EDUCATIONAL TECHNOLOGY

Sami Anwar
Balram Tonk

Educational Technology

Sami Anwar
Balram Tonk

Educational Technology

Sami Anwar
Balram Tonk

Wisdom Press
NEW DELHI

wisdom
press

Educational Technology

by **Sami Anwar and Balram Tonk**

This edition published by Wisdom Press,
Murari Lal Street, Ansari Road, Daryaganj,
New Delhi - 110002.

ISBN: 978-93-83318-69-8

Published in 2022 (Revised)

Wisdom Press

Editorial: 116-A, South Anarkali, Delhi-110051.
Correspondence: "Dominant House", G - 316, Sector - 63,
Noida,National Capital Region - 201301.
Ph. 0120-4270027, 4273334.
Sales & Marketing: 4378/4-B, Murari Lal Street,
Ansari Road, Daryaganj, New Delhi-110002.
Ph.: 011-23281685, 41043100.
e-mail : wisdompress@ymail.com

CONTENTS

CHAPTER 1

INTRODUCTION TO EDUCATIONAL TECHNOLOGY

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

The purposeful use of different technological tools and approaches to improve educational processes is referred to as educational technology. It includes not just the equipment and software used in classrooms but also cutting-edge instructional approaches that make use of technology. The introduction to educational technology emphasizes technology's capacity to solve educational difficulties, accommodate various learning styles, and engage students who are digital natives at its heart.

It investigates the shift from conventional teaching methods to dynamic, interactive, and tailored learning experiences. This change is motivated by the realization that technology can support educators' efforts by increasing learning's accessibility, engagement, and adaptability to students' changing requirements. In this conceptual world, pedagogical innovation is seen as being sparked by educational technology. It highlights the value of critical thinking, creative problem-solving, and digital literacy as crucial 21st-century abilities. One can confidently traverse the educational technology environment by having a thorough awareness of diverse technologies including learning management systems, interactive multimedia, and virtual classrooms.

KEYWORDS:

Classroom, Edtech, Educational Technology, Management System, Multimedia, Students.

INTRODUCTION

It could be simple to define education technology as the integration of information technology into the educational process. However, EdTech, often known as educational technology, spans a larger range of topic areas and does more than merely enhancing instructional capacities.Teachers are more effective in managing classroom responsibilities and better equipped to satisfy the different needs and ability levels of their pupils thanks to the usage of technology in education.

The needs of a physical classroom have previously established boundaries, but EdTech has opened up new avenues for educational possibilities to flourish everywhere.Authentic engagement and interaction are prioritized while educating students for a world that is becoming more and more digitized through the use of technology in the classroom to improve teaching and learning. Today, we'll go deeply into the ins and outs of education technology, including what it is, how it is used in the educational setting, and how teachers and students may benefit most from its inclusion in the classroom.

We'll also look at upcoming EdTech trends and the best configuration of technology for creating an online presence in the classroom[1], [2].

What is technology in education?

The use of technology to promote learning, teaching, and other aspects of education is known as education technology. It includes every piece of technology and software used to instruct students virtually, thereby enhancing learning environments via online methods. Together, education and information technologies may help student's better grasp technology and achieve better academic results via more participation. In a typical hybrid classroom setting, learning management systems like Google Classroom are often used. EdTech also includes hardware and games.

Learning about the Idea of Educational Technology

EduTech or EdTech, as well as other similar terms, refers to the idea of facilitating learning and teaching using effective technological means. It enables a thorough comprehension of technology's foundations and workings. There are several goals for educational technology that may assist the teaching-learning process provide the greatest outcomes in an effective and cost-effective manner.All systematic applications of scientific knowledge made to a practical goal are collectively referred to as technology. The following two characteristics are also important to educational technology: Learning Objectives of Educational TechnologyLet's first look at educational technology's learning aims before going further into its micro and macro goals:

1. To provide knowledge about ICT, or information and communication technology.
2. To promote innovative thinking and creativity through ICT.
3. To provide teaching in instructional technology to pupils.
4. To advertise educational offerings via computers.
5. To introduce information technology to kids.
6. To ascertain the use of technology integration in practice.

Facilitators of educational technology are accountable

Technology-assisted educators design, plan, and create a positive learning environment and a wide variety of experiences. They are responsible for:

a. Create technology-enhanced learning spaces and experiences to create effective teaching and learning environments.
b. Create and implement suitable technology-driven learning opportunities to serve the various learning requirements of various learners.
c. Assess the appropriateness and correctness of technical resources.
d. Control technological resources while keeping pedagogy and learning activities in mind.
e. Create management plans for pupils who are studying in tech-enhanced environments.
f. Recognize the principles of instructional design while creating technology tools[3], [4].

Important Goals of Educational Technology

The macro-level goals of educational technology

Given the growing significance of technology in education, a wide range of macro-level goals are met by this phenomena, some of which include:

a. To determine the community's needs and preferences in terms of schooling.
b. To comprehend the aims, tactics, and organizational structure of education.
c. To plan and create curricula that include human values, science, and the arts.
d. To work with the mission to accomplish predetermined objectives by supporting strategies, people resources, and material resources.
e. To develop tools and resources that are suitable for supporting educational objectives.
f. To create educational technology models that enhance the current teaching and learning process.
g. To identify and address the main environmental restrictions.
h. To increase and promote educational possibilities for individuals all around the globe, particularly those from underserved demographics.
i. To oversee all aspects of the educational system, from planning to implementation and assessment.

The Micro-Level Goals of Educational Technology

a. To identify and evaluate each student's features and educational needs.
b. To establish the precise behavioral learning goals for the classroom.
c. To comprehend and properly sequence the instruction's contents.
d. Should be aware of the tools and resources available for teaching and learning.
e. To define the kind of interaction between various subsystems, such as instructors, students, curriculum, teaching-learning resources, and techniques.
f. To prepare lesson plans and make use of available human and material resources in order to achieve specified learning goals in the classroom.
g. To assess each student's performance and behavioral change in order to evaluate the efficiency of classroom instruction.
h. To provide instructors and students the critical feedback they need in order to make any necessary changes to the teaching-learning process.

Scope

Process-oriented goals are what educational technology aims to achieve. Technology in education is used extensively to support a person's personality development rather than just teaching and learning approaches and ideas. The following is a list of the diverse uses of technology in education:

a. The teaching-learning process is made more effective and process-oriented by educational technology.
b. Equipment that is mechanical and electrical may easily be used for teaching purposes.
c. With the use of teaching aids, pre-programmed instructional materials, etc., educational technology has enhanced the learning process for pupils.
d. Distance and correspondence education may be delivered through conventional media such as television, radio, tape recorders, VCRs, and computers.
e. The development of the internet has made it easier than ever to spread education over the globe.

f. Technology-based feedback mechanisms enhance the quality of teacher preparation programs at educational institutions.
g. Innovative analytical techniques and equipment that are technology-driven may assist in resolving administrative issues in education.
h. Educational technology helps people learn and comprehend the principles and practices of instruction.
i. The most effective use of educational technology promotes new discoveries and the scientific basis.

Additionally, EdTech makes education more accessible. EdTech fills in the gaps for individuals without access to a classroom and promotes increased attendance, even though as of 2018, there were allegedly more than 258 million children, adolescents, and youth worldwide who were not in school. Distance learning and EdTech platforms assist in removing obstacles that prevent students from obtaining a comprehensive education by using technology for teaching and learning[5], [6].

How does technology fit into the classroom?

The use of technology in the classroom has grown in several ways, such as a platform for students to access assignments, a method for students who need to learn from home to participate, and a way for teachers to innovate their lesson plans with games and tech-forward activities.Access to technology has increased student participation in class and offered up new avenues for learning in a school system that is full of digital natives. The hybrid classroom is used in a manner that gives students the chance to become more involved and responsible for managing their own education.Through online courses and self-paced learning tools, technology is employed in online education for students of all ages and grade levels, creating the ideal smart classroom environment when combined with traditional classroom instruction. Additionally, this fosters pleasure and teamwork throughout the learning process.

EdTech International

For students who are struggling financially or cannot purchase EdTech equipment, several nations provide affordable options. While Bulgaria offers free online textbooks to pupils in grades one through ten, Australia loans out computers to its kids. Free educational programming is aired on national radio and television in a far larger variety of nations, such as Argentina, Croatia, and Fiji.

How Technology Can Benefit Education

EdTech provides options for instructors to create individualized lesson plans in order to suit individual requirements, empowering them to meet the varied skill levels and expectations of their pupils. Thanks to improvements in classroom technology, those with special needs and personalized learning plans may access the resources they need to succeed in class.The capabilities of synchronous and asynchronous learning in the classroom and at home are being improved by education technology businesses, who are constantly developing new types of software, hardware, and equipment. Top EdTech businesses like Chegg provide online textbooks to students, lowering related classroom expenses and removing worries about resource shortages.

Students may participate remotely in class while yet feeling seen and heard thanks to EdTech tools like smart video cameras (like the Meeting Owl Pro).

Educators' Use of EdTech

Alternative teaching methods may be included into the classroom thanks to the arrival of EdTech, which also makes rooms for more participatory learning. By using ordinary technology, like laptops and tablets, and meeting students where they are on the tech, they are already familiar with, traditional teaching techniques are disrupted for the better.

1. Gather Information from In-Class Tests and Games

Thanks to EdTech applications, teachers may now gather results from digital quizzes and examinations in real-time while also saving valuable time on student evaluations.

2. Boost Classroom Engagement

Using platforms like Engageli allows students to participate in class activities from wherever they are. With the help of the software, professors may conduct both live and recorded lessons, and students can virtually sit in breakout groups. This makes up for the lack of social connection that would have occurred had the students really been present in class.

3. Keep an eye on students' participation in class

EdTech tools like Class Technologies make it simple to keep track of students' attention spans while they are engaged in remote learning. Its Focus Tracking function, which has particular value in monitoring student engagement levels, enables instructors to determine when students aren't using Class as their main app. Students stay interested and on track with their learning progress when the focus is brought back to the lesson and the associated course materials.It's crucial for teachers to give students plenty of time and opportunities to become used to utilizing EdTech applications before exposing them to new technologies in the classroom. Students feel involved and on the same page with their peers and future classroom mishaps are avoided by thorough training and preparation with new technology[7], [8].

DISCUSSION

Student Use of EdTech

The fact that EdTech gives students educational ownership is among its most advantageous applications. When students are given digital tasks, such as multimedia movies or audio projects, it inspires them to use technology creatively and ties classroom material to the digital era. Additionally, it teaches students the value of being knowledgeable internet users and of being more deliberate in their media and information consumption.Another aspect of a smart classroom may entail using EdTech to make courses and activities more engaging. This supports the gamification idea, which contends that learning occurs most effectively when it is enjoyable. Additionally, gamification gives students the chance to work together, practice problem-solving and active learning, and foster positive peer relationships.While following lesson plans and course materials may place certain limitations on students, EdTech fosters self-directed learning. For pupils who need a slower speed to retain knowledge or understand fundamental ideas, this is

often a critical element. Self-directed learning at home also gives students more time in class for group projects, collaboration, and important social contact.

Application of Technology in Education

As varied as education it is educational technology. The term "educational technology" refers to the systematic and integrated use of all educational resources, including people, materials, methods, and media, to maximize learning. It includes the technologies listed below.

Behavioral Technology: A key element of educational technology is behavioral technology. In order to change the behavior of the instructor and students in line with the learning goals, it emphasizes the application of psychological concepts in learning and teaching.A network of methods or tools used to achieve a certain set of learning goals is referred to as instructional technology. Technology for education that uses psychological, sociological, and scientific concepts and information to help students achieve their individual learning goals is referred to as instructional technology.

Technology in education: Teaching is a social and productive activity. Teaching is a sequence of behaviors that encourage learning via interpersonal relationships. The use of scientific, philosophical, and social knowledge in teaching is known as teaching technology.

Instructional Design: In addition to the learning principles, new methodologies, working tools, and teaching circumstances were thought to be crucial for bringing about the necessary changes in the behavior of the students. Instructional design is the sum of all these.

Training Psychology: Training psychology is a significant instructional strategy. Its creation came about as a consequence of study done on challenging training circumstances and issues.According to training psychology, the whole training assignment should be broken down into three sections. Which are:

a. Making an outline of the assignment.
b. Analysis of the task
c. Ordering the steps of the job. In teacher education, training psychology plays a major role.

Training psychology includes cybernetic psychology. In cybernetic psychology, people are treated as machines. Cybernetic psychology places a strong emphasis on the idea that all forms of feedback work through influencing the pupil's behavior to bring about the desired changes.

System Analysis: System Analysis is a problem-solving process that involves identifying the management's requirements, employing the best way to address those needs, and evaluating the results.If you take the following into account as working areas of educational technology: developing curricula, teaching-learning techniques, audio-visual materials, identifying educational objectives, preparing instructors, providing feedback, hardware and software, etc. In essence, any resources (both human and non-human) that are used to enhance and advance education fall within the purview of educational technology. So, the scope of educational technology is broad[9]–[11].

CONCLUSION

In conclusion, the development of educational technology has fundamentally altered the way that knowledge is transmitted and gained. A dynamic and flexible learning environment that can accommodate a variety of learning demands and styles has resulted from the marriage of pedagogy and technology. This change goes beyond conventional learning environments, giving universal access to education and encouraging lifelong learning. It is important to address issues like digital inequality and ethical concerns while also acknowledging the advantages. Educators and students may jointly design a future where innovation and human contact peacefully coexist, creating a rich and successful educational experience, by navigating these hurdles and wisely embracing technology.

REFERENCES:

[1] A. A. Alamin, G. Shaoqing, and Z. Le, "The development of educational technology policies (1996-2012) lessons from China and the USA," *Int. Educ. Stud.*, 2015.

[2] P. M. Davies, "On school educational technology leadership," *Manag. Educ.*, 2010.

[3] R. Luppicini, "A Systems definition of educational technology in society," *Educ. Technol. Soc.*, 2005.

[4] Y. P. Chua and Y. P. Chua, "Developing a grounded model for educational technology leadership practices," *Egit. ve Bilim*, 2017.

[5] F. D. P. Martins, L. P. Leal, F. M. P. Linhares, A. H. da S. Santos, G. de O. Leite, and C. M. Pontes, "Effect of the board game as educational technology on schoolchildren's knowledge on breastfeeding," *Rev. Lat. Am. Enfermagem*, 2018.

[6] H. Han, D. S. Resch, and R. A. Kovach, "Educational Technology in Medical Education," *Teaching and Learning in Medicine*. 2013.

[7] Y. H. Ching, Y. C. Hsu, and S. Baldwin, "Developing Computational Thinking with Educational Technologies for Young Learners," *TechTrends*, 2018.

[8] T. Amiel and T. C. Reeves, "Design-based research and educational technology: Rethinking technology and the research agenda," *Educ. Technol. Soc.*, 2008.

[9] D. Orhan Goksun, O. Filiz, and A. A. Kurt, "Student teachers' perceptions on Educational Technologies' past, present and future," *Turkish Online J. Distance Educ.*, 2018.

[10] L. Stošić, "The importance of educational technology in teaching," *Int. J. Cogn. Res. Sci. Eng. Educ.*, 2015.

[11] J. Aagaard, "Magnetic and multistable: reinterpreting the affordances of educational technology," *Int. J. Educ. Technol. High. Educ.*, 2018.

CHAPTER 2

BENEFITS OF USING TECHNOLOGY IN EDUCATION

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

Technology in education goes beyond established limitations by providing a dynamic platform for engaging and immersive learning activities. It crosses geographic barriers, allowing anybody, wherever to access educational opportunities and resources. This speculative investigation highlights technology's capacity to democratize education and level the playing field for students from different socioeconomic backgrounds. The idea of engagement is at the core of this proposition. Through interactive multimedia, simulations, and gamified components, technology has the power to hold students' attention and encourage active engagement. This involvement results in better understanding, memory, and critical thinking. Additionally, since technology is adaptable, it can accommodate varied learning styles and paces, fostering a more inclusive learning environment. The advantages also apply to teachers. With the use of technology, instructors may adapt their pedagogical strategies to the requirements of each individual student by using technologies for data-driven education and evaluation. In this hypothetical world, teachers are seen as guides for students' educational journeys who use technology to provide engaging and interactive learning environments. The study's investigation also reveals the technologically infused 21st-century talents. Modern education is braided with digital literacy, communication, teamwork, and problem-solving skills. Through exposure to technology, students gain knowledge and abilities that position them for a world that is quickly changing.

KEYWORDS:

Communication, Digital Literacy, Edtech, Education Technology, Multimedia, Simulations.

INTRODUCTION

To begin with, education technology, or EdTech, is a branch of technology that is primarily focused on the creation and use of educational technologies. There is unquestionably a rising need for EdTech firms that can assist instructors and students in using technology to its fullest potential. Perhaps as a result, investments in Edtech startups in 2018 exceeded $16.34 billion. Leading the way are nations like China and the U.S., who are swiftly followed by Israel and India. It's important to point out that Pearson, a U.K. A $50 million budget was recently set aside by an education conglomerate to support new EdTech firms. Because of the exciting societal and economic advantages, our firm offers EdTech the greatest UX advances available. We want to simplify educational technologies. Speaking of which, knowledge of EdTech and the advantages of technology in education is crucial. Here, we'll talk about seven of them. Let's get going.

Detailed Analysis of the Effects of Educational Technology

The technical world has seen a significant change in recent years. Teachers must employ the most up-to-date technologies available in their job to engage pupils as more people get involved

in digital media. Innovative teaching methods and the introduction of fresh concepts are necessary to make pupils interested in what they are studying. Due to its significance in the modern educational landscape, the use of educational technology by instructors has become mandatory. Every aspect of life has been touched by the technological advancements throughout time. We now demand every gadget we use to be as technologically sophisticated as possible since technology has permeated every aspect of our life as it has become more accessible. Schools now offer computer science programs where students may learn how to code computers and utilize them for their work or projects as a consequence of the widespread use of technology in education. Because it gives students the chance to study at a far quicker rate than they would otherwise be able to, the use of educational technology has consequently become crucial for today's students [1], [2].

Edtech's importance

The following are some of the different benefits of adopting instructional technology:

1. It Provides a Wider Range Of Materials That Are Easily Accessible

Students have a broad variety of possibilities from which they may choose the finest learning technologies from today's enormous selection of educational technology. They get the appropriate information and abilities via this, enabling them to excel as professionals in their area of choice.

2. It enhances students' performance in academic and professional settings by enhancing their communication skills.

Because good communication is crucial for getting your message across, students who can communicate more successfully using technology will also do better in the classroom and at business.

3. It offers students an enjoyable and interesting learning experience.

Today's students must not only study, but also enjoy themselves while doing so. Students have the chance to have fun while studying thanks to educational technology, which will also keep them motivated and enthusiastic about their studies.

4. It enables students to use the Internet whenever they want, from wherever.

We barely ever come across somebody who does not use the internet on a daily basis since it has become such a significant part of our lives. Students must be able to use the internet at all times and from any location in order to complete their projects and research without having to travel great distances or wait for a certain time to do so, which is vital in today's environment. Students who utilize educational technology benefit from being able to connect to the internet whether they are in a classroom, school, or at home [3], [4].

5. It Aids Students in Learning New Skills and Knowledge

Learning should be able to enjoy both gaining new information and new abilities, which are two extremely essential components of life. Learners may build these abilities and their knowledge

via a variety of online programs that are accessible through the use of educational technology. These courses provide students the chance to learn about a variety of subjects that are intriguing and pertinent to their chosen areas of study or employment.

6. It enables students to develop their mental and physical skills.

The enhancement of students' mental and physical health is another advantage of employing technology in teaching. Students may increase their learning and cognitive abilities by utilizing these tools, and as a result, both their academic performance and physical health are improved.

7. It enables students to stay current with technological advancements

Students who can keep up with the most recent technology developments will be better equipped to expand their knowledge in many sectors and acquire fresh talents that they may put to use in the future. These students will also have a better chance of landing a job since they will be extremely familiar with the most recent developments in a variety of industries and will be able to assist businesses in increasing efficiency by understanding the numerous applications of new technology.

Challenges in Educational Technology

A Built-in research found that over 90% of instructors believed that technology improved student performance and helped them reinforce courses. Other research revealed that after adopting technology and digital tools, the majority of middle-school children increased their test scores or grades. Despite this positive situation, there are obstacles to using technology in education. Due to excessive screen time, educational technology might have a detrimental impact on pupils' ability to concentrate. Additionally, there are numerous questions about how well instructors use technology or tools like AR, VR, and AI. Several schools were unable to purchase the technology due to a shortage of funding. A few obstacles must be overcome for teachers and students to succeed in the age of educational technology. Here is a list of the main difficulties they encounter while implementing educational technology [5], [6].

1.Opposition to change: This is the most significant of the numerous EdTech problems. Many educators, parents, and educational institutions do not fully embrace technology. They believe that the only learning methods that work are in-person encounters with parents or real-time instruction in schools.

2. Continual improvements: Technology requires regular updates. All learning tools and software used by educational institutions, students, and instructors need to be updated on a regular basis. This adds to their workload since they have to regularly check for software upgrades, update their devices, purchase new ones, etc. to stay up with the most recent EdTech trends. 3.

3. Infrastructure or resource assistance: For features like video streaming, online chat, video calling, and other tasks, any edtech software or hardware must have internet access. Any EdTech applications or tools must be used with stable hardware and higher speed internet access. Thus, these resources must help schools, instructors, and students.

4. Inadequate technical abilities: The educational industry necessitates that both instructors and pupils possess the most fundamental technological knowledge and abilities. They are the main consumers of edtech equipment. To take use of the advantages of education technology, students must possess the required abilities or acquire them.

5. Higher prices: It costs money to adopt technology in any industry. Teachers and students are required to make investments in new technology and EdTech solutions due to the continual advancements in the education industry. Teaching and learning are becoming more expensive in numerous ways thanks to eLearning or educational technology [7], [8].

DISCUSSION

The 21 Educational Benefits of Technology

There are several benefits to using technology in schooling. Everyone in the industry, from educators and schools to students, benefits from it. The pupils' learning was made simpler and more enjoyable thanks to the usage of technology in the classroom! Devices, AI-based tools, and AR/VR technologies are being used by educational institutions and instructors to immerse students in learning. Lessons and assignments are of more interest to the kids. They perform and get better marks as a result. In other words, technology is steadily transforming the educational system for the better. In order to better prepare students for life in the fast-paced world of technology, it complements rather than completely replaces the conventional classroom learning techniques. The advantages of technology in schooling are endless! We have made an effort to talk about some of the most significant ones in this blog.

1. Faster informational access

The ability to access a wealth of knowledge at any time is among the most significant benefits of technology in education. They have the fastest possible access to the data. The days of having to visit libraries and sift through mountains of books to complete assignments, projects, or homework are long gone if you are a student. Many thanks to the internet's advantages for students! Nowadays, you may get accurate knowledge at any time from a wide range of sources, including websites, instructional sites, YouTube videos, eBooks, PDFs, and more. With the introduction of the World Wide Web, students are now experiencing the first-ever technology-related impact on education. On your computers, tablets, or smartphones, you may quickly and easily access an endless amount of data and information. This makes it possible for you to plan a lesson or compose a paper all by yourself. As a result, technology broadens your knowledge base and helps you become an independent learner.

