand their knowledge and skills beyond traditional schooling. This emphasis on lifelong learning prepares students for future challenges and fosters a culture of curiosity and innovation.

Caution in applying Technology in Education:

Now a day's technology in education has many benefits but many limitations also occurs⁶. Such as- **High infrastructure and establishment costs:** It requires high initial expenditure to install technological hardware and software (e.g. to install computers, video equipment, projectors etc.) systems.

High Maintenance Cost: Heavy expenditure is also involved in maintaining and up keeping of the equipment.

Problems of Reach and Access Remains: Everyone does not equally benefit from the use of technology in education. In country like India not only many students but a large number of educational institutions remained deprived of technology due to financial issues.

Language is an important issue in the teaching- The multimedia packages usually available in English or any language other than the medium of instruction in a local context is of no use.

Digital Divide: It is still a significant barrier to integrate technology into education because the socio-economic status of students.

Standardization of Learning: Technological application in the form of development of e-content, online testing, educational software often leads to standardization of the learning experiences.

Problem of Reorientation and Retraining of Teachers and Students: For effective use of technology in teaching-learning process the teachers and students require to undergo frequent reorientation and retraining.

Misuse of Technology: It is observed that students tend to misuse technology like computer and internet for playing games and browsing undesirable content other than the suggested learning content.

Technical Failure: Technological failure due to poor maintenance of hardware or updating of software usually disrupts the instructional process.

Loss of Time: The poor functioning of the technological tools often in the form of lack of internet connectivity, poor speed of download and upload accidental data loss due to sudden system failure etc. results in tremendous wastage of valuable time. of student.

Threat to Ethics of Education: It has been observed that, increasing use of technology in education especially the use of computer and computer based technologies resulted in rampant violation of intellectual property rights (IPR).

Before we use technology in education it is more important that we recognize both its strength and limitations. Otherwise we may either end up in misusing technology in education or rendering the technology useless.

Conclusion:

In this module we have seen that technology in education like other similar and parallel terminologies viz. instructional technology, information and communication technology, communication technology, educational technology aims at augmenting the teaching-learning process and the access of educational opportunities to all by systematic integration of the knowledge, skills and expertise advanced in the different branches of science and technology. With emerging technologies such as computers, tablets, e-books, interactive white-boards and wireless solutions gaining ground in the education system, the reliance on technology by the education is touching new heights⁷.

We have discussed how technology can be effectively used to improve the classroom presentation, motivate students, stimulate active participation of learners, give enriched learning experiences to the students, objective assessment of students' progress, reporting of learners progress to their parents and others otherwise significant, relieve teachers from the mundane administrative and allied workload and so on. The application of technology in education is also apparent from the fact that how efficiently and effectively educational services are delivered today. Technology is reshaping modern education by providing access to information, enabling online learning, fostering interactive experiences, personalizing learning, enhancing collaboration, streamlining assessment, and promoting lifelong learning. The future of education is bright, and technology will play a crucial role in shaping it.

At the same time, recognizing challenges like screen fatigue, digital inequity and data security is helping the benefits of technology in education are vast, it improves engagement, retention, available content, skill-building and personalized learning apps, virtual labs and collaborative digital tools are just some of the ways technology can inspire creativity in the classrooms and actually engage students while inspiring them to bring modern education technology.

Empowering students and educators to focus more on teaching and learning while enabling new ways for education itself to mold around everyone involved, immersive and interest-based education.

References:

- 1.NCERT (2006).Position Paper on National Focus Group on Educational Technology.NCERT: New Delhi.
- 2.Ritchel, Matt (2010). Growing up Digital, Wired for Distraction. The New York Times. 21 Nov. 2010.
- 3.http://www.ehow.com/about_4815039_advantages-disadvantages-technology-education.html.
- 4.http://www.mu.ac.in/myweb_test/ma%20edu/ICT%20-%20Edu..pdf. ICT in Education.
- 5.http://www.unesco.org/education/aladin/paldin/pdf/course01/unit_13.pdf.
- 6.<https://ict3year.wikispaces.com/Difference+between+Educational+Technology,+Instruction..>
- 7.<https://wiki.uiowa.edu/display/edtech/Advantages+and+Disadvantages+of+Technology>.