

A DESCRIPTIVE STUDY ON THE ROLE OF TECHNOLOGY IN EDUCATION - ISSUES AND CHALLENGES

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ABSTRACT:

Technology has become an inseparable of our daily lives, and its influence on education is transformation. Technologies have revolutionized and continue to revolutionize the way we live, work, play, relax and for that matter practically every aspect of our life. In 21st century, technology serves as a powerful tool for educational innovation. The present research article focusing on significant role of technology in education issues and challenges with solutions, Media used in education, Need of technology in classrooms and advantages of technology in the education process. This article based on secondary data information and past study related to Imperative Roles of Technology in Education.

Key words: - Educational technology, e-learning platforms, Imperative Roles, Challenges, proliferation, digital classrooms, E-mail, device, etc.

INTRODUCTION

Technology has churned up a revolution in virtually all aspects of modern life, and education has certainly been no exception. While digital classrooms and online resources are standard, technology has changed the way students learn, and teachers teach. Despite so many advantages presented by integrating technology into education, there are some unique challenges that come with the integration. The grasp of both is central to effectively using technology in education in order to bring students face-to-face with the future.

In this unit, we will examine the meaning, definition, and concept of important role of technology in education issues and challenges and other related terms. We will also examine the need of technology in classrooms. This unit will hopefully facilitate your decisions about the use of technology in classroom and non-formal settings, and to be able to justify your use of the technology to enrich the quality and outspread of the reach to educational opportunities for learners including adult learners.

Technology in education can be understood by the implementation of technical aspects and digital tools to enhance the teaching and learning process. Technology in education uses electronic devices such as Computers, software, hardware, e-learning platforms, etc., to facilitate the learning process. Technology in education uses internet and audiovisual elements to make learning accessible and convenient for every student. Integrating technology into education allows students to learn difficult concepts more easily and provides them personalized learning experience. Even in modern education integration of AI and Machine learning in education has become prominent for enhancing the learning outcomes. Tech in education helps in building digital classrooms through which students can explore ideas in an interactive way. Through technology in education, teachers can conduct their classes through e-learning platforms such as Zoom, Google Meet, Google Classroom, Microsoft Teams, etc.

The research indicates that application of technology in education invariably increases students' learning, understanding, and achievement besides augmenting their motivation to learn. Technology facilitates collaborative learning and supports the development of critical thinking and problem-solving skills. Proper implementation of technology in the classroom gives students more control of their own learning and tends to move classrooms from teacher-dominated environments to ones that are more learner-centered.

Thus technology in education refers to, but is not limited to the use of hardware and software, including internet and other related activities, for the purpose of enhancing human capabilities in the realm of teaching-learning.

Defining the Role of Technology in Education

The role of technology in education encompasses the use of digital tools, devices, and resources to enhance teaching and learning. It ranges from interactive whiteboards and e-books to online learning platforms, virtual reality, and artificial intelligence.

LITERATURE REVIEW

Kaur (2015) in her study titled ICT : culture in Teacher education found that the transformation to technology embedded classroom requires the transformation of teacher. In order to create awareness of ICT among the teacher educators. She suggested various input in teacher training such as knowledge of basic hardware skill, understanding system software, multimedia and social legal, ethical and health issues.

Gupta and Gupta (2014) in their study emphasized that the introduction of technology has opened the flood gate for education to be delivered at any time and from anywhere. ICT affects the way knowledge is imparted and student learning process.

By analyzing previous research, researchers attempt to pinpoint trends, problems, and opportunities related to the application of technology in education. Through a deeper understanding of existing literature, researchers hope to develop a more comprehensive perspective on how technology can be used to achieve broader educational goals and improve the quality of learning. Despite the wealth of literature on the role of technology in education, there are several notable gaps that warrant further exploration. One significant gap is the need for more empirical research that examines the long-term impacts of technology integration on teaching and learning outcomes. While many studies focus on short-term effects or anecdotal evidence, there is a lack of comprehensive longitudinal studies that track student performance, engagement, and skill development over extended periods.

SIGNIFICANCE OF THE STUDY

This study is important because technology is changing how we learn and teach. It helps make learning easier and more interesting for students. But there are also problems like lack of access, distractions, and difficulty for some teachers to use technology. Understanding these issues can help improve education for everyone. The study will show ways to use technology better and solve challenges in schools and communities.

SCOPE OF THE STUDY

This study will be conducted about the issues and challenges of technology in education. Obviously the survey will cover from Secondary data related to imperative roles and challenges of technology in education.

OBJECTIVES:-

- 1) To study the role of technology in education.
- 2) To understand the need of technology in classroom.
- 3) To understand the challenges of technologies in education.