2. Greater diversity of educational resources

On the internet, students have access to a vast selection of educational resources. Scientific publications, journals, research papers, instructional videos, how-to manuals, educational websites, online databases, and author/educator blogs are among them. If you are in high school, they are quite helpful. By include all relevant specific data, facts, and figures, you may create academic papers more effectively. By using the material at your disposal, you may develop a hypothesis, support an argument, or come to a suitable conclusion for your article [9], [10].

You may improve your academic performance with the aid of technology without putting in a lot of effort. You don't have to spend hours in the school library, nag the instructors constantly, or take materials from former pupils. You can successfully do a paper on your own, using only reliable sources, and guarantee a high grade.

3. Expands the potential for online learning

The possibility of distant learning is a huge perk of the internet for students. Because of the internet, online lessons are now a reality! Students may study just as well in a chat room as on a virtual screen. During the online session, you may exchange papers, pertinent resource links, and media assets with other students. Virtual learning sessions are complemented with regular courses in schools, which helps students learn more and develop their skills. In order to provide more assistance to pupils, particularly the weaker ones, they enroll in online programs outside of the classroom. Moreover, you may enroll in an online course to further your interest if it is in a topic or industry that is not covered in your schoolwork, such as data analytics. Additionally, a lot of brand-new educational institutions are opening up and solely providing online courses in a range of academic and professional areas. Some of the well-known suppliers of in-depth online courses are Coursera, edX, and Udemy.

4. Teaching techniques are made easier

An effortless teaching experience is one of EdTech's advantages. The instructors may easily connect with the pupils outside of the classroom or tutor them remotely. This improves their capacity to educate, the pupils' learning, and their potential to achieve higher academic standings. Furthermore, mobile and desktop programs that serve as virtual attention coaches for kids are a product of technology integration in education! They assisted instructors in organizing pupils' assignments and homework. They may monitor the status of work while also reminding or alerting the pupils if they are running behind schedule. Today, a lot of schools and teachers use internet technologies to monitor their students' development and help them in the classroom. They can quickly determine who has poorer grades or who takes longer to finish classes. They can provide them the essential instructions and assist in progressively raising their academic achievement [11].

5. Enhances students' communication abilities in schools

One of the notable advantages of technology in higher education is this. Students in higher grades improve their communication skills while using different technology tools and online courses. Many students are hesitant to interact with their professors in front of their peers or during class. However, during online sessions or courses, their reticence or introversion disappears.

During their individual screen time, they may freely communicate through chat, audio, or video calls. Students who want to succeed in their studies and careers must have strong communication skills. Better communication skills allow you to express yourself properly and participate in worthwhile debates. You may communicate your knowledge to instructors and learn what their concerns are. As a result, you may learn more and use it wisely to boost your academic success.

6. Enables joyful learning

Making small toddlers sit still and study is challenging. They are easily sidetracked. Similar to younger students, older pupils struggle to maintain their concentration and finish lengthy papers or projects. Overall, not all students find learning to be enjoyable. But thanks to technology, everyone may now enjoy it. For students, lessons are more engaging because to the usage of tablets, computers, VR/AR equipment, and touchscreen boards. Children's attention might be maintained by teachers with ease. In a similar way, these cutting-edge technologies assist students in higher levels in comprehending difficult ideas and science via immersive experiences. Thus, making studying enjoyable for kids is one of the significant advantages of employing technology in education. Teachers could see pupils' growing interest, which was shown in their improved academic performance.

7. Aids students in learning new abilities and information

The use of technology in the classroom aids students in expanding their knowledge and developing new abilities. That was made feasible via the internet and online courses! Dedicated students may research a wide range of information sources online to learn more about a certain subject. They will be able to plan academic lessons and outperform other students with the assistance of their newfound expertise. Additionally, EdTech is assisting ambitious young talent in developing professional skills that will aid in their future development. The majority of professional skills or areas, such as business analytics, machine learning, data science, and digital marketing, are not included in the university curricula. Outside of classroom hours, you may complete an online course for any specific skill. It will enable you to get in-depth knowledge of the topic and prepare you for a desired career or professional sector.

8. Updates pupils on the most recent technical developments

The ability to keep current on the most recent technical advancements is one of the greatest advantages of digital learning for students. You may easily implement them and improve your educational experiences. Virtual classrooms, eLearning applications, and other new technologies are becoming more popular on the market. You may utilize these technologies to your advantage and advance academically if you are aware of the developments in Edtech. Students who keep up with technological advancements in school have a higher chance of succeeding in their careers. They may assist firms in operating effectively and achieving objectives more quickly by making use of their knowledge of the most recent technology and trends.

9. Enables kids to improve their mental health

The enhancement of students' physical and mental health is one of the key advantages of digital technology in education. Different digital technologies made their boring learning curricula more engaging and easier. EdTech techniques enhance your cognitive abilities in several ways. Two major factors are the use of AR and virtual learning sessions. They improve your brain's capacity for reading, interpreting, learning, remembering, thinking, and applying reasoning. Over time, all of these have a significant influence on your academic performance and learning. It boosts your confidence and makes you feel good since using educational technology allows you to get

excellent scores or marks. This improves your mental well-being and permits you to focus more intently when studying.

10. Makes instruction simpler and more effective

The benefits of educational technology extend to teachers' ability to teach as well as students' ability to learn. The many ways that technology is used, including wide-screen projectors, virtual classrooms, audio-visual presentations, and digital planners, aid instructors in providing better education. As a result, the pupils' knowledge and comprehension level improved. Additionally, technology boost instructors' productivity! The students' involvement is raised through the usage of digital tools, which also provide them additional opportunity to study. Many instructors have the ability to modify their methods of education and employ special tools for their poorer pupils. Overall, educational technology increased instructors' productivity, which benefited both schools and children.

11. Aids instructors in monitoring the development and performance of pupils

The software or task organizer that instructors use to manage their students' homework is one of the best results of technology integration in education. They serve as digital alternatives to the paper planner or school journal. The assignments and tasks for the day, week, or month may all be input by the instructors. They may set deadlines for them. They get real-time information when the pupils begin, stop, and finish a job. A dashboard that provides instructors with an overview of student performance is another feature of a thorough digital planner. They may see the number of hours spent studying, projects finished or ongoing, grades for classes already completed, and so on. They may keep tabs on each student's performance, successes, and failures. It enables them to plan their curricula appropriately for the next learning session.

12. Avoid as many outside distractions as you can

Contrary to what many experts said, technology in education really serves as a source of distraction. However, this is only guaranteed if teachers and schools know how to properly employ technology. It will be simple for kids to get distracted if they are given mobile-based learning applications. They often switch to social networking platforms, game applications, etc. Choose educational tools that help pupils concentrate better and reduce distractions, such as desktop-based digital planners. These programs are designed to eliminate outside distractions and provide kids a quiet workspace to do their assignments.

13. Enhances the interaction between instructors and students

Collaboration between students and instructors has been shown to enhance when technology is used in the classroom. Online learning systems allow professors and students to communicate outside of the classroom. Additionally, it enables one-on-one interactions between the students and the professors. While students are at home, they may submit their assignments so that professors can view them and provide the appropriate suggestions. Compare the scenario in a physical classroom with that in a virtual classroom when it comes to cooperative activities like group projects. The instructor gives the various student groups assignments to do. Because some kids will speak out, some will offer questions, some will be reluctant to ask, and others may not

have the chance to be heard, there will inevitably be chaos or uncertainty. Contrary to popular belief, this does not occur in an online environment. Every student in the virtual classroom is linked. Each student receives a personalized response and solution from the instructor on a separate screen. One may argue that internet education encouraged student relationships outside of the classroom. They may help one another and collaborate on challenging undertakings by exchanging ideas and materials.

14. Personalized educational opportunities

Students now have constant access to knowledge and resources thanks to educational technology. Additional in-person online sessions are an option for anybody who struggled to understand ideas or learn in a classroom setting. Teachers may specifically design individualized learning programmes for their pupils based on their aptitudes and interests. This is an additional benefit of online learning that provides instructors peace of mind since they can focus on each student individually. Additionally, pupils have the opportunity to study comfortably and easily. They are not required to observe or copy what their classmates are doing in class. Instead, students may adhere to the strict timetable established by their instructor and do the chores given to them.

15. Productivity among pupils has increased

Students are improving their self-learning with the use of online educational resources, and this is evident in their rising academic production! In addition to providing students with individualized learning opportunities, EdTech allowed them to improve their cognitive thinking and task management abilities. When children reach higher grades, they really need this. They can handle mountains of tasks and finish each one on time and without losing concentration by doing so. Numerous online courses with deadlines encouraged students to become more committed. In order to finish the courses on time, they learnt to prevent any kind of schedule diversions or disturbances. Additionally, information and learning materials are readily available to students. In order to gain further assistance on a project, pupils may also start an online conversation or have a talk with a teacher outside of the classroom. Therefore, there is no chance of becoming bogged down in the midst of a task or assignment. Overall, using online learning resources increases students' ability to focus on their work and enriches their educational experiences, increasing productivity.

16. Using gaming to encourage pupils

It seems sense that technology fosters creativity and innovation. Fun components were introduced by the designers of many EdTech tools and apps to better engage young learners. This is also known as "gamification," when programs provide natural reactions upon completion of a learning stage, such as reward points, scores, clap noises, congrats images, gratitude notes, etc. The kids are really motivated by this and are propelled to take the next step. There are interactive game components in many eLearning applications, such as the ability to collect cash, jewels, or other incentives.

They have individual scoreboards that let pupils compete and exceed one another. In other words, gamification made learning engaging and exciting for pupils while strengthening their concentration and motivating them to do better.

17. Integrated learning situations

Immersive learning opportunities were made available to pupils thanks to VR and AR ideas, which only served to broaden their knowledge. These technologies were utilized by educators to instruct pupils on difficult scientific ideas, puzzling theories, and historical locations. With textbooks, it was difficult for the pupils to comprehend and recall information. Additionally, instructional technology made learning fun for pupils! No longer are students limited to the illustrations and information found in textbooks. They can view movies, access websites, and do online searches. As a result, they were better able to prepare thorough papers and obtain deeper understanding of a topic or idea.

18. Relieves parents' and teachers' stress

Using digital tools, instructors are no longer need to keep a journal or to-do list. They have saved a ton of time by using online tests, grading tools, and virtual lesson planners. They may fill out the application completely and plan their submissions around the dates. Therefore, if they utilize such an app, pupils would never forget to turn in an assignment! The parents are also much relieved by this. Many applications help students keep track of their assignments or homework and remind them of their due dates. As a result, pupils develop self-awareness and finish their assignments on time. As a result, parents do not need to peer over their kids' shoulders to make sure they are doing their homework. The learning experiences of students, particularly those in higher classes, have been enhanced by the additional eLearning choices such online open courses, eBooks, YouTube tutorials, etc. They don't have to disturb the instructor all the time to ask for help with tasks. This enhanced the bond between instructors and kids while also assisting teachers in relaxing a little.

19. Ensures lifelong learning

The fact that EdTech promotes sustainable learning and the environment is one of its most important advantages. Virtual classes and digital learning resources save a significant quantity of paper and, therefore, forests. The use of computers to complete coursework and take exams, which can then be shared through email or cloud storage, is encouraged by teachers. In light of the fast environmental impact, many schools and instructors are switching from paper books to eReaders. Students of this age now understand the importance of environmental sustainability thanks to the use of technology in the classroom. The use of electronic and digital learning tools benefits both students and instructors while also preserving the environment. They are able to reduce their spending on things like books, notes, boards, paper planners, educational excursions, etc.

20. Acclimates to a digital future

The advantages of embracing technology in education now will get you ready for the totally digital future. The world is moving closer to a day when technology will be used to power or affect everything. Students become familiar with contemporary technology using a variety of EdTech tools, including virtual classrooms, AI-assisted planners, video learning, engaged learning for TV applications, online exams, etc. They were also able to establish priorities for their usage of technology thanks to it. They are able to distinguish between devices that are

useful for learning and those that are utilized for entertainment, such as social networking, TV apps, OTT, and game applications. They will be able to draw a boundary now and use technology responsibly. Today, many businesses recruit candidates after evaluating their technological proficiency, cognitive ability, and educational attainment. Students that get acquainted with various technologies at a young age have an easier time being hired by the chosen organization. They don't need to go somewhere for vocational training, and their parents don't need to teach them how to use computers, software, and internet communication tools.

21. Supports pupils' independent learning

Last but not least, the use of technology in education allowed the kids to study at their own speed. There are many pupils that have worse memory or learning skills than others. They were unable to keep up with the teachings in the competitive classroom setting and traditional teaching techniques, thus they were not appropriate for them. For them to do better in school, they need specific care.

One of the main advantages of employing technology in education is that it has made it possible for such pupils to get a more individualized education. Teachers may create personalised learning plans and timetables for students using digital tools. In accordance with their qualifications and talents, they might specify the tasks to be completed and the due dates. While many children benefited from this and saw an increase in their test scores. Additionally, it let instructors instruct pupils with difficulties like ADHD or other attention-deficit/hyperactivity disorder (ADHD) independently.

Technology in Education Concept

The integration of technologies including computers, the web and multimedia, digital boards, overhead projectors, and video integration is referred to as educational technology. All of them have a real impact on the educational field and aid in the teaching and learning procedures. But how do they function independently for the classrooms, parents, instructors, and students? Let's investigate.

1. For pupils

Students' involvement in learning and academic success rate both increased thanks to the wise use of technology in the classroom. The following are some significant ways that educational technology is affecting students' lives:

a. Fosters dialogue between students and instructors.
b. Improves student engagement in groups or with other students.
c. Gives pupils access to a huge repository of knowledge.
d. Assists kids in developing connections to the outside world.
e. Helps students become ready for the workforce.
f. Encourages interaction with academic institutions and professors.
g. Instills responsibility and timeliness.
h. Inspires interest in learning by introducing a fun element.

2. For educators

To their benefit, teachers may make use of many educational technology tools to provide pupils a positive learning experience. They made it possible for the instructors to use cutting-edge, student-focused teaching strategies. The following advantages of educational technology are enjoyed by teachers.

a. Offer pupils a vibrant learning environment where they may get individualized attention.
b. Use augmented reality (AR), virtual reality (VR), and multimedia information to engage pupils both physically and virtually.
c. By incorporating immersive and cognitive tasks into the classroom, you may aid students in developing practical learning abilities.
d. By giving students access to quick resources, you may assist them improve the quality of their academic work.
e. Engage students' interests and boost retention.
f. Use customized learning tools to meet the specific needs of children with extraordinary talents.

3. The parents

The use of technology in schooling has given parents more self-assurance and improved how they can assist their children. The following are the main advantages for parents.

a. Parents may monitor their kids' activities and establish expectations for their pupils.
b. They may employ technology to assist their children in overcoming academic obstacles. The best illustration is the usage of an electronic homework planner, which serves as an attention coach for children who struggle with it.
c. To assist their kids in finishing a task, parents may use internet resources and instructional tools.
d. They may see instructional videos and lectures from previous classes to better understand and assist their children in their learning.
e. Parents may relax or enjoy their own time without always monitoring their children in order to assist them concentrate on their schoolwork.

4. During class

While revolutionizing the classroom environment, the use of technology in education benefited students, instructors, and parents. Different technologies have been incorporated into classrooms to improve learning opportunities. How? Read on.

a. Using movies, instructional TV applications, websites, and projectors allowed for immersive and interesting learning.
b. Greater cooperation between educators and students, which benefits group projects.
c. Made it possible for schools to participate in hands-on activities that helped kids' cognitive abilities and problem-solving capabilities.
d. Assisting schools in incorporating tactics and curricula that take into account the educational needs of various children.

e. Made it possible for educational institutions to organize, carry out, and evaluate various teaching techniques with ease [12].

CONCLUSION

In conclusion, there are many and clear advantages of using technology into education. Through involvement, interaction, and tailored education, technology has improved learning. In addition to democratizing education and allowing people to study at their own speed, it has crossed geographical borders. Technology also gives teachers effective tools for evaluating student achievement, personalizing lessons, and improving their teaching techniques. These benefits should, however, be complemented by careful discussion about digital equality, data privacy, and the requirement for a healthy amount of screen time. In order to ensure that everyone has a comprehensive and successful educational experience as we continue to use technology to its fullest potential, it is essential to find a balance between technological innovation and the timeless principles of good pedagogy, human contact, and critical thinking abilities.

REFERENCES:

[1] C. Kohtz, C. Gowda, P. Stockert, J. White, and L. Kennel, "The use of web 2.0 technologies," *Nurse Educ.*, 2012.

[2] T. L. Mitzner *et al.*, "Older adults talk technology: Technology usage and attitudes," *Comput. Human Behav.*, 2010.

[3] Y. Beldarrain, "Distance education trends: Integrating new technologies to foster student interaction and collaboration," *Distance Educ.*, 2006.

[4] A. G. Abulrub, A. Attridge, and M. A. Williams, "Virtual reality in engineering education: The future of creative learning," *Int. J. Emerg. Technol. Learn.*, 2011.

[5] M. Hohenwarter, J. Hohenwarter, Y. Kreis, and Z. Lavicza, "Teaching and calculus with free dynamic mathematics software GeoGebra," *11th Int. Congr. Math. Educ.*, 2008.

[6] M. Alkhattabi, "Augmented reality as e-learning tool in primary schools' education: Barriers to teachers' adoption," *Int. J. Emerg. Technol. Learn.*, 2017.

[7] B. Hokanson and S. Hooper, "Computers as cognitive media: Examining the potential of computers in education," *Comput. Human Behav.*, 2000.

[8] J. Taljaard, "A review of multi-sensory technologies in a Science, Technology, Engineering, Arts and Mathematics (STEAM) classroom," *J. Learn. Des.*, 2016.

[9] F. Fındıkoğlu and D. İlhan, "Realization of a Desired Future: Innovation in Education," *Univers. J. Educ. Res.*, 2016.

[10] L. Midgley, "The benefits and drawbacks of using technology in outdoor education," *Mt. R. Undergrad. Educ. Rev.*, 2014.

[11] G. Chen, B. Xu, M. Lu, and N.-S. Chen, "Exploring blockchain technology and its potential applications for education," *Smart Learn. Environ.*, 2018.

[12] A. Sheikhtaheri, N. Hashemi, and N. A. Hashemi, "Benefits of Using Mobile Technologies in Education from the Viewpoints of Medical and Nursing Students," *Stud. Health Technol. Inform.*, 2018.

CHAPTER 3

A BRIEF DISCUSSION ONDIGITAL LEARNING TOOLS

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

The term "digital learning tools" refers to a variety of technologies, from interactive platforms to specialized software that are used to support and improve the educational process. This fictitious voyage reveals the transformational potential of these technologies, which go beyond conventional constraints and enable learners to travel unique paths. The idea of accessibility is at the center of this investigation. Geographical constraints are removed by digital learning technologies, allowing students to access information and resources from almost anywhere. By educating those who may otherwise have been excluded, inclusion fosters a fairer learning environment. The dynamic character of these technologies, which encourage interactive interaction via multimedia components, gamified activities, and simulations, is highlighted by this abstract knowledge. These tools encourage critical thinking, creativity, and active engagement while promoting a better knowledge of complicated subjects by appealing to learners' natural curiosity.

KEYWORDS:

Classrooms, Digital Education, Digital Learning, Management Techniques, Simulations.

INTRODUCTION

Teachers and students have been using these technologies to improve the learning experience since the introduction of technology. These resources assist educators in producing engaging material that may be utilized in the classroom or sent online to students. Additionally, they support pupils' individual learning styles and paces. This study offers a thorough summary of the online learning resources that are accessible to both instructors and students ↕[1], [2].

What exactly are digital teaching aids?

Technology-based educational tools called "digital education tools" may make teaching and learning easier. Examples comprise:

a.O nline learning environments
b.O nline classrooms
c.O nline textbooks
d.L earning management techniques
e.D igital assessment tools for pupils in special education

These resources may be used to present information, assess students' progress, and offer criticism. For instance, in virtual classrooms, instructors may utilize a variety of teaching aids to help them deliver lessons more successfully while also enabling them to design a learning environment where they can include students in activities, conversations, and multimedia resources. Teachers may use a variety of strategies to motivate students to actively participate in

their education, increasing engagement and content knowledge. Let's look at some digital teaching resources available on the internet. Today's market offers a wide range of virtual education tools, each with particular characteristics and advantages. These technologies, which might include virtual classrooms, learning management systems, and educational games, can help instructors give high-quality instruction while also giving students an improved learning experience and increasing their memory of what they have learned.

Collaborations Tools

Collaboration between professors and students is possible when using digital education tools, which makes them perfect for group projects and tasks. They provide a number of advantages, such as improved communication, immediate feedback, and adaptability. These technologies allow teachers and students to work together on projects, exchange ideas, and benefit from one another.

Using digital learning tools when teaching

Plan for successful digital learning by making sure instructors have useful pedagogical materials and tools.

The educational environment might change as a result of using technology to enhance teaching and learning. Digital learning may provide students the chance to be in control of their education, foster critical thinking, and inspire teamwork. This section of the playbook contains material that addresses education in general.

The Equity and Accessibility Considerations for Digital Learning section of the playbook contains information on how to teach neurodiverse learners—including those with Individualized Education Programs (IEPs) or 504 plans—in digital learning environments, even though these strategies will benefit all students.

Examples of subjects to take into account when using digital learning tools to help teaching and learning include the following:

a. **Learning Content Management:** Do we have a learning management system or online classroom to organize our resources and content? Who is already utilizing it, and what steps do we need to take to expand it to all instructors and subject areas?
b. **Currently Used Digital Resources:** What are they? Who is authorized? Is teacher preparation necessary and/or has it already taken place?
c. Do we have gaps in new digital resources according to grade level or subject area? How can we determine which online tools are most appropriate for each kid, grade level, and subject? What kind of proof is required to back decision-making and selection?
d. **Technology Access:** Will kids have access to online learning tools outside of the school's walls and after school? If so, can students get a dependable internet connection at home to do online assignments? If not, how can children without access to technology at home combine digital learning with analog homework?
e. **Teamwork:** How will educators work together to serve students? How will students work together as a team?

Finding Resources and Tools

To determine the software and applications required to satisfy the requirements of every student learning digitally, the leadership team should assess their present digital learning tools and resources in partnership with teacher leaders. Some groups to take into account are:

a. Video conferencing applications enabling synchronous online interactions between teachers and students, such as Zoom, Google Meet, and Microsoft Teams. Provide instructors with clear instructions on privacy settings, how to handle interruptions during video conferences, and how to utilize video conferencing software while advocating the usage of video conferencing.
b. A learning management system, or LMS, to arrange educational resources and materials for students (such as Schoology, Canvas, Google Classroom, or Edmodo.
c. Educational software and apps that support the pedagogical and academic objectives of the district or school.
d. Single sign-on technologies (such as Clever, OneLogin, and ClassLink) to simplify log-in management and student and family access to digital resources.