METHODOLOG:-

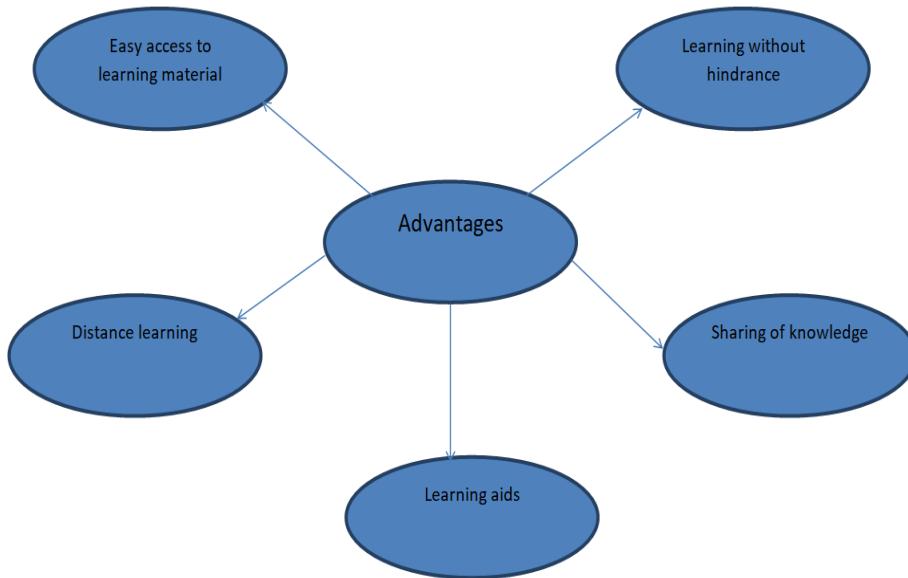
The present research work applied quantitative and descriptive methods to measure the role of technology in education. The collection of data and information was made using the Online Knowledge Library (B-on) website. This study administered a descriptive research method. In this research paper secondary data have been collected from various research papers, newspapers, magazines, and various websites.

LIMITATIONS:

Due to inadequacy of time and resources the study has its own limitation:

1. The study will be confined only through Secondary Data.
2. The study is focused only roles and challenges of technology in education.

Advantages of technology in the education process



Imperative Roles of Technology in Education

Here we have created this article to make you aware of the important roles of technology in education. In today's time, technology has become a part and parcel of our lives. From smart TV, washing machines, laptops to smartphones, we are accustomed to all types of gadgets powered by technology.

➤ Promotes Effective Educational system

Undoubtedly, since technology is introduced in the classroom, it encourages the overall growth of students. Technology is a robust process to promote a healthy educational system worldwide. The Most Important roles of technology in education make learning more accessible, exciting, and enjoyable.

➤ **Technology Helps Students Learn Much And Better**

Still wondering how important technology is in education? Thus, let me inform you that a survey has proved that digital learning technology helps most students improve their grades. Furthermore, through technology-based E-learning, students can learn more and better from different resources without depending on an institution or an instructor.

➤ **Better Communication and Collaboration**

We all know that the existence of technology has improved communication and collaboration to a better level. Likewise, Educational technology also boosted communication and collaboration between teachers and students and students/ parents, teachers/parents, and peers.

➤ **Provide Teachers with More Resources**

Technology provides teachers with plenty of e-learning tools like Gasification, AR / VR, smart boards etc. Through Advanced modern technology in education, teachers can use various digital tools to magnify learning opportunities for students

➤ **Learning At Own Pace**

The important role of technology in education is to students, as they can learn at any time and from anywhere. With the technology-based E-learning process, one can study in their comfort zone.

➤ **Personalized Learning Opportunities**

The importance of technology in education is not just limited to efficient learning; students can also have their personalized learning opportunities. The availability of more resources and material 24*7 to students allows them to personalize learning better. We all know that not all students have the same learning frequency; thus, personalized learning is considered.

➤ **Efficient Problem-Solving Stuff**

Well, studying without having any doubts can be possible only through modern intelligence classes. Video modules of every concept help each of you to cut out your doubts. So, if any problem arises in any topic, just go through problem-solving material and clear all doubts.

➤ **Better Understanding through Graphics**

Technology has evaluated the learning process through video graphics, which helps the human mind understand the concept faster and remember it for a long time. This can be only possible because of the visual information system. Using VR technology in education, students can retain knowledge by 25% to 60%. **More Opportunities for Online Project-Based Learning**

Most schools are opting now for online Project-Based Learning instead of wasting time on pen-paper-based projects. Edtech solutions have also made Project-Based learning much more accessible and convenient for students.