Other factors to take into account while choosing and using digital tools are as follows:

a. Creating programs that provide children access to professors and assistance
b. Producing district-wide educational materials that instructors in different schools may use to reduce the need for individual content production.
c. Compiling a database that can be searched and sorted using all the technological resources and tools that are accessible to instructors.

Evaluation and Grading

Particularly when digital learning is utilized in emergency circumstances, it gives schools the chance to reevaluate and modify the grading and assignment criteria. The leadership team should think about endorsing competency-based learning, an evaluation technique that places more emphasis on idea mastery than on learning time. This gives students the freedom to study and finish work at their own speed while being assisted by cutting-edge digital tools. Instead of conventional examinations and homework assignments, projects and performance-based assessments are the greatest ways to enhance competency-based learning. This kind of education gives pupils choice, flexibility, and a degree of agency over their work while demonstrating skill mastery. However, it necessitates giving students a sense of agency and working together with them to design a method of proving their competence that inspires them. Additionally, doing so could encourage greater independent learning and control over the time and place of learning.

Assessments provide instructors information about student performance that they may use to make decisions about future learning objectives and teaching. While evaluating student learning in a digital learning environment may be different from assessing learning in more conventional settings, it is still crucial. Beyond what is achievable in a conventional classroom, digital learning technologies provide chances for meaningful and genuine evaluation. It should be taken into consideration that non-traditional assessment methods made possible by digital learning may

provide flexibility and personalization for each student, particularly when combined with competency-based learning. In addition to project-based learning, which allows students to work on authentic, real-world products based on driving questions, schools can use adaptive software, which determines students' correct level and provides lessons and assessments that correspond to that level [3], [4]. Think about the following while grading and evaluating in digital learning environments:

a. The assessment and grading system that best supports district, school, and teacher learning objectives as well as the implemented curriculum and pedagogies. A few possible grading techniques are:
    i. Conventional letter or number grades;
    ii. Pass/fail or based on a rubric;
    iii. Based on standards; or
    iv. Based on competence.
b. Summative and formative evaluation techniques that may be used at home and in schools
c. Align performance and academic objectives with summative and formative evaluation
d. Examine if adaptive software can provide students with feedback and help at the right level.
e. Give instructors the resources and knowledge they need to conduct regular formative evaluations.

Building a Positive Online Community for Schools and Classrooms

Schools act as a place for community interaction that promotes the social and emotional growth of pupils. The process of creating a classroom community will resemble community building in conventional learning settings if digital learning includes a face-to-face component. Building community among students in the online environment should be given attention in lessons that are conducted entirely online. It should be taken into account during professional learning opportunities since this can call for alternative techniques than those instructors typically use. Considerations should be given to how leaders can assist instructors and how connections between teachers, students, and families may be fostered within digital learning, particularly in entirely online contexts. Social and emotional support is not only for students [5], [6].

Advice for helping teachers:

a. Conduct weekly check-ins or drop-in office hours to assess the needs and well-being of the teachers.
b. Establish professional settings where educators may communicate and collaborate.
c. Establish rules and guidelines for availability and timetables throughout digital learning. Schedules should be flexible, but rules should be laid forth on what constitutes acceptable digital communication and response times, and outside of school hours, there should be little to no digital communication at all.

Advice for helping students:

a. Give pupils access to nurses and school counselors.
b. Set aside time to foster community and connections both offline and online.

c. Provide opportunities for one-on-one or small-group interactions between professors and students at these times and on these platforms.
d. Pick at least one person from the faculty who will get to know each student well and keep that connection strong.
e. Establish shared activities throughout the school day, such as lunchtime read-alouds, brain breaks, or shared school meals.
f. Establish areas where kids may talk about who they are and who they identify with with their classmates. A discussion post, a shared posting board like Padlet or Google Jamboard, or a class website might all be these locations online.
g. Create predictable routines for kids to help with learning, reduce stress, and foster self-regulation while yet allowing for flexibility for those who need it.
h. Incorporate regular breaks that encourage pupils to step away from their computers.
i. Throughout the year, plan formal and informal interactions between students and their classmates. In order to concentrate on social and emotional development, instructors may also provide optional engagement activities without explicit learning objectives. These may include working in small groups and forming formal partnerships.
j. Establish channels for students to express their queries, criticisms, and worries about the curriculum, as well as their social and emotional wellbeing.
k. Give kids the chance to communicate with students in other local and international classes.
l. If you are an online educator, think about:
    i. Making contact with students before the start of the academic year. This can include encouraging students to create a shared Pinterest board featuring their favorite things or a quick, unique video message.
    ii. Designing activities that will encourage students to interact with one another (such as online icebreaker games, discussion boards, or small group discussions based on shared interests).
    iii. Establishing guidelines and standards for classroom instruction.

Education is no longer a limited, one-dimensional experience thanks to the advancement of digital technologies. With access to knowledge and resources that can be utilized to create compelling, interactive experiences, online learning and education technologies are revolutionizing how instructors and students engage and learn. This blog offers a summary of the most well-liked digital teaching and learning resources for teachers and students, enabling them to take full use of the possibilities presented by technology [7], [8].

DISCUSSION

Top 3 Online Resources for Teachers

1. Socrative

With the help of the platform Socrative, instructors may design tests and quizzes that students can complete on mobile devices. Teachers may track their students' progress using Socrative and get immediate feedback. Additionally, it gives instructors real-time data so they may modify their classes and exams to better suit the requirements of their pupils. To exchange and access quizzes

made by other instructors, teachers may work together with their colleagues. Socrative makes it simple for instructors to interact with students and gauge their level of understanding.

2. Padlet

With the use of the online technology Padlet, instructors may share resources, activities, and information with their pupils. Teachers may design a collaborative learning environment using Padlet where students can exchange materials and ideas. To make their Padlets more interesting and educational, teachers may include multimedia components like photographs, videos, and documents. Additionally, it offers a real-time collaboration tool so that students may work together on projects and tasks.

3. Seesaw

Teachers may develop and share multimedia activities and assignments with their students using the platform Seesaw. With Seesaw, instructors may provide comments, keep track of their students' development, and interact with them in the moment. Additionally, Seesaw offers a real-time collaboration tool so that students may work together on projects and tasks. With the aid of the effective teaching platform Seesaw, which makes it simple for instructors to connect and communicate with their pupils, they may develop close bonds with them and increase engagement.

Top 3 Online Learning Resources for Students

1. Drive by Google

Using Google Drive, students may save and share papers, presentations, and other types of files on the cloud. Students may communicate with their peers, get instructor comments, and access course resources from anywhere using Google Drive. Students may produce and collaborate in real-time on spreadsheets, documents, and presentations using Google Drive's additional capabilities, including as Google Sheets, Docs & Slides, and Meet. This tool is especially beneficial for group projects or tasks where many students must collaborate.

2. Duolingo

With the help of the program Duolingo, kids may study languages in a fun and engaging environment. Students may practice reading, writing, speaking, and listening in their preferred language with Duolingo. Duolingo encourages students to keep studying by offering individualized feedback and a live scoreboard. Students may easily create objectives and measure their progress, which helps them remain motivated and organized. The software also employs adaptive learning, which enables it to modify the classes' degree of difficulty in accordance with the advancement of each learner.

3. Coursera

Students may get both concrete and abstract educational advantages from Coursera, including highly sought-after technological abilities. It provides several paid and free courses to provide students with the essential abilities and information. Additionally, it provides credentials from internationally renowned colleges. As an example, Coursera provides a Python specialty that

includes the foundations of programming, data analysis and visualization, and machine learning and concludes with a capstone project. Additionally, it provides a variety of courses in other disciplines, including business, health, IT, education, and more. These courses are taught by top industry professionals, and students may access the material at any time online. With the correct resources, instructors may design dynamic, fun lessons for their pupils, who will learn more efficiently and effectively. It's critical to choose digital learning tools that cater to the requirements of both instructors and students.

How Important Is Digital Education?

Knowing the value of digital education in today's society requires understanding why everyone is gravitating toward it. In order to better comprehend this, let's use a simple illustration: as technology develops quickly, more and more institutions of higher learning including corporations, schools, and universities are turning to digital platforms for instruction. Greater access to educational resources, more effective teaching and learning techniques, and a more participatory and immersive experience are all made possible by online learning and education. It gives students access to a variety of materials and tools, including webinars, animated PowerPoint lessons, online lectures, and e-books. Additionally, it enables quicker information access and pace-dependent course delivery. Additionally, interactive virtual and augmented reality techniques may make online education more immersive for students. Teachers can more effectively monitor student progress and provide comments while teaching in a virtual environment. With the use of digital technologies, instructors may quickly assess a student's progress and provide them individualized comments and guidance. Greater levels of engagement are possible with this strategy, which may improve learning results [9].

What distinguishes digital learning from online learning?

Online learning and digital learning are often used interchangeably. Especially given that the majority of modern digital learning occurs online. However, your students have access to a variety of other digital learning options as well. Digital learning is a broad term that encompasses all current learning methods. Digital learning is the general term for online learning. It simply applies to the kind of instruction your students may get online. As long as there is an internet connection, it may also be taken on other devices such phones and tablets in addition to web browsers, of course. Through mobile offline learning, simulated training, and augmented reality learning, digital learning may take place offline. To complete their corporate training, your learners don't necessarily need to be connected to the internet.

Types of online education

It's important to think about which aspects of digital learning which is a broad word for training and development are genuinely relevant to the goals of your firm. You may check out the many forms of digital learning by clicking here:

MOOCs, or massive open online courses

MOOCs, which are online courses that may be taken once and repeated as many times as the student likes, are perhaps the most well-liked kind of digital learning. They are typically found

on websites that provide free courses, such Facebook, Google, and LinkedIn Learning. This kind of digital learning often adheres to a set curriculum and uses pre-recorded films and slides as its primary instructional medium.

SPOCs (small private online courses)

Small private online courses are distinct from MOOCs in that they are created to instruct a particular group of students in a particular subject. Some learning management systems (LMS) and course management systems (CMS) provide paid subscriptions that allow users to view or order SPOCs.

Mobile education

As it sounds, mobile learning is just that. Its training courses are intended to be used on the move for those with hectic schedules and active lifestyles. During their daily commute or even while on vacation, your students may view educational films or complete interactive quizzes. It allows your students the freedom to study wherever they are [10].

Simulated education

For teams who need a lot of hard skills compliance training, simulated learning is appropriate. When training your personnel, it often employs augmented reality (AR) or virtual reality (VR) equipment to imitate real-world situations. They have the ideal chance to use their newly acquired talents in this situation without running the danger of unpleasant encounters with other people.

A virtual classroom

Learning management systems may be used to construct online classrooms that link your students and instructors. Asynchronous messages or synchronous interactions might also be used for this. When you have a worldwide workforce that works remotely, this is a fantastic digital learning alternative to take into account.In the end, digital education is significant because it offers accessibility to educational resources, more effective teaching and learning techniques, and an interactive and immersive experience. It is altering the way we learn and is essential for future success.

CONCLUSION

In conclusion, digital learning tools have become indispensable resources in the field of education, influencing how we gather and share information. These technologies have ushered in an era of accessibility, interaction, and personalization, enabling students to participate meaningfully and dynamically with educational information. Digital platforms' adaptability supports a range of learning tempos and styles, promoting a better comprehension of topics. However, a comprehensive strategy that takes into account every person's requirements, effective pedagogy, and ethical issues is the only way to fully fulfill the promise of digital learning technologies. As we use new technologies, it is crucial to guarantee equal access, advance essential digital literacy, and maintain a balanced integration that respects both the benefits of technology and the human component of education [11].

REFERENCES:

[1] H. A. Smith, J. Giacon, and B. McLean, "A community development approach using free online tools for language revival in Australia," *J. Multiling. Multicult. Dev.*, 2018.

[2] A. Nilsson, "Attitudes towards, expectations of, and competence regarding ICT and digital learning tools A quantitative study among Swedish EFL teachers in secondary/upper secondary school," *Teach. Teach. Educ.*, 2018.

[3] A. Raike, A. Keune, B. Lindholm, and J. Muttilainen, "Concept design for a collaborative digital learning tool for film post-production," *J. Media Pract.*, 2013.

[4] N. Dabbagh and H. Fake, "College students' perceptions of personal learning environments through the lens of digital tools, processes and spaces," *J. New Approaches Educ. Res.*, 2017.

[5] S. Nadzirah *et al.*, "E-Jawi□: Digital Learning Tool For Jawi Character Recognition," *Br. J. Anaesth.*, 2015.

[6] S. Nassim, "Digital Storytelling: An Active Learning Tool For Improving Students' Language Skills," *Pupil Int. J. Teaching, Educ. Learn.*, 2018.

[7] B. F. Cecilie Haraldseid, "Improvement Of Health Education: The Opportunities Of Technology And Digital Learning Tools," *J. Clin. Toxicol.*, 2014.

[8] R. A. Mckerlie e*t al.*, "Facilitation Of Student-Staff Partnership In Development Of Digital Learning Tools Through A Special Study Module," *Int. J. Students As Partners*, 2018.

[9] L. Bollini, "Learning By Playing. A Gamification Approach To A Language-Learning Digital Tool," *Iceri2015: 8th International Conference Of Education, Research And Innovation*. 2015.

[10] A. Kok, "The Adoption Of Digital Learning Tools In Academy-Industry Partnerships," In *Procedia - Social And Behavioral Sciences*, 2010.

[11] I. Engeness And A. Edwards, "The Complexity Of Learning: Exploring The Interplay Of Different Mediational Means In Group Learning With Digital Tools," *Scand. J. Educ. Res.*, 2017.

CHAPTER 4

A BRIEF DISCUSSION ONVIRTUAL REALITY IN EDUCATION

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

Virtual reality is a singular opportunity to immerse students in made-up worlds, giving them the chance to interact with concepts and situations that would otherwise stay study. This fictitious tour highlights how VR technology builds a link between intangible experiences and study ideas to promote greater comprehension and recall. The idea of immersion is at the center of this investigation. Virtual reality immerses students in dynamic, multimodal settings beyond the boundaries of conventional classrooms. Through this fictitious world, students may travel through time, investigate the microscopic cosmos, and take virtual field excursions to far-off places. Through active investigation and a feeling of wonder, this immersion piques interest and supports successful learning. This study comprehension also highlights VR's potential to democratize learning opportunities. Learners may now access educational information and experiences that were previously unavailable, regardless of their geographic location or physical limitations. By providing fresh opportunities for involvement for various student groups, virtual reality (VR) acts as a bridge to inclusion.

KEYWORDS:

3D-Tracking, Conventional Classrooms, Education, Virtual Reality, VR Technology.

INTRODUCTION

Virtual reality, or VR, is taking off in education with an increasing number of schools adopting the technology. VR allows students to experience destinations from across the world without ever having to leave the classroom. Imagine students being able to explore the pyramids of giza whilst sat at their desks. This is what virtual reality education allows.Most people have heard of virtual reality (VR) but many people do not know what it is or how it is used in learning and education. VR refers to interactive content (images or videos) which enables the viewer to explore the entire 360 degrees of a scene.

Before we dive in, let's discuss what is actually meant by this. Virtual reality, or VR for short, is a computer-generated simulation that alters the user's perception of reality and allows them to interact with a three-dimensional environment. Although your surroundings do not physically exist whilst wearing a VR headset, the experience is so immersive that it certainly feels as though your surroundings are real. These false realities can be completely abstract and made up of unrealistic features and surroundings, or it can be used to replicate an exact real-world experience such as touring Vatican City or exploring your home street using Google earth. It comes as no surprise that something so powerful can be a massively helpful teaching tool. When we think of VR, it's easy to imagine something futuristic and advanced beyond our understanding. However, it is now readily available all over the world, with people using it for fun and leisure on a daily basis [1], [2].

How does it work?

A type of VR known as 360VR is most commonly used in education. With this type of VR, real-world locations are captured with specialist cameras and equipment. The footage is then taken back to the studio where it is produced into VR content. The VR content can then be viewed on VR headsets or projected onto walls in what are known as immersive classrooms. 360VR can be used in education to teach pupils about the world around them. What's more, virtual reality has a unique ability to inspire and engage students. Students can experience locations that would not be possible or too expensive to visit in person. In this way, VR can open a whole new world of possibilities to teachers and schools. We know that VR is a powerful tool, but how does it work? Virtual reality headsets typically come in the form of a thick pair of goggles connected to a computer with a set of controllers that allow the user to carry out actions. That being said, there are also advanced headsets that incorporate eye-tracking without the need for controllers, and even headsets that are standalone consoles without the need for computer connection. There are also more affordable headsets in the form of cardboard goggles that you can connect to your phone.

Movement

The magic of VR comes down to the headsets ability to track the user's head and eye movement and change perspective with you. Headsets are also able to track your body's movement, allowing you to walk within the simulated environment. This 3D-tracking functionality isn't for everyone, as motion sickness is a common side effect of using these advanced pieces of equipment. Thankfully, the controllers can also function as a means of moving around within the environment.

Vision

Now, you may be wondering how exactly these simple pairs of goggles are able to completely transform your surroundings. This is done by creating a three-dimensional view. This works well because of stereopsis, which is the ability to visualise a three-dimensional shape from visual information from both eyes.

Your right and left eyes see things slightly differently, and both views come together to create the same effect of how we perceive things in everyday life. Two separate images are shown on either side of the goggles, one for each eye, and these images are displayed at the perfect distance from your eyes to create a sense of depth. We read photos and phone screens as flat images, so they will never have the same effect as a three-dimensional simulation [3], [4].

Sound

Another key component to creating a fully immersive experience is the sound of your surroundings, so no VR headset is complete without the addition of headphones – which are often built-in.

If you are interested in finding out how to make content for VR, check out our incredible short course that will set you up to make your own VR experience.

How can virtual reality improve education?

Virtual reality can improve education by providing students with memorable and immersive experiences that would otherwise not be possible. What's more, it can all take place within the classroom. VR is accessible to every student and can be easily monitored by teachers. Virtual experiences have the power to engage and inspire students in a unique and powerful way. Given the growth of VR within education, and the positive response from schools, we wouldn't be surprised if VR made it onto the curriculum at some point in the future. Curriculum aligned content and structured VR lesson plans have already been developed and are available in the UK [5].

How can virtual reality help students?

There are so many ways in which virtual reality can help students but the main points are below:

1. Students learn better through experience

VR provides students an opportunity to learn through experience, in contrast to the traditional methods of reading and writing.

2. VR has the ability to inspire

Being able to see and experience extraordinary locations within the classroom is completely unique to VR and it is inspirational to students.

3. VR sparks the imagination and encourages creative thinking

The immersive experience that VR provides is unparalleled in teaching. Students are "transported" out of the classroom and their imagination is allowed to flourish.

4. VR in education promotes peer interaction

Throughout the VR experience, students are encouraged to interact with each other. Afterwards, they are eager to share their thoughts and discuss their experiences.

5. VR engages students

Many students get bored with classic teaching methods. The modern technology of VR gets students' attention like nothing else. We find that students instantly want to try out the VR.

6. VR provides realistic travel experiences

Using VR, schools can provide students with travel experiences that would not be possible or practical. Schools can save time and money whilst providing students with incredible experiences.

7. VR in the classroom is inclusive

With VR, every student gets the same opportunity to enjoy the experience. Unlike traditional school trips that can be too expensive for parents or too impractical for their children, VR is for all students.

8. VR offers memorable educational experiences

Long after the VR has finished, students remember the experience and they are eager to reflect on it in future lessons.

Implementing VR in the classroom

There are two main ways in which VR is implemented in the classroom: VR headsets, and immersive classrooms.

What is an immersive classroom?

One of the most common and effective ways of utilizing VR in education is via virtual reality classrooms, or immersive classrooms. An immersive classroom is a teaching room in which images are projected onto the internal walls of the room. This creates a virtual environment within the classroom. Students can be "transported" to a different place, without having to leave the classroom. Without the need for VR headsets, students can enjoy the experience together, and are encouraged to interact with each other. Unlike VR headsets which some students can find difficult or uncomfortable to use, immersive classrooms are suitable for all students. The pupils are able to enjoy the VR content in a more familiar environment [6], [7].

VR headsets in the classroom

VR headsets are a common, practical way of implementing VR in the classroom. With minimal cost, equipment, and space needed, an increasing number of schools are turning to VR headsets. For a classroom of 30 students, typically up to 15 headsets are required. These are usually standalone headsets, which means they don't have to be connected to any other device, such as a computer. Teachers are taught how to use the headsets before implementing them into a lesson. The main benefit of VR headsets is the level of immersion they provide. Although they can be a little trickier to use than immersive classrooms, they provide an incredibly realistic experience. An experience that students aren't likely to forget in a hurry.

VR in primary schools

VR can be effectively used in primary education, and is becoming increasingly common in the UK. Immersive classrooms tend to be more popular than VR headsets amongst primary schools. This is because every student can be easily monitored, and young students do not need to be shown how to use headsets. This ensures that the experience is smoother and equal for all the students. Pupils are asked to look around and talk about what they see. This provides opportunities for students to collaborate and can particularly improve interaction amongst more introverted students. Reducing social barriers at a young age is extremely important and is one of the reasons many primary schools are turning to VR.

Virtual reality in secondary education

Within secondary education, VR headsets tend to be more popular than immersive classrooms. This is because the impact on older students tends to be greater with the headsets. With the entire field of view enclosed, the sense of immersion with a VR headset is unparalleled. Also, unlike

with primary school pupils, secondary students are better able to use the headsets, requiring less input and guidance from the teacher. By utilizing VR headsets, teachers are able to provide secondary students with a feeling of actually "being there" – this is what we mean when we talk about immersion. For many students this is an incredible experience, and it is something that really has to be tried before it can be judged [8], [9].

VR for students with learning difficulties

VR can be great for those students with learning difficulties. Students can learn about the world around them in a safe and controlled environment. As with primary school students, immersive classrooms tend to be the most popular form of VR for helping students with learning difficulties. It is not uncommon for students to struggle with using VR headsets. With an immersive classroom, teachers can take the lesson in a much more normal way. The students are still able to look around and explore the virtual surroundings, but they can do so in a familiar way, without feeling closed in. VR has been found to be helpful for students with autism. A study showed that children with autism could apply skills they had learnt in a virtual environment to the real world. This included skills in fire and street/road safety.

Augmented reality vs virtual reality

Before we compare the two, let's define AR. To put it simply, augmented reality is the use of computer-generated technology to enhance a real-world experience. Although it sounds similar to virtual reality, the key difference is that AR incorporates your real surroundings, whereas VR is made up entirely of virtual information. Although the concept of AR may sound new to you, the chances are you've seen or heard of it before, as it is used within many well-known smartphone apps.

Snapchat uses AR to create a range of filters that alter your face or surrounding environment. Another popular application of AR is the game Pokemon GO, which prompts users to 'catch' creatures in various real locations. AR can be an amazing teaching tool and is more accessible than VR, seeing as it can be used with smartphones and tablets. There are resources available that turn educational content into interactive experiences. An example of this is educational worksheets that can be brought to life with the use of a smartphone. Although this isn't as immersive as a VR experience, it is still extremely useful and engaging for students.

What is mixed reality?

Whilst we're on the topic of augmented reality, let's talk a little bit about mixed reality. Mixed reality is similar to augmented reality in that it combines virtual information with real-world environments.

The key difference between the two is that mixed reality allows the virtual environment to interact with the real world. Augmented reality provides virtual visuals, whereas mixed reality provides the opportunity to manipulate the virtual information. It is essentially a combination of VR and AR, and is another useful educational tool. Microsoft Hololens is the perfect example of mixed reality; it lets the user interact with detailed displays of human anatomy in a real environment.

The future of education

In this digital age, online and distance learning is becoming increasingly popular, and many people are now acknowledging the benefits of an online learning platform. With such drastic changes, it only makes sense that we utilise technology to increase the potential of a learning environment.

Student wellbeing

With the recent series of lockdowns across the world, many schools, colleges and universities have faced closures. The pandemic has forced us to adapt and change the way that we study and learn, with methods such as blended learning becoming the norm. It is likely that this style of learning will stay beyond the pandemic, as it offers students a more flexible learning approach. However, one of the biggest struggles that students have faced is the lack of interaction with one another, and as we all know, being stuck inside your home all day doesn't offer much stimulation. According to a study by the Office for National Statistics, over half of university students reported being dissatisfied with their social experience during the autumn of 2020, as well as 57% reporting a worsening in their mental health state.

VR as a Tool for Learning

VR as a learning tool was initially adopted for workplace training scenarios, most notably for flight simulators. With advancements in graphics, spatial audio, animation, and greater accessibility due to lowering entry costs, VR is now being used for a wider variety of use cases, including education. Today, VR can help students engage more deeply with lesson content, practice real-life STEAM skills, and better retain information. In addition, using high-performing PCs with VR can offer an even more immersive learning experience with clear graphics and smooth animation.

Benefits of VR in Education

VR enables active learning, which is a teaching methodology that involves students' full attention and participation as they learn by "doing" as opposed to learning through alternative passive methods, such as listening to a lecture.

Immersive Active Learning

With VR as a tool for learning, teachers can provide immersive, engaging, technology-enabled experiences for their students. As students learn hands on through VR, teachers can encourage them to use more of their senses to participate in learning activities. For example, students interested in biology and chemistry can explore a virtual, microscopic world, walking among atoms or building molecules by hand. Students who have a passion for history and art can step back in time to view the Great Library of Alexandria or the ceiling of the Sistine Chapel in detail.

Access and Inclusion

With access limited only by the availability of VR-based content, students can engage in experiences that might otherwise be unavailable. Students can take field trips to museums and

visit countries on the other side of the world without ever leaving their classroom or incurring the cost of travel. Virtual environments can support a range of learning styles and the needs of students with learning challenges. And students with physical limitations can participate in experiences that may not be possible for them in the no virtual world.

Practical STEAM Experiences

VR in schools can also help students who are interested in pursuing STEAM-related careers, enabling them to practice real-life skills before entering the workforce. As employers adapt to industries in the Fourth Industrial Revolution, educators can simultaneously prepare students during their education with VR-based learning. With VR, students can learn the inner mechanisms of a nuclear power plant without ever having to go inside one or identify the parts of a human heart from the perspective of a surgeon without having to step inside a hospital. By allowing students to be visually, audibly, and tactically engaged with specific industries and professions, educators can help give them a clearer idea of what they might experience when they enter the workforce.

Increased Information Retention

When students learn through hands-on activities, they are more likely to retain information. In VR-based learning, students are immersed in three-dimensional virtual environments where they are able to perform and act in targeted, realistic situations. The use of immersive VR-based lessons has been shown to promote improvements in comprehension, cognition, and overall fact retention across a range of subjects and activities, no matter the complexity.

Technologies for VR-Based Learning

When you're introducing VR in education, there are a number of factors to consider, beyond the headset alone, in order to achieve rich, effective visual learning experiences. While you may think the headset is the most important piece of hardware, delivering an immersive, modern learning environment relies heavily on system responsiveness, graphics, and frame rate. This makes having a high-performing PC with balanced CPUs and GPUs a critical component for delivering better learning experiences.

Choosing a Headset

Depending on the experience you're looking to deliver, there is a range of available headsets to choose from, in both wired and wireless form, that support PC-based VR learning. Some also support augmented reality (AR) or even mixed reality (MR), allowing students to engage in both physical and virtual environments. In some cases, the headset provider may offer a series of applications for teachers and students to build, create, and share their own VR-based experiences.

The Right PC for VR

Having the right device for VR-based learning is essential. Without high-performing components that allow for fast refresh rates up to 144 Hz, students can actually experience nausea and dizziness because of the increased risk of motion sickness. A PC with an Intel® Core™ i5 or i7

processor with discrete graphics and powerful memory can give students the immersive learning experiences they need and help to reduce motion-related effects as they move or walk around with a headset on.

The Future for VR-Based Learning

Years ago, students would get excited when teachers would roll out the "computer cart" that was stocked with laptops. Soon, teachers will be able to announce the "VR cart" where every student can have access to a VR headset and its respective PC and experience lessons in STEAM unlike ever before. By fueling curiosity and embracing active learning through innovative technologies, VR could measurably change the landscape of education over the next decade.

DISCUSSION

The Benefits of Online Education In A Virtual Classroom

Similar to attending a physical campus and learning in person, there are advantages and disadvantages of attending a virtual classroom and learning online. Among the many benefits of online learning, you'll find that virtual education allows you to enjoy a more flexible schedule, can reduce the cost of your degree, and can allow you to more easily develop your career alongside furthering your education. While there are many pros to online learning, there are cons to consider. Staying on task and being self-motivated can be challenging in its own way; which is part of the reason why online learning isn't right for everyone. By understanding more about the advantages and disadvantages of online learning, you can get a better idea of whether it might be suitable for you and your educational and career goals[2], [6], [9].

Advantages of Online Learning

1. Flexibility

Among the many benefits of an online learning, you'll find virtual classrooms are great for people who are advancing their education while working. In a traditional classroom, lectures will be scheduled at a specific time of day and your schedule will be formed around the availability of classes. If you're currently employed and courses aren't available after your working hours, it can be difficult to juggle a course load in addition to your work duties. When attending a virtual campus, online learning allows for far more autonomy in deciding your own schedule. That means you can study whenever it's convenient for you. Live with some noisy roommates? Having more control over your schedule also means you can avoid distractions easier.

2. Reduced Costs

Education can be expensive, but virtual learning can provide a number of ways for students to save. Not having to commute to campus can help you save on transportation costs. Every year, the average student spends more than a thousand dollars on textbooks and course materials. Virtual coursework often takes advantage of virtual resources, which translates into less money spent on textbooks. Tuition costs can also vary between online and on-campus programs. For instance, at Drexel University, students enrolled in online programs in the School of Education receive a 25% discount off the price of regular tuition. Most online programs offered by the

school are also financial aid eligible. Between all these sources of savings, cost-cutting can be an enormous benefit of online classes.

3. More Free Time

Because your schedule isn't dictated by classes, you can spend more time doing the things you want. Plus, in addition to saving money, not having to commute also means saving time because you don't need to travel to-and-from campus. That extra time can be used in any way you want, such as focusing on your career or spending time with your family. All you need is a digital device and an internet connection, and you have access to the necessary tools to further your education and earn your degree on your own time.

4. Increased Course Variety

Another reason why online school is better for some is the increased variety of education options. Since students are not required to travel to campus for courses schedule on specific days and times, students can enroll in the courses they are most interested in. There's no need to rearrange schedules, students in an online program can take the course they want and complete the coursework at a time that is most convenient for them. Through online courses, students can gain the knowledge they need to earn their degree or grow in their profession. Online courses allow you to earn essentially the same range of different degrees that can be earned from a traditional educational environment. That includes learning certificates and professional certifications to master's degrees or doctoral degrees.

5. Career Advancement Opportunities

Just like courses taken in a traditional classroom setting, virtual learning can provide you with a number of career advancement opportunities. Because you're the master of your own schedule, students of virtual learning are better prepared to continue working while pursuing academic credentials. And for students who aren't employed, academic work can serve to explain any discontinuity or gaps in a resume. In either case, the advantages of virtual learning can be clearly seen on a resume.

6. Increased Collaboration

Online students have better opportunities to collaborate with classmates through virtual group work and meetings. One of the benefits of online courses are the message boards and grouping tools that allow students to post their feedback on readings and other assignments and respond to their classmates. Students may also receive more one-on-one time with their professor with virtual learning, which is beneficial for both learning and networking. Students can communicate director with their professor and upload assignments for review.

7. Personalized Education

Students who find their focus suffers from classroom activity may benefit from online classes. Students who aren't as assertive may have better opportunities to participate in class discussions when communicating online. Working from your own choice of environment, with self-paced learning, the result can be a more personalized learning experience. In online courses, students to

choose the time that works best for them to complete readings and assignments. Since the coursework is online, courses can be completed anywhere there is an internet connection.

8. Enhanced Time Management Skills

While the benefits of online learning include the flexibility to complete assignments at a time that is most convenient to the student, the student still needs to manage their time wisely to ensure they complete their assignments by the deadlines set by the professor. Online courses teach students how to manage their time better since the student bears the responsibility of engaging with the course instead of simply showing up to class on an assigned day and time. As a result, students not only gain knowledge from the coursework, but they also sharpen their time management skills [3], [5], [7].

9. Immediate Feedback

Integrating coursework with technology provides a number of advantages. Rather than waiting days or weeks after exams, you can often get immediate feedback. In online courses, students upload assignments digitally for review by their professor. Professors review student work online and submit feedback electronically. As a result, students receive feedback right away. In a traditional classroom setting, students may need to wait a week or two to receive feedback on their assignments. By receiving feedback sooner, students can learn faster and make adjustments for future assignments.

10. Repeated Access to Course Materials

Where a traditional lecturing leaf you at the mercy of your best note-taking skills, video presentations can be watched and revisited as necessary. If a student didn't quite understand some of the content covered in a video lecture, they can go back and listen to it again. Students can use lecture videos as a supplemental tool to help with competing assignments [9]–[11].

CONCLUSION

In conclusion, virtual reality (VR) is a stunning advancement with enormous potential to change the educational environment. VR provides immersive learning experiences that were previously out of reach by submerging learners in realistic and interactive surroundings. It encourages participation, critical thinking, and a greater comprehension of difficult ideas. VR's advantages and limits must be carefully considered in order to successfully integrate technology into education. Although the use of VR may improve educational results and close geographical inequalities, its adoption must also include good pedagogy and a focus on resolving accessibility issues. As VR develops further, governments and educators must work together to guarantee its ethical usage. They must provide a balanced approach that takes use of the technology's advantages while maintaining a commitment to inclusive, comprehensive, and effective education.

REFERENCES:

[1] I. D. D. Curcio, A. Dipace, and A. Norlund, "Virtual realities and education," *Res. Educ. Media*, 2016.

[2] S. Kavanagh skav012@auckalnduni.ac.nz, A. Luxton-Reilly andrew@cs.auckland.ac.nz, B. Wuensche burkhard@cs.auckland.ac.nz, and B. Plimmer beryl@cs.auckland.ac.nz, "A systematic review of Virtual Reality in education.," *Themes Sci. Technol. Educ.*, 2017.

[3] M. Hussein and C. Nätterdal, "The Benefits of Virtual Reality in Education The Benefits of Using Virtual Reality in Education A Comparison Study The Benefits of Virtual Reality in Education: A Comparison Study," *Univ. Gothenbg. Press*, 2015.

[4] M. A. M. E. Wong, S. Chue, M. Jong, H. W. K. Benny, and N. Zary, "Clinical instructors' perceptions of virtual reality in health professionals' cardiopulmonary resuscitation education," *SAGE Open Med.*, 2018.

[5] S. Kavanagh, A. Luxton-Reilly, B. Wuensche, and B. Plimmer, "A Systematic Review of Virtual Reality in Education, Themes in Science and Technology Education, 2017," *Themes Sci. Technol. Educ.*, 2017.

[6] A. G. Abulrub, A. Attridge, and M. A. Williams, "Virtual reality in engineering education: The future of creative learning," *Int. J. Emerg. Technol. Learn.*, 2011.

[7] D. Velev and P. Zlateva, "Virtual Reality Challenges in Education and Training," *Int. J. Learn.*, 2017.

[8] A. D. Lukito, R. Sanjaya, and H. Prasetya, "Virtual Reality Game Education to Learn Traffic Regulation," *SISFORMA*, 2017.

[9] E. Roy, M. M. Bakr, and R. George, "The need for virtual reality simulators in dental education: A review," *Saudi Dental Journal*. 2017.

[10] G. Yildirim, M. Elban, And S. Yildirim, "Analysis of Use of Virtual Reality Technologies in History Education: A Case Study," *Asian J. Educ. Train.*, 2018.

[11] L. Freina and M. Ott, "A literature review on immersive virtual reality in education," *Int. Sci. Conf. eLearning Softw. Educ.*, 2015.

CHAPTER 5

A BRIEF DISCUSSION ONONLINE LEARNING PLATFORMS

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

Online learning platforms include a wide range of web-based devices, applications, and settings that make it easier to share instructional materials. This ethereal world demonstrates how digital platforms cut beyond regional boundaries, allowing users of all ages and backgrounds to access a variety of information and services. This investigation's main focus is accessibility. By opening up educational materials to a worldwide audience, online learning platforms democratize education. Through this conceptualization, education becomes a transnational activity, opening doors to knowledge for individuals who may otherwise encounter obstacles. The voyage explores the interactive possibilities of online platforms, highlighting how collaborative tools, interactive evaluations, and multimedia content encourage involvement. Because of the interaction, learners become active co-creators of information rather than passive users, developing their critical thinking and problem-solving abilities.

KEYWORDS:

Critical Thinking, E-Learning, Online Learning, Online Platforms, Problem-Solving, Students.

INTRODUCTION

Like any other online platform, one designed for learning represents a web space or portal abundant with educational content and resources. This course content can be divided into different topics or subjects. It is typically uploaded to the platform by the course instructor or teacher, depending on the institution you're signed up with. An e-learning platform can be restricted by the membership (only those who are registered to it can access it), but it can also be free to access for anyone wanting to learn. The benefits of an online course platform are that both students and teachers can track the students' progress through the course material, and everything is neatly organized in one place. Additionally, students may also have an option of interacting with each other on the platform [1], [2].

There are different types of online learning platforms:

1. **Learning Destination Sites:** An LDS is a site where many different course creators offer their learning material. It's sort of like Amazon, only for online education. You can choose the topics and instructors that sound appealing to you and sign up for an individual course based on your preferences. Programs offered through an LDS are typically self-paced.
2. **Learning Management Systems:** An LMS is a software used internally within a specific organization or institution. Every school or university may have a different LMS platform based on the type of courses they offer (the most popular probably

being Blackboard). It can be accessed online like an LDS, or an application that you need to download and install on your computer.

3. **Learning Management Ecosystems:** A learning ecosystem is an extensive online learning tool that encompasses several software solutions, such as adaptive learning engines, learning content management features, course authoring software, tools for assessment, and more. LMEs are usually reserved for large organizations, schools, or universities that offer many online degree programs and learning resources.

How to Use an Online Learning Platform

Using an online training platform should be no different than logging onto a social network. You will have to sign up with a username or email and password. Check whether you have live lectures to attend at specific times. If not, your entire course material may be available to you to watch or listen to at your own pace. Live lectures may be conducted through the course platform, or organized on a different application, such as Skype or Zoom. Make sure to confer with your professor or educator about completing assignments. This can be done through the learning platform itself, video conferencing, submitting assignments by email, or some other way. If you have deadlines to complete your coursework, it will all likely be outlined in the platform, but it wouldn't hurt to contact the instructor just in case. [3], [4]

What can you learn on an online platform?

The beauty of a virtual classroom is that you can learn practically anything! Some programs require practical skills, such as training to become a healthcare worker (nurse, doctor, etc.) or a tradesperson. However, most theoretical knowledge can easily be obtained through online learning. Some of the most popular courses are those for the **IT industry**, such as computer science and data science courses. Digital marketing is also a popular topic these days, as well as all different kinds of management. You can also find courses to improve your soft skills, such as communication, leadership, teamwork, organization, and similar skills that aren't necessarily tied to a specific job or career. Additionally, you can sign up for an online learning experience to pick up a new hobby, such as digital painting, pottery, learning a new language, cooking, or others. Keep in mind that not every program offers a professional certificate at the end. If you want to utilize your newfound knowledge or skills in a professional setting, you may want to sign up for a course that offers certification upon its completion. This is usually not a free course.

What is an eLearning System?

An electronic learning platform is an integrated set of interactive online services that provide trainers, learners, and others involved in education with information, tools, and resources to support and enhance education delivery and management. One type of eLearning platform is a learning management system (LMS). There are many eLearning companies out there that offer online learning platforms. Some of these virtual learning environment platforms allow you to host and sell online courses, allowing you to run your own business. Other platforms simply offer an interface in which users can interact with your content but might not be the best fit for

your audience. In the end, you're going to choose the eLearning platform that presents your course in an engaging way for your learners. To help you decide how to differentiate between different LMS options, we've created a shortlist of the most important aspects to consider when choosing the right platform.

How to Choose the Best eLearning Platform

The purpose of a successful eLearning platform is that it creates a robust learning experience that *feels* like a classroom experience, offering the traditional classroom characteristics (like instructor-student interaction, Q&As, discussion, games, collaborative projects, quizzes, etc.) but either online or through a device (e.g. a laptop, desktop, tablet or mobile.) These important learning environments are achieved through a learning platform's features and tools that create the level of interaction and engagement students need [5], [6].

Learning Formats

Just as there are many learning styles for different types of learners, the online learning platform you choose should be able to host different content formats to address your learner's specific learning styles. Some examples of content formats include articles, interviews, webinars, charts, PowerPoint presentations, simulations and video, but these are just a select few examples of content formats that can be used in eLearning.

Learning platforms should also include content modules, learning modules, evaluation modules, and communication modules. These modules allow for your training program to incorporate a variety of teaching styles for every learner, and allows for learners to boost their performance level and knowledge-retention levels.

Use Cases

It's also important to consider any special requirements your eLearning platform will need in your business industry. For instance, if your company employees work remotely, you'll need an eLearning platform that can be easily deployed to different devices, like mobile phones, tablets, and laptops. Or, if you're in healthcare, your eLearning platform will likely need to be integrated into existing systems, like your hospital management system.

Questions to Ask About an eLearning Platform

Circling back to learning platforms, let's look at some of the important questions to answer when assessing your LMS options and picking the best one for your needs.

1. ***What are your learner's needs?***

Learners are the central, focal point of your training program, and understanding what they expect to achieve at the end of your training program should be your main goal. Do they want to learn a new skill, like a coding language, or do they want training in specific business process? Depending on your industry and business objectives, you will want an online LMS that offers features that address your learners' needs. Understanding this aspect is important as it defines how you organize and deliver information throughout the course. This process of understanding

how your training content and course design affects learning is called eLearning development. Continue reading for more on eLearning development. For example, if your organization is conducting a Human Resources compliance training program for employees across the globe, you would look for certain LMS functionalities like sequential course navigation, benchmark quizzes, display of course progress, etc. This type of business-wide training does not require a 1-on-1 personal interaction.If your organization offers a specific training program that requires student-teacher interaction, like teaching foreign languages, or an online college course, an LMS that supports the process of custom course creation, tasking and uploading assignments, comments, etc. would best meet your learner's needs [7], [8].

2. ***Is your LMS Mobile-Friendly?***

Almost everyone carries their mobile phones with them at all times! No matter your industry, learners prefer to have accessibility to training content on-the-go, so that they can have complete flexibility of their self-learning cycle. Conduct research and see what percentage of learners within your industry would like to have training available to them "outside" of using a laptop or desktop. If the percentage is above 30%, you'll want to make sure that the LMS you choose is compatible with mobile phones and optimized for remote education.

3. ***Does your LMS offer integrations with features and systems?***

If you're looking to consolidate the online learning experience for the user within one portal, it is important that your eLearning platform offer easy app or feature integrations so that the learner doesn't have to repeat the same steps or can access other platforms within the same portal. For example, an LMS feature that simplifies the user experience is the Single-sign-on (SSO). This feature allows the user to access other applications with the same credentials, without repeatedly logging in credentials on different apps within the same LMS.

4. ***Will you be overpaying for LMS features you don't want?***

In other words, an LMS that offers high-end features that do not meet the needs of your training program is a waste of money and time. Furthermore, the ultimate downfall of having an over complicated LMS is that it complicates the learning experience for the user and most likely leads to frustration and confusion.

5. ***Does the LMS support your content?***

Since an LMS is created to host courses and course content, this checkbox should be clearly marked as a "yes" when exploring different learning platforms. Some of the eLearning formats we mentioned above were audio, and video but also include PDFs, XML, MP3s, MP4s, SCORM, AICC, Tin Can, certificates and more. You will want to create a list of the content formats used in your courses and check that your preferred LMS supports them.

6. ***Is your LMS reliable and secure?***

One of the more important details to pay attention to when choosing an LMS is how it handles sensitive information. A security breach could cost your organization its reputation and brand image. Ensuring that the LMS has the right security protocols, firewalls and SSL is vital in

protecting your content and user's personal data. Whether you're a small business, an enterprise, or wanting to start your own eLearning business, addressing these questions will ensure that you can find the best eLearning platform for your training program.

In addition to selecting the right learning platform for your training, your training material must appeal to your audiences so that your learners keep coming back. Understanding the eLearning development process is important for creating course content that is specific to your target learner.

Understanding eLearning Development

eLearning platforms are a new method of teaching distant audiences. They have their own design and development processes in creating effective teaching courses. eLearning development looks at adult learning principles, learning styles and instructional design principles.

What is eLearning Development?

eLearning development is the process of creating technology-based education. The term was originally used to define automated learning systems that allowed students to learn on their own time at their own speed via a computer. The term that proceeded eLearning was, in fact, computer-based training, or CBT. Today eLearning encompasses many technologies used for the purposes of training and instruction. Simulations, gaming, mobile devices, GPS technologies, and many more can used for the development of eLearning experiences. They can also be blended together, creating a multimedia learning experience.

eLearning Developers Revolutionize the Learning Experience

With the new technologies available to us today, the term "eLearning" has come to be all-inclusive of any instruction delivered using technology. This would include a live instructor-led session delivered around the world via common tools like Webex, GoToMeeting, or other conference tools. The development of eLearning requires a mix of skills: project management, graphic design, instructional design, programming, media production, creative writing, translation, to name a few.

While most eLearning developers begin their careers in other technical fields, some are tech savvy former school teachers applying their skills in the new field of eLearning development. Specializing in only one area of eLearning development will limit one's opportunities significantly. It is far better to have a solid understanding of all eLearning development skills required to produce instructional media [4], [5], [7].