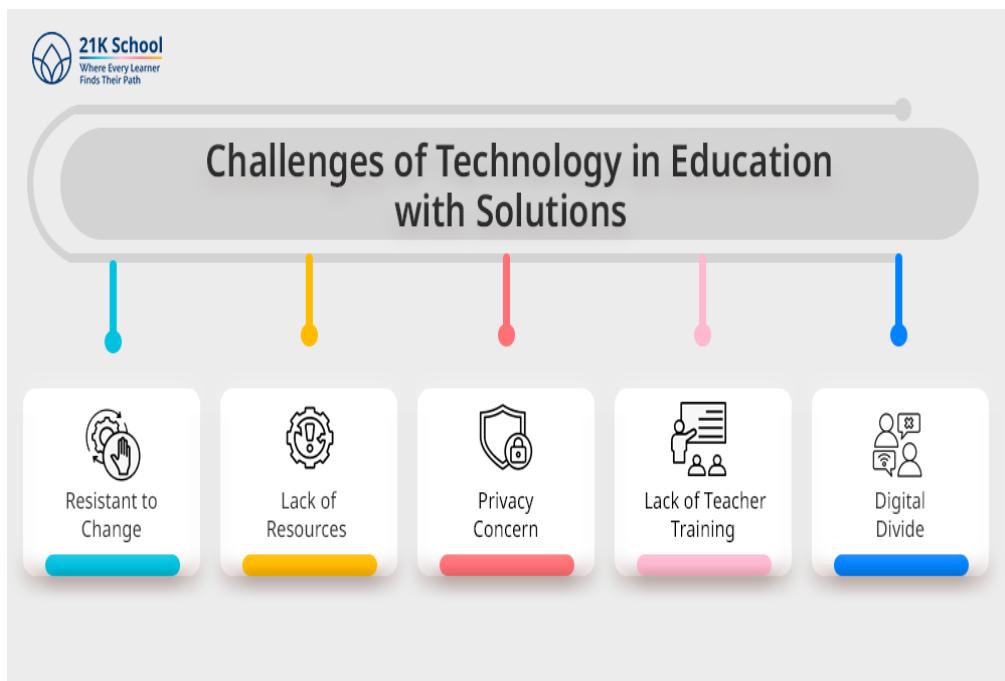
➤ **Save Time And Money**

With the availability of more study material via e-learning technology, the student can spend less money on other materials. Even nowadays, many schools are more focused on buying online study material, which is cheaper and more convenient for storage.

Need of technology in classrooms

- It is the best way to understand the diversity in learning styles.
- It encourages collaboration and enables classmates to interact more with each other.
- Technologies help teachers to prepare their students to face the real world.
- It enables students to access up-to-date information in a quicker and easier way.
- Classroom technology has transformed teachers into encouragers, advisers and coaches.
- Students can get benefits of digital textbooks that are always updated, helpful, creative and cheaper.

Issues and Challenges of technology in Education



1. Resistant to Change

Resistance to change is the most common challenge faced during the implementation of technology into education. Most students and teachers are adapted to traditional methods of teaching and learning, and adapting to a new method becomes difficult for them. Adapting technology into education becomes resistant for them which make it difficult to study at the same pace.

Solution to Tackle Resistivity in Education:-

This problem can be solved by making education more interactive and implementing new technologies into education. Involving teachers and students in regular activities that contain the use of technology helps to tackle this problem.

2. Lack of Resources

Lack of resources and materials are one of the major reasons due to which it becomes tough to implement technology into education. Some educational institutions may lack the technology and instructional materials needed to support active and learning. Due to this

reason students are unable to acquire better technological skills and it becomes tough to implement technology in the learning process.

Solution to Mitigate Lack of Resources in Education

This problem is a common problem however, this can be tackled if the government allocates proper funding, and makes resources more useful and allocates them as per need. This can help to remove the problem of lack of resources.

3. Privacy Concern

Privacy issues are one of the major challenges in implementing technology into education. E-learning tools are susceptible to security issues and cyber-attacks. In such a scenario, it is essential to protect the information and data organizations have strong security measures to avoid privacy concerns.

Solutions for Privacy Concern in Education

People and organizations can use a variety of strategies to address privacy issues, such as creating strong passwords, exercising caution when sharing information online and putting strong security measures and system security.

4. Lack of Teacher Training

Various teachers don't have adequate training on technological skills to teach students effectively. Implementation of technology is difficult to implement in schools because of a lack of teacher training. Inadequate teacher training also makes it challenging for them to interact with students and makes it difficult for students as well to collaborate with others.

Solution to Tackle Lack of Teachers Training in Education

This problem can be tackled by providing teachers with updated training modules and skill-enhancing courses that help them to enhance their learning and skills. This allows them to teach students with adequate knowledge and skills.