Build Learner Engagement Through the Top Online Learning Platform: Litmos

We have all participated in "those" trainings — the ones comprised of a slideshow in a text-and-next format. It is difficult to stay awake or stay actively engaged. But the future of training is here, and it is Litmos. Litmos is an award-winning training platform that can bring the learning to your on-the-go employees in a creative and user-friendly way. With powerful pre-built courses designed for engagement, Litmos's top-ranked LMS platform offers:

1. Content presented by industry experts who explain essential ideas clearly and completely
2. Interactive features embedded in each course to solidify the learning experience
3. Key concepts presented from a learner's perspective; no legal jargon.

Litmos provides content designed for employees, partners or customers, providing them the skills to be successful. Schedule a live demo today and let us show you how Litmos is the most effective learning solution for your enterprise.

Advantages of online learning

1. Self-paced learning allows flexibility

One of the biggest advantages of online learning is that it offers flexibility. Courses are self-paced, which means users can complete assignments within a specific time frame. Participants access the lessons through a Learning Management System (LMS), follow the instructions, and complete the material. Users and instructors interact through messaging apps, email, or discussion boards. Self-paced learning allows employees to control the pace of learning, which is in line with corporate initiatives. Eighty-one percent of executives state they are changing their workplace policies to offer greater flexibility to their workforce.

2. Teaches learners time management skills

Time management helps you prioritize tasks. It also helps people work more effectively. A recent Timewatch survey found that most employees agreed that better time management reduces stress at work (91 percent) and makes them more productive (90 percent). Because most online learning is self-paced, users develop three core time management skills:

a. **Persistence.** Team members must be consistent with how they use their time. It takes perseverance to change the way you use time.

b. **Dedication.** Training takes strong commitment, whether it's compliance, onboarding, or sales training. It's not something you learn overnight. Learners must show up and practice until new skills become force-of-habit.

c. **Motivation.** People set learning goals and aim to achieve them. Course materials have progress trackers to keep people motivated along the way.

With online learning, people learn how to plan coursework into their schedules. It teaches them to do one thing at a time, and break large projects into smaller, manageable tasks. They can apply time management skills to their everyday work, which builds confidence, improves focus, and fosters better working relationships.

3. Shows self-motivation

Self-motivation is one of the key advantages of online learning. Students' efforts can be difficult to gauge in a traditional classroom setting. Online learning, however, enables employees to demonstrate their commitment to professional development. Employees who complete online courses or participate in virtual training sessions can demonstrate their commitment to their job

and willingness to invest their time and resources to improve their performance. Employers can benefit from this quality, increasing productivity and efficiency.

Employees who participate in online learning can also demonstrate their adaptability and willingness to learn. Due to the ever-changing landscape of technology, employers are increasingly looking for workers who can adapt to new situations and learn new skills quickly

4. Improves communication and collaboration

a. Virtual communication and collaboration skills are essential in today's workplace. Seventy-five percent of employers rank teamwork and collaboration as "very important," according to Queens University of Charlotte data. Communicating and collaborating online can help employees be more productive and efficient in their roles. Online learning can help employees develop these skills by providing opportunities to practice and receive feedback in a safe and controlled environment. Some of the benefits of improved virtual communication and collaboration skills include:

b. **Improved ability to work** with team members in different locations.

c. **Better understanding** of how to use different online tools and resources.

d. **Greater ability to communicate** and collaborate with customers and clients.

With the increased use of online communication and collaboration tools in the workplace, i's more important for employees to have these skills. Online learning can provide employees with the opportunity to develop and practice these skills so that they can be more effective in their roles

5. Helps people develop a global perspective

Employees gain a broader, global perspective through online learning. As employees learn online, they are not limited to the resources and perspectives of their company or country. They can access online courses and materials from around the world, giving them a broader perspective on the world and their place in it. This can be especially beneficial for employees working in global companies or looking to expand their knowledge.

6. Builds critical thinking skills

People can better understand their goals and motivations when they think critically. Learning online can help learners develop their critical thinking skills. Participants usually passively listen to lectures and take notes in traditional classroom settings. When you learn online, you're actively engaged in the material, and you're required to think deeply.

Critically analyzing and applying the information to real-life situations is crucial for success. Users can better understand and retain information when actively involved in the learning process. Additionally, they can adapt their understanding as new information is presented and apply the concepts to new situations. Learners will benefit from this ability to think critically throughout their personal and professional lives.

7. Guides technical skill development

Online learning will also help employees learn technical skills. Employees who take a web design course online will learn HTML and CSS and how to use design software like Adobe Photoshop. These skills can be transferred to the workplace, where they can be used to improve the company website or create marketing materials.

Additionally, online learning can allow employees to learn about new technologies and applications they can use at work. When an employee takes an online course on project management, for example, they'll learn about different project management software applications and how to use them. Every company today uses some combination of software and programs. Training your employees in technical skills gives them the self-confidence to handle their daily tasks well.

8. Lowers costs

It's no secret that online learning can save your company money. It's one of the most significant benefits of moving your training online. There are several reasons for this:

You don't need to rent physical space

Renting or leasing space for large groups gets expensive fast. With online learning, you can eliminate this expense completely.

You don't need to buy physical materials

If you're using physical materials, such as textbooks or workbooks, you need to purchase them. This can add up, especially if you're constantly updating your materials to keep up with the latest industry trends. With online learning, you can often access digital materials for free or at a fraction of the cost.

You don't need to pay for travel or accommodation

If your employees need to travel for training, you must pay for their travel and accommodation. This can be a significant expense, especially if you're training employees who live in different parts of the world. With online learning, employees can learn from the comfort of their own homes, eliminating the need for travel. As long as they have an internet connection, employees can learn anywhere. This is especially beneficial for companies with employees in multiple locations.

9. Provides access to resources and creative learning opportunities

Learners have access to a wealth of resources through online learning. Users can access endless resources with just a few clicks.

These resources include articles, blog posts, info graphics, videos, and more.

Online learning also allows people to be creative in their learning. For example, learners can create mind maps or join social events to share their learning with others.

10. It's convenient

One of the most obvious advantages of online learning is its convenience. Employees can participate in learning activities anywhere, anytime day or night. This is particularly beneficial for employees who live in remote areas or who have difficulty traveling. It's also helpful for employees with young children or other family responsibilities that make attending traditional classroom-based training sessions difficult.

Is online learning right for your company?

Now that we've gone over some of the benefits of online learning let's look at whether it might be a good fit for your company. There are a few key factors to consider to understand what types of companies benefit from online learning:

a. **The size of your company.** Suppose you have a large, multinational workforce. In that case, online learning can be a great way to provide training and development opportunities to employees who are based in different parts of the world.

b. **Type of learning content that you'll provide.** Online learning might not be the best option if you have highly technical training materials or need to provide hands-on training. In these cases, using a more traditional approach might be more effective.

c. **The learning preferences of your employees.** Some people learn best by doing, while others prefer to receive instruction and practice independently. If you have a widely dispersed workforce, you might need to provide both learning opportunities to meet the needs of all your employees.

After you have decided which type of online learning is right for your company, there are a few things to remember when implementing online learning. Here are a few tips:

1. Define the goals and objectives of the online learning program.
2. Develop a plan for implementing the online learning program.
3. Choose an online learning platform that meets your company's needs.
4. Train the instructors and learners on how to use the online learning platform.
5. Monitor and evaluate the online learning program.

Online learning can provide many benefits for enterprise organizations, but it is important to ensure that it is the right fit for your company. By following the tips above, you can ensure that online learning is successful for your organization [5], [7], [9].

The benefits of online learning platforms

Online learning platforms help businesses overcome challenges by allowing HR and L&D professionals to get organized about their training programs. They serve as a central hub for your training material, enable you to import courses and create new ones, automate the onboarding program by integrating with your HR software, track learner progress, and provide

analytics to measure engagement and demonstrate ROI. Besides HR and L&D professionals, customer success professionals also face challenges that can be supported by online learning platforms including:

a. Increasing NPS scores

b. Scaling customer usage and adoption

c. Collect feedback in a centralized location

Online learning platforms that contain customer education courses help turn customers into brand advocates. Customer education also helps in increased product usage and adoption. In short, online learning platforms help with customer education and employee training and help boost your organization's overall performance[9], [10].

DISCUSSION

Online learning platforms boost learner performance

One of the biggest advantages of online training platforms is employee skills development. Employees can receive onboarding, role-based, compliance, and soft skills training in one place. The skills they acquire improve their performance in their current roles and make them eligible for taking on more responsibilities in the future.

1. Win more deals with sales training

According to a study conducted by McKinsey, sales teams that receive customized training are 1.3x more likely to outperform their peers. Your online learning platform serves as the primary resource for your sales team to gain more knowledge about customers and the products they sell.

Sales managers and their teams access courses on the platform, take live, online instructor-led classes, learn at their preferred pace with pre-recorded videos, articles, podcasts, ebooks, and audiobooks, and take assessments to measure information retention. The training material on the platform equips them with the skills they need to improve the quality of the conversations they have with the customers and close more deals.

2. Scale product success through customer education

The customer success team can preemptively address customers' needs by offering customer education through an online learning platform. By addressing customer needs in advance, the support team can reduce the number of new support requests they get every week. Online learning platforms support customer success teams by giving them a place to create and host customer-facing courses. These courses can include full-length tutorials on products, highlighting different features of products and how to use the product to achieve goals. Some of these courses may also focus on improving the skill set of the primary users of the product. The customer success team uses these courses to increase customer engagement and drive product adoption. Customer-facing courses are incredibly useful for products with a diverse user base or constantly innovating with new updates. The customer success team uses these courses to

increase customer engagement, drive product adoption, and educate customers at scale. Companies such as Reddit and Quantum Metric use WorkRamp to educate their customers. They offer free online training in short courses that teach learners how to get the most out of their products.

3. Increase Customer Satisfaction (CSAT) scores

One of the core responsibilities of the customer support team is to keep the customers satisfied and informed, and that is reflected in CSAT scores. Online learning platforms offer an at-scale solution for support professionals to sharpen their communication, patience, empathy, active listening, and product-knowledge skills. Armed with these skills, your customer support team can respond to customer queries quickly and resolve challenges. Apple, Amazon, and Costco have the highest CSAT scores in the retail industry. All three of these companies use online learning platforms to train their customer support representatives, showing the impact of training your employees with the help of the right tools.

4. Improve talent retention

Employees rate opportunities to learn and grow as the number one driver for great work culture, so developing a strong learning program is a good tactic to improve talent retention. Investing in an online learning platform and offering custom, role-specific training to your employees shows them that you take their learning and development seriously. Training platforms provide the necessary technology for businesses to develop talent through upskilling. Employees become better at their current roles and can become eligible for other roles within the organization. They can move into leadership positions or switch to a different role within the company. Upskilling can prevent employee turnover and reduce your cost per hire.

Online learning platforms facilitate additional practical benefits

Besides helping you boost employee performance and customer retention, online learning platforms have many benefits that make them an essential part of the technology stack used in your organization. They keep the efforts of your company's learning and development team efficient and organized. These platforms are compatible with the software programs generally used in most businesses, have access to remote workers, are scalable, and have reporting options that help you track user progress and find the ROI on your training budget.

5. Virtual learning platforms are convenient

Modern online learning platforms are compatible with desktop and mobile devices and can be accessed anywhere. This means that employees have access to training at work, from home, and even while traveling.

According to Gallup, roughly 45 percent of employees in the U.S. work remotely either full time or a few days a week. In a survey conducted by Buffer, 97 percent of the participants said they'd like to work remotely and recommend remote work to others. With so many people working from home, virtual learning through online learning platforms is a great way to make training accessible to everyone.

6. Online training is environmentally friendly/sustainable

Online training reduces your carbon footprint by eliminating the need for paper handouts. Everything from courses and assessments to feedback can be done online. Even certificates of completion are issued online.

7. You save time through automation

Fity-four percent of employees believe that automation can help them save 240 hours annually. The best online training platforms allow you to automate everything from employee onboarding to compliance training. You can define rules addressing who gets assigned what kind of training based on job role. Whenever there is a new onboarding class, the HR system will transfer their information to the learning platform, assigning them courses based on their job titles. You will not have to download a spreadsheet, upload it to the platform, or assign training to each learner individually. For compliance training, you will not need to keep track of the expiry date of every employee's compliance certificate, as the learning platform will do it for you.

8. These platforms integrate with existing tools

The top online training platforms have built-in integrations with major human resource information systems (HRISs), CRMs, and other tools.

They also support third-party integrations, which fit seamlessly into your technology stack. You do not have to change how you work to start using these platforms.

9. Online learning platforms are scalable

Online training platforms enable teams to train multiple batches of learners simultaneously. Once the training material and learning paths have been established, learners can be enrolled in bulk and trained in batches without you having to plan the training for each batch.

10. Most LMSs come with built-in reporting options

Through LMS learning analytics, training platforms give you the ability to track course completion rates, learner progress, active learners, and other metrics to measure the effectiveness of your training program. With the help of built-in reporting options, it is easier to analyze data, detect patterns, and take steps to increase learner engagement.

11. Online learning platforms are cost-effective

Online training platforms are especially beneficial for growing businesses because of their cost-effectiveness.

These platforms allow you to train employees at scale so you don't have to set aside huge budgets to train your teams.

Even if you include live online classes in your training program, it still costs you less than hiring an instructor to visit your location and deliver classes in a physical classroom.

12. Training through LMSs means better information retention

Training material on online training platforms is available in the form of smaller, digestible lessons, sometimes referred to as microlearning. Even the longer courses can be converted into bite-sized training. You can add small quizzes and tests at the end of each lesson. The lessons can be revisited at any time. All of this makes for better retention because each learner can learn at their own pace and take more time with specific parts of the training material.

CONCLUSION

In summary, online learning platforms have ushered in a new age of education by providing a flexible and open method of instruction that cuts over conventional limitations. Through the availability of top-notch educational resources and courses to a worldwide audience, these platforms have democratized education. Due to the flexibility of online learning, people may continue their education while juggling their personal commitments and schedules. However, variables like student motivation, digital proficiency, and the quality of the interactions and information all play a role in how successful online learning is. Striking a balance between technology advancement and instructional best practices is essential as these platforms continue to develop in order to maintain online learning's engaging, supportive, and participatory nature. We can use the potential of online learning platforms to build a more inclusive and flexible educational system by tackling issues like digital equality and developing a sense of community in virtual places.

REFERENCES:

[1] K. Zhao, Q. Yang, and X. Ma, “Exploration of an open online learning platform based on Google cloud computing,” *Int. J. Emerg. Technol. Learn.*, 2017.

[2] L. M. Cakrawati, “Students’ perceptions on the use of online learning platforms in EFL classroom,” *English Lang. Teach. Technol. J. (ELT-Tech J.*, 2017.

[3] Z. Dan, “Online learning platform and innovation of english teaching model based on students’ foreign language learning ability in independent college,” *Bol. Tec. Bull.*, 2017.

[4] W. Zhang and S. Qin, “A brief analysis of the key technologies and applications of educational data mining on online learning platform,” in *2018 IEEE 3rd International Conference on Big Data Analysis, ICBDA 2018*, 2018.

[5] S. Lim, C. S. Tucker, K. Jablokow, and B. Pursel, “A semantic network model for measuring engagement and performance in online learning platforms,” *Comput. Appl. Eng. Educ.*, 2018.

[6] R. Albashaireh and H. Ming, “A survey of online learning platforms with initial investigation of situation-awareness to facilitate programming education,” in *Proceedings - 2018 International Conference on Computational Science and Computational Intelligence, CSCI 2018*, 2018.

[7] R. Kumar, G. K. W. K. Chung, A. Madni, and B. Roberts, “First evaluation of the physics instantiation of a problem-solving-based online learning platform,” in *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 2015.

[8] A. Hansch, C. Newman, and T. Schildhauer, "Fostering Engagement with Gamification: Review of Current Practices on Online Learning Platforms," *SSRN Electron. J.*, 2015.

[9] F. Keshtkar, J. Cowart, and A. Crutcher, "Predicting Risk of Failure in Online Learning Platforms Using Machine Learning Algorithms for Modeling Students' Academic Performance," *33rd Int. Conf. Mach. Learn.*, 2016.

[10] G. Wang, "An Online Learning Platform for College Students," 2017.

CHAPTER 6

A BRIEF DISCUSSION ONFLIPPED CLASSROOM MODEL

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

The usual learning sequence is turned on its head in the flipped classroom paradigm, which captures its essence. The acquisition of fundamental information moves from classroom study to solitary study outside of scheduled class times along this study path. Videos, podcasts, and texts are just a few examples of the educational resources that students interact with at their own speed and convenience. This study comprehension illustrates how teachers change from delivering conventional lectures to acting as active learning facilitators in the classroom. The flipped classroom transforms into a lively setting for group projects, conversations, problem-solving, and knowledge application. As students work through difficult topics and participate in deeper comprehension, this paradigm encourages critical thinking, creativity, and peer engagement. The potential of the flipped classroom to suit various learning styles is shown by the study investigation. In response to the speed and preferences of each student, customized routes are created. This strategy encourages learners to take charge of their own education, which supports self-directed learning.

KEYWORDS:

Critical Thinking, Flipped Classroom, Learning,Podcasts, Styles, Videos.

INTRODUCTION

A flipped classroom is one that prioritizes in-class learning activities above lecture-based instruction. Here, the conventional classroom format is altered, with homework being done in a classroom and lectures being watched at home. Flipping a classroom is a strategy used to make sure that students learn more deeply when teachers lead them through the course content. Instead, than focusing just on comprehension, higher-order thinking and application abilities are encouraged. Flipping a classroom is turning the conventional educational approach on its head. In a flipped classroom, students watch lessons at home before working with their classmates or the teacher to understand the content in class. Giving students greater control over their education, encouraging student-centered learning and collaboration, and allowing access to classes at home are all advantages of this paradigm. The emergence of a digital divide, dependence on student readiness and trust, and increasing time spent in front of screens as opposed to people or places are all disadvantages of this paradigm. Traditional lectures and assignments are turned upside down in a flipped classroom as a teaching strategy. Traditional lectures are watched at home before to class, and homework assignments are completed in the classroom with a teacher there to assist students. Students participate in activities during class that will help them apply the lecture material and improve skills while engaging with other students in a workshop setting. The teacher mostly serves as a facilitator who promotes discussion and group work [1], [2].

Flexible environments, a culture of learning, intentional content, and qualified educators make up the FLP. These four pillars are the basis for both a successful flipped classroom and implementing blended learning in your class. Let's take a quick look at each pillar.

Environments with Flexibility: As ESL instructors, we are all too aware of the need of flexibility. We are aware that our plans must account for "on the fly" training and any "outside forces" that could need that we be flexible with our assignments. We are aware that certain tasks work well in small groups while others may not. Flexibility is thus nothing new to us. What may be novel, however, is how our teachings might be taught to improve learning both inside and outside the classroom. Flexible environments in a flipped paradigm include both the physical learning spaces, such as small groups and pair work, as well as the instructor's freedom in deciding what will be covered in the classroom and what should be covered outside of it. This is crucial in an ESL classroom, in particular [3].

Learning Culture: The Flipped model's second pillar is represented by the learning culture. A paradigm shift in both teaching and learning is necessary to change the learning culture in a flipped approach. The emphasis shifts from the instructor just "facilitating" education to the teacher actually "delivering" information. Although many of us in the ESL field may not find this particularly novel, this pillar has certain important characteristics. For students to apply their learning in the classroom, instructors must first be aware of the topic they want to offer and how it should be presented. We learned last month that we must take cognitive burden into account while deciding what to flip. What are the ideas or abilities that some students find difficult to absorb quickly? Once we have chosen what to flip, we must choose how to present it to our pupils. Our goal is for our kids to actively learn. I've discovered that the more I give my kids something "do," the more engaged they are. Second, the activity must be applicable when measuring the ability taught outside of the classroom if you want pupils to participate actively in the learning process. A key element of the learning culture is developing in-class activities that assess students' conceptual comprehension while also being feasible for the allotted class time and realistic in light of learning that occurs outside of the classroom. The information must also be understandable and relevant to the learners. Students must understand how the education they receive outside of the classroom relates to what will be required of them within. I often see instructors assigning online assignments to pupils that have no bearing on what takes on in the classroom. All language learning assignments must have purpose for our kids in order for them to understand the connections [4].

Intentional material: Choosing the best material to be presented in the classroom and outside of it is the main goal of intentional content. Today's average classroom often instructs students on new language structures or functions in class and then gives them homework that requires them to use, analyze, or create using the new language. Flipping, on the other hand, focuses entirely on bringing the learning, the new material, outside of the classroom. Think about Bloom's Taxonomy for a second. In class, we often focus on Bloom's lower stages of learning, remembering and understanding, leaving applying, analyzing, and creating for after class. To make place for creating, analyzing, and applying in the classroom, remembering and

understanding are shifted outside of the traditional classroom setting. Don't students require teachers to explain novel structures and ideas, you could be asking." Certainly. But we can accomplish this pretty simply thanks to a variety of digital instruments. What material need to be taught outside of the classroom then? What information would be most beneficial for pupils to hear repeatedly? We often barely have enough 'time' in class to briefly convey a concept. Students might get the repetition that many of them need if we relocated this activity outside of the classroom. Should new material be taught outside of the classroom altogether? It must be done on purpose. Begin modestly. Use the many resources currently available, such as MyEnglishLab, TedEd, TeacherTube, Khan Academy, and YouTube. Making deliberate choices for the greatest material will not only allow you to use class time to apply what you've learned, but it will also be very beneficial for your students. They will become more independent as learners [5].

Finally, you professional educators! You are the expert on your pupils. You are aware of their needs, as well as what can be accomplished in and outside of the classroom. Hopefully, taking into account these four pillars will help you comprehend the pedagogic underlying the mix and the FLIP. I have personally seen the effect it has made in the learning of my own pupils. As you prepare for the new school year, think about beginning small. The next month, I'll demonstrate how MyEnglishLabs' Next Generation Grammar and other tools may assist you in achieving this.

Advantages of Flipping the Classroom

The flipped classroom is fast becoming a popular new strategy that offers several advantages for both instructors and students as educators search for innovative methods to design engaging lessons and take use of technological capabilities. The flipped classroom concept has 8 advantages for both students and instructors. For more information on classroom insights and EdTech solutions, visit the ViewSonic Education website. The flipped classroom concept was previously described as a generalized inversion of the traditional teaching strategy where class time is followed by homework or assignments (individual learning). In a flipped classroom, students are first individually introduced to a new topic at home using online videos and supplementary material, and then they apply their knowledge and further their understanding of the topic in class through discussion, problem-solving, and group work with the teacher's guidance. This new strategy is remarkable for its dependence on integrated learning and the advantages enjoyed by those who decide to flip [6].

Benefits of Flipping the Classroom for Teachers and Students

It is important to keep in mind that while discussing the advantages of a flipped classroom strategy, both instructors and students may benefit from them. Eight of the most important advantages of this teaching strategy will be broken down in this part, including four advantages for instructors and four advantages for students.

1. Less time is spent by teachers introducing new topics.

According to a study by Montana State University, conventional teaching techniques devote a lot of time to information transmission, which often leaves very little time for in-depth inquiry and application of knowledge. In a flipped classroom, students learn the essentials on their own

before class, which frees up the subject-matter experts the teachers to spend more time delving deeply into the issues under discussion.

2. Students learn how to be independent learners

Undoubtedly, developing independent learning skills is beneficial for all learners, but it is particularly important for junior high and high school pupils. With the flipped classroom strategy, students learn the fundamentals on their own, at home, often using video material. They may learn at their own speed and grow habituated to the self-study method thanks to this. However, instructors must be aware that not all students respond well to the idea of independent study, and proactive measures must be made to help those who find it difficult [7].

3. Lessons Can Be Made More Engaging by Teachers

Numerous studies have shown how important fun is in education since it helps enhance memory and information retention. The flipped classroom concept gives teachers more time to add fun and excitement to courses since students come prepared to every session with the fundamental knowledge. Flipped classrooms in particular enable more time to be devoted to active learning, inquiries, experiments, and practical application.

4. Students who miss class do not regress

At the educational level, absenteeism is frequent, but the impact this might have is often disregarded. In reality, nearly eight million pupils skip close to a month of school in the United States each year, which will significantly affect learning results. While the flipped classroom cannot completely solve the absenteeism issue, it may assist to close learning gaps since students can always catch up on introductory material online at their own convenience.

5. Teachers may reuse the materials they produce.

Teachers that use the flipped classroom strategy have the option of using outside resources to distribute knowledge. To customize the first learning experience, many instructors produce their own films instead. The ability to optimize and reuse material has the additional advantage of allowing instructors to devote more time to creating customized courses for deeper investigation and less time to lesson preparation for fundamental knowledge.

6. Students may have a more thorough understanding

The opportunity for active learning to help students get a better comprehension of the subject at hand is another significant advantage of studying in a flipped classroom. As opposed to lectures or other more passive learning methods, students actively contribute to the creation of the content they learn. Teachers guide them along the way and assist them in extending their knowledge as they go, encouraging the students to have a deeper understanding.

7. Teachers may adopt a more individualized strategy.

The flipped classroom paradigm allows instructors the opportunity to choose how much time they spend on each student depending on their own unique requirements, as highlighted in an article for eLearning Industry. This is achievable because classroom time is utilized to deepen

students' comprehension of the subject, making it simpler to determine who has understood the material to the fullest, who may require extra instruction, and who may need to go over the fundamentals again.

8. Classroom time is more interesting to students

The ability to make students' time in the classroom more engaging is the last and most important advantage of a flipped classroom strategy. Through increased emotional investment in a topic and often higher total class attendance, this may help with student engagement. This happens because more in-depth conversations take place in class rather than students only listening to lectures.

Overview

The flipped classroom concept is becoming more popular in academic settings such as schools, colleges, and universities. In this approach, students learn material at home before applying it in class. Importantly, the advantages of a flipped classroom approach apply to instructors as well as students. This strategy may assist kids in studying independently, gaining a better understanding of subjects, and catching up more quickly while they are absent. Teachers may use their knowledge and abilities more effectively by spending less time teaching and more time assisting students in developing their comprehension thanks to the technique [8].

Read Blended Learning in Education 3.0 for additional details on the flipped classroom and other blended learning methods. You may also access over 2 million curated educational videos on myViewBoard Clips, along with pre-made, editable lesson plans, or on the ViewSonic Education website for further classroom insights.

DISCUSSION

What's the process of a flipped classroom?

There are several approaches of flipping a classroom.

The fundamental concept is to have students watch or listen to lectures outside of class while using the time in class for practical exercises. There are various ways an instructor may provide course material outside of the classroom using the technology of today. Video is used mostly to convey course material. According to Long et al. (2014), 78% of the students who responded to the survey agreed or strongly agreed that they prefer films as a learning aid. Some teachers choose to start YouTube channels or use online tools like Blackboard to distribute their lessons. An online exam may be used to gauge student understanding of the course material. The way the instructional films are included into the overall strategy will have a greater impact on teaching and learning than the instructional videos themselves [9].

What traits define a flipped classroom?

1. Students pick up information outside of the classroom
2. Students practice and apply essential ideas in class.
3. Teachers monitor and reinforce learning at home

Why switch up the classroom?

a. Creates a classroom that is learner-centered.
b. Gives students greater control over their education by enabling them to view videos whenever and wherever they choose and to stop and rewind them as necessary.
c. Instills in kids higher-order critical reasoning abilities
d. Gives pupils opportunities to develop as reflective learners
e. Enables pupils to absorb course material and gain knowledge.
f. Promotes ties among students
g. Offers data to pupils so they may practice retrieval
h. Promotes interactive learning
i. Aids pupils in developing reflective learning
j. Gives pupils the chance to cooperate and exchange ideas with their peers (Braseby, n.d.)
k. Gives pupils the chance to practice collaborative learning and receive constructive criticism on their academic progress.

Some people now associate active learning with the flipped classroom. The flipped classroom is only one of several approaches you may use to include active learning in your classes. The premise of a flipped classroom is that lectures and one-on-one training are not the most effective uses of class time. Instead, students get material outside of class, freeing up class time for higher order thinking exercises [10].

Even though it wasn't given that name, flipping classes have been a common practice within several disciplines for a while. However, the idea gained popularity as technology advancements made it simpler to access and produce instructional resources. This strategy makes the assumption that there is no difference between a student listening to a lecture alone and listening to one in a classroom setting. There are many ways that these activities vary from one another, and lectures have advantages as well, such as the ability to foster social interaction and allow students to observe the social signs of their peers. You may also use tactics to make lectures interactive (see our cheat guide on interactive lecture strategies). The following are some advantages of a flipped classroom:

a. It's adaptable
b. Learners may go at their own speed
c. Students assume responsibility for their education
d. Instead of being exposed to content in class, students learn
e. There are greater chances for higher education.
f. It saves time by not wasting it on explaining material to pupils that they can already find in books or online (Mazur, 2009).
g. Teachers and TFs interact with students more intimately, getting to know them better and offering greater support.
h. improved inter-class cooperation

The most challenging aspect of establishing a flipped classroom, in the opinion of many instructors, is generating or obtaining resources for students to utilize outside of class. However,

the majority of the advantages of a flipped classroom depend on what takes on in the room as opposed to lectures. As a result, you must first organize how you will use your class time before you start looking for materials that students may use at home. Students must do a lot of work outside of class while using a flipped classroom style. If students do not understand how this activity frees up class time for activities that will help them learn, they will dislike this work. This approach may be used in all or part of your courses. In any case, you should take these actions:

1. Choose the activities you'll conduct throughout class and plan them accordingly. Once again, if you don't have a good reason to flip your course, you should think about alternative active learning techniques or hold off until you have a better understanding of how to use your class time.
2. Find or make materials that pupils can utilize at home. Readings, audio files, webpages, and videos might all be included. These sources do not need to be made; nonetheless, you must guarantee that all pupils may access them. Use the students' input when you produce items for them to use at home.
3. Explain to kids how to utilize the supplies at home. Students cannot ask questions as they come up as they may in a lecture, thus taking notes is very crucial. Students working alone are prone to run across distractions. Even while students often interact with media, they may not be familiar with how to utilize instructional audio or video. Make sure there is a reward for the children to complete the assignment independently [11].

The fundamentals of a flipped classroom

A blended learning strategy known as "inverting" or "flipping" a class involves purposefully moving lectures, material, and asynchronous tasks into an online and out-of-class learning environment. Active learning techniques may be used by instructors during face-to-face class time to raise student engagement, enhance conceptual knowledge, and progress skill mastery. A flipped classroom that is effective adheres to the following guidelines:

1. Give pupils a chance to experience something new before class
2. Give students a reward for studying for class
3. Set up a system to evaluate students' comprehension
4. Establish a direct link between in-class and extracurricular activities.
5. Provide activities for flipped classrooms that are precisely specified and well-structured.
6. Give pupils enough time to complete their homework.
7. Give facilitation and direction to help a learning community.
8. On group and project work, provide quick and appropriate comments.
9. Provide recognizable and accessible technology [12]

CONCLUSION

In summary, the flipped classroom model has become a dynamic and avant-garde method of teaching that has transformed the conventional teacher-centered paradigm. This strategy allows students to take control of their learning by reversing the conventional sequence of lecture and assignments, encouraging greater engagement and critical thinking. The pre-recorded lectures

and resources let students to study at their own speed while group projects, debates, and problem-solving are done in-class. Although the flipped classroom has many advantages, its effectiveness requires on careful preparation, the provision of engaging material, and regular student interaction. As educators adopt this paradigm, they must overcome difficulties including the need for direction in self-directed learning and equal access to resources. Teachers may use the flipped classroom's potential to improve learning outcomes and better prepare students for the challenges of the contemporary world by tailoring it to specific circumstances and integrating technology with sound teaching.

REFERENCES:

[1] R. Afrilyasanti, B. Y. Cahyono, and U. P. Astuti, "Indonesian efl students' perceptions on the implementation of flipped classroom model," *J. Lang. Teach. Res.*, 2017.

[2] Ş. Uluçınar Sağır and D. Sakar, "Flipped classroom model in education," *Int. J. Soc. Sci. Educ. Res.*, 2017.

[3] S. Li and J. Suwanthep, "Integration of Flipped Classroom Model for EFL Speaking," *Int. J. Learn.*, 2017.

[4] H. Baytiyeh, "The flipped classroom model: when technology enhances professional skills," *Int. J. Inf. Learn. Technol.*, 2017.

[5] V. Aidinopoulou and D. G. Sampson, "An action research study from implementing the flipped classroom model in primary school history teaching and learning," *Educ. Technol. Soc.*, 2017.

[6] S. Z. Ahmad, "The Flipped Classroom Model to Develop Egyptian EFL Students' Listening Comprehension," *English Lang. Teach.*, 2016.

[7] V. P. S. Njie-Carr, E. Ludeman, M. C. Lee, D. Dordunoo, N. M. Trocky, and L. S. Jenkins, "An Integrative Review of Flipped Classroom Teaching Models in Nursing Education," *Journal of Professional Nursing*. 2017.

[8] E. E. Olakanmi, "The Effects of a Flipped Classroom Model of Instruction on Students' Performance and Attitudes Towards Chemistry," *J. Sci. Educ. Technol.*, 2017.

[9] X. Zhai, J. Gu, H. Liu, J. C. Liang, and C. C. Tsai, "An experiential learning perspective on students' satisfaction model in a flipped classroom context," *Educ. Technol. Soc.*, 2017.

[10] S. G. Ceylaner and F. Karakuş, "Effects of the flipped classroom model on students' self-directed learning readiness and attitudes towards the English course," *English Lang. Teach.*, 2018.

[11] Z. Unal and A. Unal, "Comparison of student performance, student perception, and teacher satisfaction with traditional versus flipped classroom models," *Int. J. Instr.*, 2017.

[12] Y. Zhu, W. Zhang, Y. He, J. Wen, and M. Li, "Design and implementation of curriculum knowledge ontology-driven SPOC flipped classroom teaching model," *Kuram ve Uygulamada Egit. Bilim.*, 2018.

CHAPTER 7

A BRIEF DISCUSSION ONGAMIFICATION IN EDUCATION

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

Gamification in education refers to the integration of game-like features into the learning process, such as challenges, rewards, competition, and advancement. Through this amorphous world, the innate desire that video games naturally arouse is infused into conventional instructional institutions. The conceptualization emphasizes how gamification encourages involvement and engagement. A feeling of accomplishment drives learners as they go through quests, challenges, and levels. The attention-grabbing nature of this immersive experience encourages concentrated investigation and a hunger for knowledge. In this investigation, instructors take on the position of experience designers rather than content providers. Teachers may create situations that pique students' interest and foster critical thinking on a creative canvas in the gamified classroom. According to this conceptualization, educators serve as storytellers who create an atmosphere conducive to learning that is both meaningful and pleasurable.

KEYWORDS:

Education, Gamification, Instructors, Learning Process, Teachers.

INTRODUCTION

The phrase "gamification" has certainly come up more times than you can count. Gamification strategies are used by many companies to boost sales or boost staff engagement. Gamification has several advantages, and these advantages will be the major topic of this piece. Learn why gamification is important and why you should use these tactics by scrolling down. The process of using game-design features and game ideas in non-game contexts is known as gamification. Gamification as a technique encourages and shapes people's actions, whether they are clients, consumers, students, target audiences, or workers. Gamification has been around longer than most people think, but as we know it now, it dates back to the early 2000s. For instance, Sperry and Hutchinson Co. was established in Alabama in 1896, and it didn't take them long to become a success on a national scale. The Green Stamps that consumers got after spending a particular amount of money were the company's claim to fame. In this manner, individuals took part in a loyalty program where they could only use stamps to pay for certain things. It was S&H's way of saying thanks to its clients. Despite the system's complexity, it is a great illustration of one of the first gamification techniques. One of the first instances of gamification may be found in the 1908 launch of the badge system by the Boy Scouts of America. One of this organization's insignia was the badge system. American Airlines launched the AAdvantage frequent flyer program in 1981 to reward repeat business [1], [2].

Gamification techniques have evolved along with video games to become more straightforward and inventive. In 2002, game designer Nick Pelling came up with the word "gamification."

Bunchball was established in 2005, three years after that. Bunchball, a dedicated gamification developer that is still in business today, is committed to boosting user engagement by including game components on websites. In 2011, San Francisco, California, hosted the first global conference on gamification. Because it brought together pioneers and leaders in gaming mechanics and engagement, the summit was crucial. These are only a few instances demonstrating how gamification tactics and strategies have been used for a lot longer than we first believed. This demonstrates how crucial it is to include gaming components into environments where they are not often present. You should ascertain if a plan works before determining whether to use it. So, does gamification work? Yes, that would be the quick response. You see, recent research shows that gamification is beneficial. According to one study, gamification might be a crucial technique for developing higher education institutions that are sustainable by increasing student engagement and performance. Even in the health industry, gamification may improve the learning process [3].

Researchers conducted research to determine the effectiveness of gamification in the classroom. Three groups of students were compared, and it was found that those who employed game-related components to study human anatomy performed better. Rankings, badges, teams, and points elicited stronger responses from students, and the learning results dramatically improved. There are many surveys and studies regarding gamification, but they all come to the same conclusion: gamification is a powerful marketing strategy, particularly for businesses looking to engage their audience and boost engagement. Gamification is also crucial for firms that compete fiercely online.

Gamification definition

The adaption of game-related elements is known as gamification. Especially those connected to user experience, engagement, and non-game contexts like education. The learner is entertained and motivated while using in-game concepts and themes (earning rewards and points for doing various tasks). You may not be aware that the term "gamification" originally appeared in 2003. Applications in settings other than games have considerably grown in recent years[4].

In reality

By 2030, the market for gamification is anticipated to grow to $96.8. As you can see, gamification is becoming more and more popular in education. It has been shown that the introduction of game mechanisms like incentives, points, levels, or rankings increases students' and instructors' motivation and dedication. But how well is gamification reacting to the shifting needs of contemporary students given how quickly technology is advancing?

Education via gaming

According to how current classrooms could benefit from a learning system based on rewards and improvements, gamification in education has lately been a hot issue. Although the idea of gamification in education has long existed in various forms, such as "gamified learning," it had not gotten much attention until recent modernization. As a consequence, many students were impacted by the requirement that colleges and organizations use remote learning. Gamification in education must be used, nevertheless, since lecturers are concerned about the lack of student

engagement in online classes. One market that has welcomed gamification with open arms is the education industry [5].

Future of Gamification in Education: Microlearning

The focus of microlearning is on acquiring knowledge via little informational bursts that are employed to achieve a particular learning goal. These bits and pieces may be combined to create short films, books, articles, audio snippets, or other material that is specifically targeted to fill a need in the market. Microlearning activities are quick, interesting, practical, and attractive methods to learn. Microlearning comes in many forms, such as mobile-friendly quizzes, brief (3-5 minute) instructive movies, etc. Whatever the format, the objective is to provide the most instructional value for the least amount of time on any given subject. A rising number of educational sectors have abandoned outdated patterns and content production techniques as of 2023. They are now focusing on using micro-learning to provide stunning, effective learning experiences for the current learners. And as accessibility and technology advance, we might anticipate a worldwide microlearning frenzy. Global educational institutions should invest in microlearning to provide their students the freedom to study whenever and wherever they choose. A case-by-case basis, numerous modules may be weaved together or modified to achieve the larger learning or course goals, despite the fact that micro-learning experiences are extraordinarily modular with each module tailored to satisfy a single learning purpose [6].

DISCUSSION

Benefits of gaming in education

The advantages of gamifying learning sessions are as follows:

Heightened interest

To make instructional assignments more engaging and fun, teachers might include game-based components like points, badges, awards, and leaderboards. As a consequence, it promotes more student involvement and engagement in a learning environment.

Intrinsic motivation and reward

Gamification appeals to several human motivations. The strategy relies on people's innate drive for success, competitiveness, and recognition. These components of intrinsic motivation help pupils to advance and improve academic achievement.

Growth of skills and improved learning

Gamification fosters interactive and immersive learning when used in educational settings. Students acquire skills more quickly the more involved they are in their studies. Gamification in education is a clear step toward improved learning in such a situation.

Increased cooperation

Increased involvement is one of the biggest advantages of gamification. There are many processes at work here. Gamification, for instance, gives the user, prospective or existing client, worker, pupil, or other person a sense of increased control. Gamification techniques stimulate

exploration, which lets users choose their course of action. People are more likely to appreciate the overall experience when they give opportunities for participation and interaction. Additionally, gamified material enhances engagement by addressing the issue that lecturers, marketers, and many businesses encounter most frequently: audience or student boredom. If something is dull, people are less inclined to interact with it online. Even whether they enjoy your business, issue, or whatever else, consumers don't like spending their time on dull or tiresome material since modern lifestyles are busy. By incorporating aspects from video games into the mix to liven it up, you create intrigue that is sure to keep viewers interested [7].

Gamification also increases engagement since it makes people more competitive. It's in our nature to be competitive as humans. We like competing not just with others but also with ourselves. Someone's motivation to participate in a particular activity or work may be increased by adding a dash of competition, a traditional game design feature. A person gets dedicated when they have a strong desire to succeed and outperform others. Gamification also boosts engagement by letting users track their development. There are a ton of video games that are accessible to everyone, but they all provide means for players to check where they are in a game or monitor their progress. They are well aware of their progress and when they might expect to move on to the next level. This crucial aspect of game design is also a key feature of gamification strategies. People like feeling and seeing their own improvement. In this manner, individuals become more engaged and their involvement rises. The beauty of this gamification advantage is that it can be used for any objective. You may use it in marketing, education such as online courses, sales, or other areas, depending on your requirements [8].

Enhanced memory retention

Gamification increases memory retention in the retail and other sectors by making routine and boring tasks much more pleasurable. Consider staff training as an example. Due to their perception that training is uninteresting, people often try to avoid it. Training becomes more enjoyable when some kind of gaming mechanic is included. Participants are enthusiastic to engage, and training material is retained better. It's also beneficial to point out that gamified material increases knowledge retention by placing a strong emphasis on problem-solving. People learn via practice, or by honing their problem-solving abilities, as they retain more knowledge. These methods provide more effective feedback and offer the chance to build new or improved abilities with less risk. Gamification is crucial for another reason: better knowledge retention may enhance user experience. You see, by making certain jobs appear like games, gamification raises user engagement. People remember more information as a consequence, which enhances their motivation, engagement, and overall experience. This works for several sectors and is applicable to both applications and sales [9].

Increased cooperation

Collaboration is essential for boosting output and improving performance at work, in the classroom, and in other settings. Although it is easier said than done, gamification may greatly benefit in improving teamwork. Individuals in a specific field or class have varying personalities. It is difficult, but the aim is to make sure that these many personalities can still work well together and cooperate. In a gamified setting, social influence may be a powerful motivation,

thus these strategies can make it simpler for individuals to collaborate more successfully. High achievers often like imparting their wisdom in an effort to inspire others. It's not necessary for information exchange to be monotonous. By making it seem like a competition, you may liven things up and encourage higher performance. Participants may congratulate one another on accomplishments of any type. People become closer and collaborate on things together when they encourage one another. Gamification is a great way to foster teamwork because of this. Gamification may be useful whether your objective is to increase the effectiveness of your sales force or encourage student collaboration in eLearning courses. Gamification fosters and preserves team culture. A leaderboard and constant rivalry provide the whole team with several outlets for communication. All of this contributes to a better, healthier, and more upbeat environment that is advantageous to all parties [10].

An increase in conversion rates

Increased involvement is the main advantage of gamification. In the realm of digital marketing, more participation also translates to higher conversion rates. Why? The explanation is straightforward: gamified material seldom seems like marketing to its intended audience. They are thus more inclined to act upon your call to action. Put it this way, shall we. People that browse the internet and scroll through the pages see a ton of advertisements and are exposed to a variety of marketing strategies. People lose interest since this occurs often. Gamification in digital marketing enables you to advertise goods and services in a fun and interesting way. You have a greater chance of engaging the target audience, generating more leads, and turning those leads into customers as a consequence.

Establishing a link with reality

The wonderful part about gamification is that it can be used in a variety of settings and sectors, including education and e-learning. You may be wondering why gamification is significant in schooling. It's crucial because gamified material in online courses may foster a link to the real world and aid learners in developing their problem-solving and decision-making abilities. Students may practice using the information and skills they acquire in a risk-free environment thanks to the challenges and rewards of gamified learning. Education is about more than simply learning facts to pass a test; it's also about learning the skills needed to enhance one's quality of life and work more effectively in the real world. Gamification gives pupils the opportunity to use their knowledge in real-world situations and practice applying it. Because of this, gamification has the potential to substantially enhance the learning process and provide pupils a pleasant, engaging manner to assimilate new information [11].

More steadfast brand loyalty

Although converting leads into consumers is always beneficial, maintaining their loyalty is essential for the greatest outcomes. Marketing strategies aim to increase consumer brand loyalty. Gamification is a useful method for achieving it. Gamified content keeps users interested and motivated, which fosters greater brand loyalty. Additionally, it shows your firm as one that values and respects client loyalty. Gamification may be used in a variety of ways to foster greater brand loyalty. For instance, loyalty programs are often a wise choice. To get incentives,

discounts, or other benefits, they often must accrue points or fulfill a certain threshold of purchases. Here, leaderboards and badges are also helpful. Customers who feel valued by you continue to purchase from you or participate in the events you plan.

Additional positive effects of gamification

The following are additional advantages of gamification in addition to the ones already listed, which apply to many industries:

a. Capable of working across platforms
b. Makes it possible to easily acquire customer data
c. Affordable
d. Gives prompt affirmation and feedback
e. Increases CRM (customer relationship management) adoption and use
f. More improved kpi (key performance indicator) emphasis
g. Aids in the development of cognition
h. Makes learning a more intimate experience
i. Having fun
j. Spinify is useful.