5. Digital Divide

Digital divide is another factor that hindrances the implementation of technology into education. Due to the digital divide, some people don't have equal access to technologies such as the internet, computers, mobile, and other technologies.

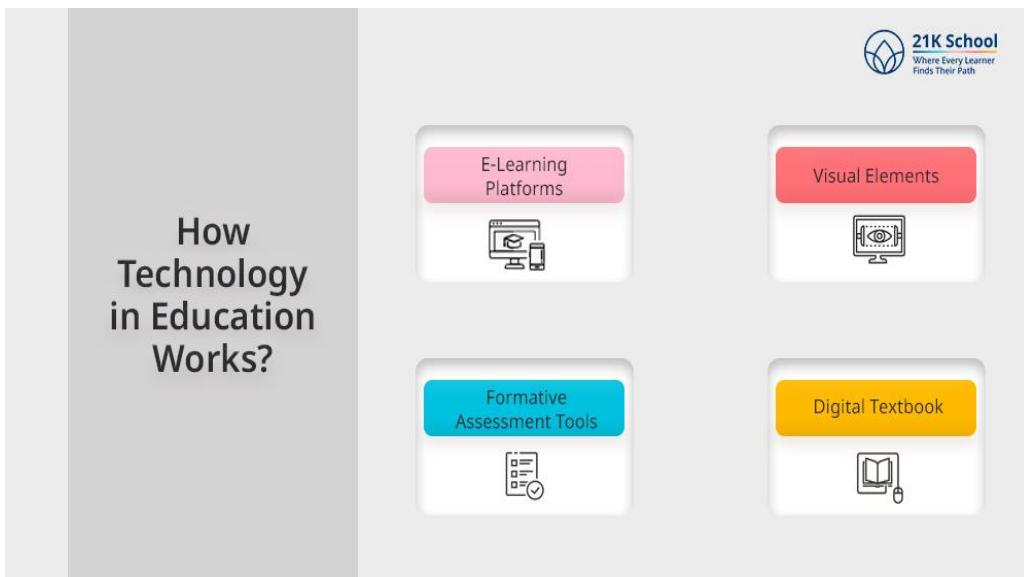
Solutions for Digital Divide in Education

This problem can be avoided by making technology accessible to every individual, enhancing their digital literacy skills, increasing connectivity and implementing technology in every place. This helps in breaking the digital divide and provides equal opportunities.

Impact of Technology in Education

In today's world, we all are interlinked with technology everywhere in our daily lives. So why not use Technology in Education. Technology is the only tool that helps to improve the education system in different ways. From teachers to students, technology leaves a vast impact on education. Modern EdTech makes education more flexible and perceptive. Various technology driven education tools have introduced free online resources, personalized learning materials, more engaging content, and a better understanding of visuals and opportunities for advanced learning.

How technology in education works?



Technology in education is the process of combining electronic mediums such as the internet, mobile phones, laptops, digital tools, computers, etc. Tech in learning also includes network based software's, internet, intranet, mobile learning, and so on. This can be acquired through fun in learning approaches such as activities, games, animations, audios, videos, simulations, text, etc. Here you can check how technology in education works.

1. E-Learning Platforms;-E- learning platforms are used in technical education to make learning more impactful. Through e-learning platforms knowledge can be delivered in the form of live classes or recorded mode. This includes platforms such as Zoom, Google Classroom, Google Meet, Microsoft Teams and so on.
2. Visual Elements ;-Technology in education uses interactive visual elements such as audio, video, animations, simulations, gamification, etc. These elements make education more interactive and engaging. Visual elements make learning easy and understandable.
3. Formative Assessment Tools;-Technology in education includes formative assessment tools. Through incorporating technology into learning it enables teachers to assess students' performance and allows them to understand students' improvement and weaknesses.
4. Digital Textbook;-Digital textbooks are digital aspects of electronic copies of traditional textbooks which can be accessed through tablets, mobile phones, computer, internet, etc. This also includes multimedia elements such as videos, animation, messages, and simulations.

SUGGESTIONS

New technologies roll out in the market regularly and make our lives better with every passing day. Technology has its application in every field and especially in the education sector. It is being exploited in classrooms to make learning fun by making the classrooms interactive. Advanced technologies make education easier, joyful and accessible.

CONCLUSION

Technology in education has the power to completely transform how teaching and learning occur. Educational institutions can establish a more effective and engaging learning environment that equips students for the future by overcoming these challenges. The role of technology in education can only be appreciated fully if challenges associated with it are addressed such that it is used appropriately and accountably. Using technology in the classroom not only improves student learning but also gives them the tools they need to succeed in a world that is becoming more and more digital. Technology will continue to serve as a powerful facilitator of learning and preparation for life if utilized properly.

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