Regardless of the sector or size of the organization, gamification increases engagement and motivation while also offering numerous additional advantages. The charm of gamification is that it increases everyone's enjoyment of what could otherwise be boring duties and procedures. The most reliable resource for knowledge on these methods and tactics is Spinify, the market leader in sales gamification.

Gamification Methods

Gamification of education

Play a game to learn math? Yes, of course! Through the mechanics of the game, gamification seeks to enhance the teaching and learning process in a learning setting. Educational gamification, which uses incentive systems, point accumulation, rankings, missions, and challenges to boost students' drive to learn more and better, makes it easy to internalize knowledge and increase student engagement.

Fundamental gamification

Gamification in elementary school is an example of educational gamification. It is unquestionably a fantastic ally for student instruction at this point. And it is because pupils are more likely to assimilate information when learning is consistently done in an enjoyable manner. Perfect for preventing class boredom among students! You may be thinking now whether gamification is solely used for educational purposes. The good news is that using games in academic settings allows instructors and parents to influence how young children behave in the classroom, a problem that also affects how they behave at home. Games featuring multiple-choice questions, trivia-style mechanics, reading-encouraging digital platforms, and question-and-answer games are just a few examples of gamification tools that might be produced in the classroom.

Additional gamification

Can you image if you had studied natural science in school and went on to become a doctor, saving people's lives with the aid of other doctors? What if being the administrator of a virtual hospital had been the end goal? If you had merely studied with a book in your hand, we are certain that your motivation would not have been the same.

In secondary school, gamification results in pupils who take on obstacles and attempt to conquer them under the direction of a teacher who is aware of their worries and motives. Unquestionably, the game used in the institute's educational program promotes active learning and inspires students to demonstrate interest in areas that are often regarded as being very hard or challenging. Students develop their emotional intelligence and gain teamwork skills as a result of playing the game in educational settings, which is another advantage.

Gamification in business

How many boring training sessions did you have to attend during your professional career? No doubt many! Businesses are becoming more and more aware of the fact that corporate gamification boosts workers' competitive spirits, deepens their devotion to the company, promotes productivity, fosters creativity, and aids in the development of certain talents. It involves using game-derived dynamics and mechanisms in a professional setting. An obvious example is in commercial teams, where gamification is important to achieving sales goals with the help of motivated, educated, and well-compensated staff members.

Another industry we may use gamification in

As we've seen, gamification may be used in many different contexts. There are many more opportunities, but often the commercial and educational sectors gain the most from using these strategies in their settings. Gamification methods are already starting to be used in the health and wellness sector to assist in instilling in people healthy behaviors for the avoidance of certain illnesses. It is also feasible to use the game approach with social issues. Environmental NGO's have employed gamification dynamics to spread love for the globe and instruct people to recycle and respect the planet from a 100% collaborative approach [5], [8], [10], [12].

CONCLUSION

In conclusion, gamification has become a popular and successful method for incorporating games aspects into educational settings. Teachers may improve student engagement, involvement, and information retention by using the intrinsic incentive included in games. A feeling of success is fostered through the use of incentives, challenges, and interactive information, which makes learning more meaningful and pleasurable. However, effective implementation calls for a keen awareness of the requirements and preferences of the pupils as well as a careful balancing of entertainment and instructional goals. Gamification offers a chance to foster critical thinking, problem-solving abilities, and teamwork in pupils as it develops further. Teachers may build dynamic, immersive learning experiences that provide students the knowledge and excitement necessary to succeed in the contemporary educational environment by deliberately and consciously using game-like aspects.

REFERENCES:

[1] A. M. Ortiz-Colón, J. Jordán, and M. Agredai, "Gamification in education: An overview on the state of the art," *Educ. e Pesqui.*, 2018.

[2] D. Dicheva, C. Dichev, G. Agre, and G. Angelova, "Gamification in education: A systematic mapping study," *Educ. Technol. Soc.*, 2015.

[3] G. Surendeleg, V. Murwa, H. K. Yun, and Y. S. Kim, "The role of gamification in education - a literature review," *Contemp. Eng. Sci.*, 2014.

[4] I. M. Ružic and M. Dumancic, "Gamification in education," *Informatologia*, 2015.

[5] G. P. Kusuma, E. K. Wigati, Y. Utomo, and L. K. Putera Suryapranata, "Analysis of Gamification Models in Education Using MDA Framework," in *Procedia Computer Science*, 2018.

[6] F. F. H. Nah, Q. Zeng, V. R. Telaprolu, A. P. Ayyappa, and B. Eschenbrenner, "Gamification of education: A review of literature," in *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 2014.

[7] I. Yildirim, "Students' perceptions about gamification of education: A Q-method analysis," *Egit. ve Bilim*, 2017.

[8] J. Majuri, J. Koivisto, and J. Hamari, "Gamification of education and learning: A review of empirical literature," in *CEUR Workshop Proceedings*, 2018.

[9] D. Dicheva and C. Dichev, "Gamification in Education: Where Are We in 2015?," *E-Learn 2015 - Kona, Hawaii, United States*, 2015.

[10] M. M. Alhammad and A. M. Moreno, "Gamification in software engineering education: A systematic mapping," *J. Syst. Softw.*, 2018.

[11] F. F. H. Nah, V. R. Telaprolu, S. Rallapalli, and P. R. Venkata, "Gamification of education using computer games," in *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 2013.

[12] F. Nah, Q. Zeng, V. Rajasekhar Telaprolu, A. Padmanabhuni Ayyappa, and B. Eschenbrenner, "Gamification of Education: A Review of Literature - HCI in Business," *HCI Bus.*, 2014.

CHAPTER 8

A BRIEF DISCUSSION ONADAPTIVE LEARNING TECHNOLOGY

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

The speed, material, and assessment techniques are constantly changed via adaptive learning technology depending on the development and aptitude of each student. This conceptualization highlights how technology enables a flexible and personalized learning path that meets students where they are and leads them toward mastery. The idea of personalization is at the center of this investigation. Adaptive learning technology works with each learner's strengths and limitations within this conceptual space, guaranteeing that no student is left behind or held behind. As a result, motivation and self-directed learning are improved. This strategy fosters a feeling of agency and ownership over the learning process. This trip highlights the capability of adaptive learning technologies to locate and fill in knowledge gaps. It adjusts in real-time, giving more assistance or posing difficult challenges as necessary. This hypothetical setting imagines a classroom where students interact with the material at their best cognitive level, leading to greater understanding and retention.

KEYWORDS:

Adaptive Learning, Challenges, Education Opportunities, Corporate Education, Course Online.

INTRODUCTION

Take a test on addition if you're a math student taking a basic maths course online. Your exam results ought to determine if you're prepared to go on to the next course in subtraction, don't you think? You have shown sufficient understanding of addition to begin learning how to subtract if you correctly answer nine out of ten questions. You have more studying to complete and will be sent back to a previous lesson to practice if you only answer three questions right. This kind of learning is called adaptive learning, and it makes sense when studying a subject where information is gained by building on previous knowledge. Nevertheless, adaptable learning is beneficial in a variety of situations, even ones that are not as simple as a math lesson. If you've ever been in a classroom where the instructor had several groups of students go through the subject at various speeds, you've already encountered this method, which may be helpful in both in-person and online learning.

Adaptable learning, often referred to as adaptable teaching, tries to tailor the educational experience to each individual student's preferred learning style. According to Mac Crawford, a learning experience designer, "adaptive learning is the dream of being able to reach every student exactly where they are when they are there." Time is a problem for all students, whether they are in primary school, graduate school, or a corporate education program. They don't want to spend a lot of time on material they already know because they want to learn what they need to know quickly. They may benefit from learning experiences that employ adaptive learning since it takes into consideration their unique skills, background knowledge, and rate of learning. Because of

this flexibility, learning is improved for both students and teachers. Utilizing data-driven training to change and customize learning experiences to each student's unique requirements is known as adaptive learning. Personalized learning experiences may be created using data from adaptive learning systems, which can measure metrics including student progress, engagement, and performance [1], [2].

While equal access to resources is provided through equal education opportunities, equitable education acknowledges and tackles the disparities between learners by offering the appropriate materials that are matched with them to succeed in their academic endeavors. All learners are intended to get an education that is equitable via the use of adaptive learning, teaching, and evaluation. According to each student's present abilities and performance, adaptive learning aims to tailor courses, readings, practice exercises, and evaluations for them specifically. With the use of artificial intelligence and machine learning, adaptive learning software can "adapt" the learning route that is being provided to each learner in real time. Faculty and administrators may later study the data gathered by the adaptive learning software to assess the requirements of certain students or groups of students enrolled in a course. They may then modify a course between terms and throughout a term to better meet those requirements. Students may also modify their learning strategies by using information about their performance and abilities [3]. The term "adaptive learning software" often refers to the underlying technology or to a platform that may be used to create a variety of courses. A bundle of lessons and practice exercises in a digital format for a single course employing an underlying adaptive learning technology is referred to as adaptive courseware. Publishers of adaptive courseware on a particular topic often provide a library of resources, lessons, practice exercises, and evaluations from which teachers may choose, arrange, and tailor their own course. Adaptive learning, according to Every Learner Everywhere and its network partners, has the potential to advance equality in higher education by enhancing course results and bringing down the price of course materials, especially for Black, Latino, Indigenous, and students who experience poverty. But there are certain restrictions on that possibility. Ineffective "faux adaptive" software is being promoted to schools, as we will explore below, and algorithmic bias may turn software into a tool that widens rather than narrows equity disparities. Positive outcomes with adaptive learning need a variety of criteria, including a research-driven implementation, student-centered and equity-focused instructional design, and strong software solutions [4].

DISCUSSION

Adaptive Assessment & Learning

Instead of using a curriculum that is universally applicable, adaptive learning is a component of interactive learning, which caters to the requirements of each individual student via personalized learning paths, insightful feedback, and supplementary materials. The development of technology has made it simpler to execute adaptive learning. Adaptive content, adaptive sequencing, and adaptive evaluation are the three areas where adaptive learning may be used.

1. Adaptive content gives students feedback on their individual responses (e.g., tips, study materials on the necessary skill, additional scaffolding) without altering the overall order of skills.

2. Adaptive sequence automatically modifies what a learner sees next by continually gathering and analyzing student data.
3. Based on a student's answer to the preceding question, adaptive assessment modifies the questions they see. As a student correctly answers questions, the problems grow harder; if the student struggles, the questions get simpler.

All three are often taken into account by adaptive learning software. In the beginning, it divides the course content into digestible chunks depending on each learning aim. Then, it offers learners instant support, materials tailored to their learning requirements, and pertinent feedback. In accordance with the interactive reactions recorded in the system, the program modifies the content, sequencing, and evaluation. Additionally, teachers may customize their lessons by making just-in-time, data-driven choices that take each student's requirements into account [5].

The advantages of adaptive learning

Adaptive learning may provide the following advantages:

1. By letting students choose their own pace and giving them insight into their level of proficiency, adaptive learning may help students become more effective and self-directed.
2. By delivering classes and activities that are targeted to their requirements, it may increase student participation.
3. It may be used as a less costly substitute for pricey textbooks.
4. It offers a framework that maintains alignment between the course goals, lessons, practice exercises, and evaluations and demonstrates to students how each course component links to the course objectives. Similarly, when students struggle to understand a subject, educators might check to see whether any instructional components aren't quite in line with the goals.
5. It gives instructors and administrators timely, pertinent information they may use to assess the performance of a course's targeted subpopulations. For students from underrepresented groups and those who experience poverty, this might be a valuable tool for identifying and overcoming equity hurdles.
6. By identifying specific students or even parts in a multi-section course that need attention, it allows instructors and administrators to provide timely and targeted help.
7. •By comparing data from several semesters, it helps academic staff and administrators to continuously improve.
8. Because the material and evaluations can be customized for each student, adaptive learning makes it possible to give individualized learning at scale while also lowering cheating.
9. Because instructors are better able to identify which students are having difficulty and who need more support, adaptive learning may enhance learning results and intervene before withdrawal symptoms set in [6].

Best Practices for Successful Adaptive Learning

a. Human planning and interaction are necessary for adaptive learning to be effective. Having an instructor there is still necessary for adaptive learning to occur because they

may help students become active learners and collaborators by guiding them through the process of recognizing the adaptive system's usefulness.

b. To ensure that the material is in line with the course goals, it is advised that teachers use the adaptable platform, which gives them the freedom to choose certain learning activities and evaluations.
c. When creating adaptive learning, instructors should think ahead and decide who to contact for help.
d. Teachers should take the effort to comprehend how the adaptive system works and explain it to their pupils.
e. Clearly explain the requirements for the course and the steps involved in using the adaptive materials.
f. Become acquainted with the adaptive learning tool's learning metrics. Implementing learner-centered teaching and efficiently using learning analytics to advise instructors about interventions have proven crucial [7].

The Process of Adaptive Learning

Adaptive learning may take place offline as well as online. Unlike many learning experience platforms, where designers establish the parameters to produce an adaptable experience for students, in person, the instructor decides how to modify a course in real time to fit students' requirements. In essence, Mac says, "When you build things, you design things such that you generate those adaptable routes before rolling out the course. As a result, unlike in a classroom where a teacher may be responsive, in this scenario you would have to decide that this evaluation would be used to monitor pupils. We'll push them in one way or the other if they correctly answer this series of questions or this set of questions. The development of such complex, time-consuming, and costly courses is exceedingly difficult. But the theory is that if you do it up front, you can include it into the way the product functions. The learner is then given their own optimal course of action when, for instance, they complete a job on the platform. While some students could breeze through the material, others may need more time. Everyone benefits from a more relaxed and stress-free learning atmosphere as a result. Additionally, it eliminates the problems of students being annoyed with having to review material they already know or, as Mac notes, the "emotional impact of feeling talked down to." These platforms also often provide prompt grading when a work is finished, which helps learners decide what to do next. Both students and teachers may benefit from this quick feedback, and it can help it seem more significant [8], [9].

A learner's knowledge of a subject or skill is first assessed in real-time by adaptive learning software, which then dynamically alters the subsequent lesson or practice task that is subsequently given to that student, enhancing learning. Consider a college course where each unit introduces ten new topics and is followed by a quiz before moving on to the next unit. Let's say there are 100 pupils in this class, and historically, that quiz has received an average mark of 70%. While there is an average score, seasoned instructors are aware that there is no typical explanation for the quiz's 30% missed question rate. Student A may have struggled with the final three concepts in the unit; Student B may have struggled with three different concepts; Student C may have had difficulty with one crucial concept that affected 30% of their grade; Student D

may have been disengaged because the "new" concepts weren't really new to them; Student E may not have had any problems with the material at all but may have missed important lessons due to family or work obligations. Before the unit exam and the class goes on to the next unit, a college teacher devoted to individualized learning has the difficulty of comprehending and meeting the requirements of each of those pupils.

Real-time identification of the specific ideas or abilities that are crucial to each student's growth is how adaptive learning software works. Some software applications also assess how pupils processed the content, separating "performance data" from "engagement data" like logins and time spent on task. The adaptive learning software then delivers what it thinks is the proper review or practice exercise for each current student after analyzing data on the learning pathways and performance of prior students using artificial intelligence and machine learning methods. As a consequence, every learner utilizing adaptive learning software will experience the subject in a different and nonlinear way. One student will be given the first lesson on a subject; another will be pointed toward extra resources for a different idea; and a third will be given a reminder and a select few fresh practice exercises from a bank of exam questions [10].

What Concerns AI?

Even if AI is probably going to be the future of adaptive learning, most platforms for learning experiences still fall short in terms of implementation. You can employ artificial intelligence, which entails utilizing software that will learn as you provide it with data, as Mac explains. The platform will therefore become more responsive to the demands of the user the more a student engages with the program. This method is intricate and hasn't gained much traction yet.

Functions of Adaptive learning technology

Modern education benefits greatly from adaptive learning technology since it allows students to have a more tailored learning experience. Its main objective is to adapt the curriculum and teaching to each learner's unique requirements, skills, and learning preferences. Following are some of the main uses and advantages of adaptive learning technology:

Personalization: Using real-time assessments of a student's knowledge, abilities, and progress, adaptive learning technology adjusts the course's material and degree of difficulty. This guarantees that each student has a unique learning experience, which may result in learning results that are more successful.

Focused education: Adaptive systems may provide focused education and practice in areas where students need the greatest assistance by assessing students' strengths and shortcomings. This increases students' learning efficiency by helping them concentrate on areas that need improvement.

Adaptive systems may provide rapid feedback on tests, assignments, and assessments, assisting students in understanding their errors and offering suggestions on how to improve. This prompt feedback encourages active learning and enables students to immediately fix their misunderstandings.

Self-Paced Learning: Thanks to adaptive technology, students may learn the subject at their own speed. This adaptability ensures that no student is left behind or hurried through the curriculum, which is especially helpful for pupils with different learning rates.

Data-Driven Insights: Teachers may utilize the information produced by adaptive learning systems to understand more about the engagement and performance of their students. This information may help with curricular changes, instructional choices, and the identification of kids who may need more help.

Accessibility: Adaptive learning technology can accommodate a range of learning preferences, including kinesthetic, visual, and auditory learners. Additionally, it may be made to accommodate students with impairments by offering different forms or extra assistance. Real-time feedback and personalized material may help students feel more engaged and motivated in the classroom. Students are more likely to remain interested and motivated to study when they perceive that their educational experience is customized to meet their requirements.

Scalability: Adaptive technology is applicable to blended learning contexts, online learning, and conventional classroom settings. It enables instructors to provide more personalized help while yet reaching a larger audience.

Continuous Improvement: Based on the data they gather, adaptive learning systems may continually adapt and develop. With this iterative approach, material and teaching methods may be continuously improved.

Lifelong Learning: Adaptive learning technology may be used in corporate training and lifelong learning environments as well as K–12 and higher education, assisting people in acquiring new skills and information throughout their careers.

In overview, adaptive learning technology is essential for improving the efficacy and efficiency of education by modifying teaching to meet the requirements of specific students, encouraging participation, and giving teachers useful information with which to make choices. It represents a significant development in educational technology and has the capacity to enhance learning results for a variety of students [11], [12].

CONCLUSION

In conclusion, adaptive learning technology offers a tailored and dynamic approach to learning, representing a major advancement in the area of education. Adaptive learning technology increases student engagement and understanding by customizing the pace and material to their specific requirements and learning preferences. This technology has the ability to eliminate achievement gaps by pushing proficient learners and offering tailored assistance to failing pupils. However, good educational techniques, high-quality material, and alignment with solid data analytics are all necessary for a successful deployment. Although adaptive learning technology offers exciting possibilities, it's necessary to take into account ethical issues with data protection as well as the necessity for a well-rounded educational experience that includes social interaction and critical thinking. Educators may promote a more inclusive, effective, and efficient educational journey for all learners by properly using the potential of adaptive learning technology.

REFERENCES:

[1] P. J. Kellman and S. Krasne, "Accelerating expertise: Perceptual and adaptive learning technology in medical learning," *Med. Teach.*, 2018.

[2] N. T. Heffernan *et al.*, "The Future of Adaptive Learning: Does the Crowd Hold the Key?," *Int. J. Artif. Intell. Educ.*, 2016.

[3] P. J. Kellman, "Adaptive and perceptual learning technologies in medical education and training.," *Mil. Med.*, 2013.

[4] C. A. Walkington, "Using adaptive learning technologies to personalize instruction to student interests: The impact of relevant contexts on performance and learning outcomes," *J. Educ. Psychol.*, 2013.

[5] D. Di Giacomo *et al.*, "The silent reading supported by adaptive learning technology: Influence in the children outcomes," *Comput. Human Behav.*, 2016.

[6] G. L. Allison and R. M. Extavour, "Pharmacy students' perceptions and usage of an adaptive learning technology (Smartbook®) in anatomy and physiology in a caribbean school of pharmacy," *Ubiquitous Learn.*, 2017.

[7] C. Dong and N. Sharma, "Flipping the classroom with adaptive learning technology," *Medical Teacher*. 2015.

[8] B. Forsyth, C. Kimble, J. Birch, G. Deel, and T. Brauer, "Maximizing the adaptive learning technology experience," *J. High. Educ. Theory Pract.*, 2016.

[9] S. J. De Santana, R. Paiva, I. I. Bittencourt, P. E. Ospina, R. De Amorim Silva, and S. Isotani, "Evaluating the impact of mars and venus effect on the use of an adaptive learning technology for Portuguese and mathematics," in *Proceedings - IEEE 16th International Conference on Advanced Learning Technologies, ICALT 2016*, 2016.

[10] D. Albert and C. M. Steiner, "Reflections on the evaluation of adaptive learning technologies," in *Proceedings - IEEE International Conference on Technology for Education, T4E 2011*, 2011.

[11] B. Fleming, "Adaptive Learning Technology: What it is, Why it matters," *Eduventures*, 2014.

[12] V. Aleven, E. A. McLaughlin, R. A. Glenn, and K. R. Koedinger, "Instruction Based On Adaptive Learning Technologies," in *Handbook of Research on Learning and Instruction, Second edition*, 2016.

CHAPTER 9

A BRIEF DISCUSSION ONDIGITAL CITIZENSHIP

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

Digital citizenship refers to the knowledge, abilities, and attitudes people need to use the internet ethically. It emerges as a compass for ethical participation within this study space, embracing not just the practical aspects of online activity but also the underlying principles that influence relationships. The idea of digital literacy is at the center of this investigation. In a time when there is an abundance of digital content, this study knowledge emphasizes the need of critical thinking, media analysis, and information assessment. The ability of digital citizens to distinguish between trustworthy information sources and false information contributes to a better educated and intelligent digital environment. The ideals of polite interaction are also revealed on the path to digital citizenship. It stresses empathy, openness to others' viewpoints, and productive discussion as the pillars of online participation via this study perspective. This strategy promotes an inclusive society where many viewpoints are valued and deep relationships are made.

KEYWORDS:

Digital Citizenship, Digital Content, Digital Environment, Digital Literacy, Media Analysis.

INTRODUCTION

The previous 30 years have seen a significant transformation in the planet. Because of the internet's growth, a large portion of our lives now take place online, and the digitization of society only appears to be gaining momentum. The need to understand digital citizenship, or the duties, obligations, and abilities for managing digital life, arises from this fast transformation. It's important to understand what digital citizenship entails as well as to consider to whom the term could apply.

We may once again use our open step to provide an explanation for this. A person who acquires the knowledge and abilities necessary to utilize the internet and other digital technologies efficiently is referred to as a digital citizen. In order to interact and participate in society and politics, they also utilize digital technology and the internet in acceptable and responsible ways. In actuality, a digital citizen is anybody who makes use of contemporary digital technologies.

A good digital citizen, though, is someone who is aware of the myriad problems that come along with the astounding advantages of technology.

This is why it's so important that schools and other educational institutions educate students about digital citizenship [1], [2].

What makes digital citizenship so crucial?

Digital citizenship becomes crucial to our way of life when we realize that almost everyone with access to the internet is a digital citizen. Knowing how to keep safe, respect others, and actively engage in our digital culture becomes essential for everyone, regardless of age.

because the world is our community

According to the most recent data, there are 4.66 billion active internet users globally, or around 65.6% of the world's population. A worldwide community of individuals navigates the digital environment as a result. We can interact with individuals we may never meet thanks to this amazing degree of connectivity, exchange material and stories with large audiences, and have instant access to media, news, and information. However, there may be hazards associated with this access.

since using digital technology comes with hazards

Technology poses a wide range of threats. The internet may be a hazardous place, whether it's due to cyber security risks to our private information, financial assets, and identities or the spread of misinformation or unlawful items.

What is digital citizenship?

Before we go into the specifics of teaching digital citizenship, let's take a closer look at some of the essential topics. We've highlighted a few of the crucial components of digital citizenship below:

Similar Access

Recognizing that not all pupils have equal access to computers, cellphones, or the internet is the first step. This reality must be understood by educators and teachers, who must make sure that there are appropriate substitutes available to satisfy the requirements of kids. In this blog article about blended learning, we go into greater information about the subject. Additionally, it's critical to convey to pupils that access to technology, whether in the classroom or at home, varies across students, both locally and globally. Those who do have access have particular rights and obligations [3].

Digital Expertise

Children nowadays should be technologically literate, capable of using and comprehending the most recent technologies. Not only does this assist students in navigating the digital world securely and safely, it also helps them comprehend how technology influences our society. Learners may examine how the technology around us affects our personal and professional lives in our course on digital skills for work and life. Prior to instructing your own pupils on digital citizenship, this might serve as a helpful primer. A deep grasp of the present generation of learners may assist guarantee that everyone has a voice in what is to come since they will go on to define the future of the digital world.

Online communication

Cyberbullying has previously been brought up, but there are other aspects of internet communication as well. The great majority of people use instant messaging, social networking, or other digital platforms to communicate. However, internet communication often differs greatly from face-to-face communication. Body language, tone of voice, and other non-verbal clues are not obvious. Additionally, because of the physical separation, relative anonymity, and

absence of repercussions, some individuals will behave less empathetically. By improving our self-awareness, self-management, social awareness, and relationship management, as well as our emotional intelligence, we may become better communicators online. Each of us is accountable for our online behavior, therefore it's crucial to educate children about the repercussions of misbehavior in a virtual environment [4].

Data Security

We end up leaving a digital footprint of our data as a result of maintaining our digital identities online. We all generate enormous quantities of data, whether it be via social media posting, providing personal information, or uploading our stuff to cloud storage. Knowing about data security can preserve your rights and freedoms, stop fraud and cybercrime, and ultimately offer you control over who uses your data and how, as we examine in our piece on how to secure your data. We are all accountable for the information we disclose, even if there are rules and regulations like the GDPR in place to safeguard individuals online. Making sure students understand how much information they generate and how it is utilized, both for good and bad, is a key component of teaching digital citizenship.

Speech Freedom

Everyone has a voice online and can express themselves. As we've already said, this has both advantages and disadvantages. We discussed the importance of free speech to democracy in our piece on the subject. Speaking freely is sometimes a sign that our freedoms are being curtailed in some manner. Freedom of speech does not, however, give you the right to speak whatever you want without fear of repercussions. For instance, using one's right to free speech when it impinges on the rights of others is often improper. A competent digital citizen must comprehend the meaning of free expression and how it relates in the modern day. With this course on the anthropology of social media, you can learn more about the many ways that social media is used throughout the globe and how it affects politics, relationships, and daily life [5].

Digital Health

The impact of digital technology on our culture, relationships, and health is something else to take into account. It's crucial to have your students think about how much time they spend dealing with technology, how it makes them feel, and how they can keep physically and electronically safe while teaching digital citizenship. Some of these topics as well as others are explored in our course on digital wellness. We look at the advantages and disadvantages of using technology, as well as how to protect our own digital health.

Internet Safety

We need to take control of our own data, but we also need to be aware of digital space cyber security concerns.

Understanding how individuals might use technology to exploit flaws, steal data, and endanger devices is a part of digital citizenship. Knowing how to keep secure online and avoid such dangers is equally crucial.

Educating about online Citizenship

We now understand what digital citizenship is, why it's significant, and some of the essential components. Now let's talk about how to educate digital citizenship. While we won't go into particular lesson plans, we will point out some of the major topics you may want to concentrate on for yourself and your students.

Utilize hybrid Learning

The use of blended learning a combination of conventional face-to-face learning experiences with online and mobile technologies is perhaps one of the most beneficial approaches to educate digital citizenship. The idea is for each component to strengthen the others. Through a planned and supervised process, blended learning may assist students in using and mastering some of the software and technology that is influencing the contemporary world. As we've previously discussed, it's crucial to keep in mind while creating study resources that kids may not have the same access to technology outside of the classroom.

The Main Ideas

There is lots of room for debate since issues like freedom of expression, cyberbullying, and digital welfare are connected to digital citizenship. It goes without saying that some of these subjects could be upsetting or controversial, therefore it's crucial to be well prepared. You may encourage critical thinking and empathy in your students as well as raise awareness of the issues you're presenting by having conversations with them about these matters. Being a good digital citizen requires taking responsibility for one's actions online, which may be facilitated by such conversation [6].

Develop your digital literacy.

Digital skills may already be included in the curriculum, depending on the environment. If so, you may still try to find strategies to instruct your kids on how to comprehend and utilize technology. For young individuals, you may create a makerspace where they can use their digital abilities in practical settings. With one of our courses, you can also learn how to start teaching computer science to various age groups. You may help your kids better comprehend the technology that is transforming our society by teaching the fundamentals in elementary school or working with secondary students on programming abilities.

Include Everyone

Teaching digital citizenship must place a strong emphasis on inclusivity. We all have a part to play in the digital era we live in, after all. For instance, you could wish to design classes that are more inclusive of students with disabilities and special needs. Whether in person or online, fostering an inclusive learning environment helps to develop some of the key ideas of digital citizenship and provides all students with the chance to succeed.

Thoughts for Digital Citizenship

The concept of digital citizenship is crucial in today's society. We are moving toward a more connected society, thus it's crucial that we be all conscious of our obligations and competent in

navigating our own digital lives. Teaching digital citizenship requires having a thorough knowledge of the subject's essential components and guiding students toward a similar degree of awareness. By informing them of the risks and responsibilities associated with utilizing technology, you may encourage your students to participate actively in the digital world [7].

What Ideas Are Included in Digital Citizenship?

1. Empathy

Teaching empathy to pupils is an excellent place to start if you want to educate them how to be responsible online citizens. This is due to the fact that empathy is essential for comprehending online communication and behavior. It's hard to hear someone's voice tone, observe their facial expressions, or comprehend other non-verbal indications that you receive when you're chatting to someone face-to-face since Internet usage mostly depends on text-based conversations. Because of this, it's quite simple for Internet users to pass swift judgment on someone's words online. This implies that rather than engaging in a conventional discussion that you would overhear over the phone or in person, Internet users (including your pupils) might exchange rapid verbal or text-based blows that are meant to hurt someone's emotions. In the worst circumstances, this kind of conduct may turn into cyberbullying, which has been identified as a serious issue for younger Internet users in particular. Because of this, fostering empathy in your pupils has the ability to significantly impact their life.

How Can Empathy Be Taught?

Empathy is difficult to teach. After all, how can something that many still see as a component of a person's mind and attitude be taught? Empathy is really just as easy to teach as any other subject.

For instance, Graduate Programs for Educators provides an article outlining numerous beneficial methods you may use to teach empathy in your classroom. You'll be well on your way to helping your pupils learn how to empathize with people online if you include these techniques into your lesson plans! But this is just the beginning. You must first teach pupils empathy before introducing them to the internet.

2. How to Use the Internet

Web browser queries are routed over a network of wired and wireless connections by the enormous network of linked servers and computers known as the Internet. Even if it's a general answer, the truth is that the Internet has grown to be so big and complicated that it's difficult to be any more particular about it.

Make Meaningful Use of Digital Citizenship in the Classroom

It's not about giving students a list of "don'ts" when teaching digital well-being; rather, it's about modeling and practicing skills that help kids grow into thoughtful, empathetic digital citizens who know how to use technology to learn and solve problems in their physical and online communities. The following are some examples of the digital citizenship competences, which were created by the ISTE-led DigCit Coalition in collaboration with coalition members:

a. **Balanced:** Students engage in a wide range of online activities and understand how to divide their time between them and real-world pursuits.
b. **Knowledgeable:** Students assess the veracity, objectivity, and correctness of digital media and have acquired the critical thinking skills necessary for gathering information from digital sources.
c. **Inclusive:** Students interact respectfully and empathetically with others online and are open to hearing and understanding other points of view.
d. **Engaged:** Students utilize technology and digital platforms to find solutions to issues and to have a positive impact on their families, communities, and the world.
e. **Alert:** Students understand the consequences of their online behavior, how to be safe, and how to help others stay safe online.

DISCUSSION

Exactly why is digital citizenship so crucial?

Well-being and digital citizenship go beyond discussions of individual accountability. It's about being engaged citizens who create a good and useful digital imprint by seeing opportunities instead of threats and possibilities instead of difficulties.

Enhances Online Safety

Teaching children about digital citizenship is crucial because it will enable them to comprehend and participate in behaviors that will increase their online safety. The globe is growing more linked, with 85% of Americans reporting using the internet everyday, more than 50% doing so many times each day, and 31% doing so "almost constantly." For younger folks, the percentage is much higher: 48% of Americans between the ages of 18 and 29 report being online nearly continuously. This implies that when they transition into the world, children may anticipate being routinely exposed to circumstances that might jeopardize their personal information and put them at risk for a variety of dangers. Students are taught about digital citizenship via lessons on what information is safe to share, when it is appropriate to do so, and how to safeguard their information when it is not. Additionally, it teaches students how to engage securely with other people and online information as well as how to spot hazards when they do [8].

Manages and prevents Cyberbullying

According to statistics on adolescent internet safety from a recent Pew Research Center poll, more than half of teenagers had encountered online bullying, with 60% of females and 59% of boys having experienced at least one abusive online activity. Cyberbullying is the deliberate harrassment, abuse, or ridicule of another person online. The Cyberbullying Research Center reports that mean or hurtful comments and rumors spread online are the most frequent forms of cyberbullying, with 22.5% of children ages 12 to 17 reporting receiving physical threats via text message and 22.1% receiving such threats online. Other types of cyberbullying include publishing harmful or offensive pictures or videos online, impersonating someone else, making offensive remarks about someone's ethnicity or religion, and more. Students may learn about cyberbullying, how to stop it, why they shouldn't participate in it, and what to do if they are the victim of it with the aid of digital citizenship.

Limits Exposure to Dangerous Content

Predators often target kids between the ages of 8 and 12. According to data on online child exploitation, 17% of people have received an email or message online that included offensive words or images.

However, according to data on internet safety, just 7% of parents are aware of this. Increased connectivity also means more exposure to offensive or unpleasant interactions or information. Students who get instruction in digital citizenship learn how to prevent these scenarios from occurring and how to deal with them they should do so [9].

The nine components of digital citizenship that your pupils must understand

The internet should be a secure place where everyone feels comfortable. Since education is the foundation of society, it is important to teach kids how to use technology responsibly so that future generations may enjoy a secure online environment.

1. Access to digital

However, not everyone has access to technology even though we live in a digital age. We should be cognizant of this digital gap as educators. Not every student has access to the Internet, a smartphone, or a computer. For each student's requirements, instructors must provide appropriate options.

2. Digital trade

The need to address security concerns associated to spending money online is made clear by digital commerce. In the classroom, technology is also utilized to educate kids about the numerous job choices they may choose in the future. Both as customers and prospective business owners, it is imperative that we understand how e-commerce operates.

3. Electronic communication

Students no longer recognize that they are communicating online in a virtual environment where misunderstandings often occur. Anyone who wants one now has one thanks to the internet. This calls for proper responses and empathy from its users.

4. Digital competence

Understanding how to distinguish between authentic and fraudulent material is another aspect of digital literacy that may have a detrimental effect on your kids' life. To have a balanced existence, kids must understand what information is beneficial to them and what they should avoid.

5. Digital manners

We need to educate them on how to be "digitally fluent".

Their online conduct is shaped by digital etiquette so that they may engage with online information favorably. This reflects their attitude both online and off, and vice versa.

6. Electronic law

Both good and bad interactions are possible in the online realm. The legal rights and limitations regulating the use of technology are the subject of digital law. Students must understand the law and how it pertains to them specifically in order to avoid any kind of online crime, no matter how severe.

7. Rights and obligations in the digital age

Users have rights and obligations in the online environment, which is governed by rules. Anyone requires protection against negative uses of the Internet, such as cyberbullying, which may take many forms. Schools need to discuss this topic in the classroom, make pupils responsible for their activities, and also report any wrongdoing in the online world.

8. Digital wellness and health

The importance of protecting oneself and others from danger and of seeking assistance, when necessary, should be instilled in students. Utilizing internet resources is advantageous, but everyone has to be aware of the risks as well.

9. Digital protection

Security is crucial in the internet world. Students should be mindful of possible malware threats whether using electronics at home or at school. In order to the greatest extent feasible, teachers should explain how to stop them from occurring and how to secure students' gadgets [10], [11].

CONCLUSION

In conclusion, as digital technologies grow more pervasive in our lives, the idea of digital citizenship has become more important. For people of all ages, using the internet safely, ethically, and responsibly is crucial. Digital citizenship includes a variety of abilities, such as using digital etiquette and safeguarding personal information as well as analyzing online material critically and constructively interacting in online communities. Fostering digital literacy and a feeling of responsibility in the digital world is essential as technology develops further. We can all work together to build a digital society that is knowledgeable, inclusive, and respectful of both individual rights and the larger digital community by fostering the principles of respect, empathy, and critical thinking. Adopting good digital citizenship involves everyone working together to create a safer and more productive online environment for both the present and future generations.

REFERENCES:

[1] M. Kim and D. Choi, “Development of youth Digital Citizenship Scale and implication for educational setting,” *Educ. Technol. Soc.*, 2018.

[2] A. Isman and O. Canan Gungoren, “Digital citizenship,” *Turkish Online J. Educ. Technol.*, 2014.

[3] B. Gleason and S. von Gillern, “Digital citizenship with social media: Participatory practices of teaching and learning in secondary education,” *Educ. Technol. Soc.*, 2018.

[4] M. Choi, M. Glassman, and D. Cristol, "What it means to be a citizen in the internet age: Development of a reliable and valid digital citizenship scale," *Comput. Educ.*, 2017.

[5] L. M. Jones and K. J. Mitchell, "Defining and measuring youth digital citizenship," *New Media Soc.*, 2016.

[6] C. Sullivan, "Digital citizenship and the right to digital identity under international law," *Comput. Law Secur. Rev.*, 2016.

[7] A. Lozano-Díaz and J. S. Fernández-Prados, "Digital citizenship and its measurement: Psychometric properties of one scale and challenges for higher education," *Educ. Knowl. Soc.*, 2018.

[8] A. Hintz, L. Dencik, and K. Wahl-Jorgensen, "Digital citizenship and surveillance society: Introduction," *Int. J. Commun.*, 2017.

[9] Z. A. Gazi, "Internalization of digital citizenship for the future of all levels of education," *Egit. ve Bilim*, 2016.

[10] Y. Atif and C. Chou, "Guest Editorial: Digital citizenship: Innovations in education, practice, and pedagogy," *Educational Technology and Society*. 2018.

[11] M. Choi, D. Cristol, and B. Gimbert, "Teachers as digital citizens: The influence of individual backgrounds, internet use and psychological characteristics on teachers' levels of digital citizenship," *Comput. Educ.*, 2018.

CHAPTER 10

E-BOOKS AND E-READERS IN EDUCATION

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

The accessibility and consumption of educational information has been revolutionized by e-books and e-readers. Traditional printed materials transform into dynamic, interactive digital tools that accommodate various learning styles via this fictitious world. This change provides access to a universe of information that is not constrained by physical boundaries. The idea of accessibility is at the heart of our investigation. Within this conceptual framework, e-books and e-readers democratize educational material by removing geographic and spatial restrictions. Equal access to a wealth of knowledge is provided to students from all over the world, fostering an inclusive educational environment. The development of e-books and e-readers has highlighted their interactive nature. Multimedia components, integrated connections, and interactive aspects are used to turn passive reading into a fun, multimodal experience. This interaction encourages active learning, allowing students to explore topics more thoroughly and relate to the information.

KEYWORDS:

Classroom, E-books, E-readers, Education, Multimedia, Printed Book.

INTRODUCTION

Using technology in the classroom has always improved students' ability to learn quickly and with high-quality instruction. Books are not an exception in the world of today, when technology is developing quickly and everything is becoming digital. By making reading more comfortable and available, e-books have assisted students in improving their academic performance. Electronic gadgets called e-book readers let you store and read several books on a single, portable device. In comparison to conventional paper books, they have a number of benefits, including mobility, affordability, and variety. The learning process is more effective, dynamic, and interesting since they provide students access to the complete curriculum in one location.

What is a Printed Book?

The physical version of a book is a printed book, which is made up of pages or sheets of paper bound together within a cover made of cardboard. It is a piece of fiction or non-fiction literature that includes facts, tales, poetry, or other comparable content. A printed book is, in other words, a longer published literary creation. A "book's layout" is the format in which a printed book is set up. A front cover, a rear cover, and the body text, or content pages, make up the basic layout. Title, subtitle, author name, and publishing house name are all shown on the front cover. Usually, the front cover's inside is left empty. On the other hand, the book's ISBN, the author's portrait, and an introduction may all be found on the back cover. Barcode, price, and review excerpts might also be included. There are printed books both online and offline. They are also available

in the neighborhood bookstore, market, or library. Additionally, you may buy books online from several e-commerce sites like Amazon, Flipkart, etc. Once the book has been consumed, the customer may sell it again for a profit [1], [2].

The meaning of e-book

An e-book is a book that is published in a digital format. The book that is provided, saved, disseminated, and read electronically is referred to as being "available." It consists of text, pictures, tables, and other elements that may be viewed on flat-panel or touch-screen devices such a desktop computer, laptop, tablet, smartphone, or e-book reader. An e-book is a non-editable book with a reflowable layout that can be read on any electronic device with a configurable viewing display, to put it more precisely. Obtaining books is simple; all one has to do is download them from the internet. An e-book has a table of contents that is clickable and takes the reader to the relevant page.

The e-reader has a touch screen display and other functions that make reading easier. Additionally, it has a paper-like appearance that makes it comfortable to read the text in areas with high lighting. Additionally, the brightness level is automated and changes with the light. The e-book reader may be a computer program that runs on desktops or laptops. For instance, Microsoft Corporation offers the Reader program. It may also be an e-Reader, a kind of electronic reading gadget. One such e-Reader that Amazon now sells is the "Kindle." Barnes & Noble and Nuvomedia both sell a comparable item under the names "Nook" and "Rocket e-book," respectively.

Important distinctions between printed books and e-books

The following points will compare and contrast printed books with e-books:

1. A printed book is a book that has been typewritten or printed on paper and comprises text, graphics, and other content. The definition of an e-book, on the other hand, is a file that can be read on an application or an e-Reader device and is the electronic equivalent of the traditional printed paperback.
2. The back cover of printed books serves as both a protective measure and a marketing tool. Both hardcover and softcover (paperback) covers are acceptable. In contrast, an e-book features a front cover that is visible on online storefronts to attract customers.
3. In contrast to e-books, printed books have a set layout that cannot be altered once printing has begun. Reflowability is the ability of the text to reflow the words in accordance with the device, user preferences, and application. In light of this, e-books enable readers to experience books in ways that suit their requirements and tastes.
4. Although the initial cost of an e-Reader is more than print, an e-book is more affordable than a printed book. A survey also showed that the e-reader is more expensive, meaning that the buyer must pay a premium price for it. Additionally, it includes some form of yearly fees.
5. In a printed book, footnotes are used to offer further details about the highlighted content. In contrast, hyperlinks are utilized in e-books to guide readers to the endnotes, where they may read the content and then go back.

6. Speaking of storage, it goes without saying that because printed books are the actual form of books, they need to be kept in a certain location. In contrast, e-books don't need physical storage since the books are already saved on the device or in the program.
7. When it comes to speed, you may start reading the book right away after purchasing it. However, loading an e-book could take some time.
8. Sharing a printed book with friends, acquaintances, and family is simple. Additionally, it may be sold again after being used. In contrast, only one account may be used to access purchased e-books, which inherently restricts their use when shared since you must provide that person your login information.
9. A printed book's weight simply relies on its volume and might range from light to hefty. An e-book weighs less than a traditional book, making it easier to handle for extended periods of time.
10. It may be difficult to find a certain subject in a printed book since there are only two places to look for it: the glossary at the end or the table of contents. In comparison, searching for a subject in e-books is very simple since all you have to do is put the topic's name into your device, and a list of all mentions will appear [3], [4].

DISCUSSION

Benefits for Readers of e-books

1. Portability and Convenience

Since e-books are lightweight and portable, students may access thousands of books on a single device. These books may be transported everywhere and everywhere with an e-book reader, giving students access to a variety of knowledge sources whenever they choose. Numerous storage problems may be saved and resolved by a single reader.

2. The Information Is Up-to-Date and Correct

Learners must have access to the most recent data, analysis, and trends in their chosen fields in the fast-paced world of today. Physical books cannot currently be regularly updated or changed in a practical manner. Additionally, despite having the most recent editions, many outdated textbooks are still in use, making it difficult for students to access current knowledge. Learners get access to the most recent and reliable information thanks to e-book readers. Even students who have already downloaded the material may quickly upgrade to acquire the most recent edition.

3. Excellent options for personalization and customization

With e-book readers, students have the freedom to alter a document's font size, text color, background, and a lot more. These adjustments may all be made by hand, depending on the requirements of the person.

4. Multilingual Content is Available

The need to comprehend various cultures is increasing as the globe becomes smaller. The majority of e-Readers include a built-in translator. These either translate the complete text or a

user-selected set of words. As knowing various cultures is also an important component of the working world, learners gain a lot from this.

5. A Smooth Educational Experience

A less taxing on the eyes learning experience is provided by using an e-Reader. Without having to be concerned about glare, books may be read in the sun. Or you may use a front-lit screen to read them in the dark. Aside from that, e-Readers support students in adhering to their unique learning methods by enabling them to annotate, highlight, and underline material.

6. Continuous Education

The option to sync with other devices is available on e-Readers. This is helpful for students who may have accessed the e-book via a different device. An e-Reader will make sure they pick up where they left off wherever they decide to read their stuff.

7. Redesigning the Library Visit

The library experience is all too familiar to students. While it is perfectly acceptable to spend some peaceful study time at a library, regrettably not everyone has this opportunity. It must be possible for students who may also be working to find time to visit the library. An e-Reader makes it possible to download books from libraries at any time, ensuring that learning is uninterrupted. Aside from that, there is no concern about someone failing to return the e-book or being assessed a late fee since, these days, e-books just return themselves to the library after the specified period of time.

8. Reduces printing

In general, e-Readers and e-books are thought to be more ecologically friendly. For students, this eco-friendliness offers additional advantage. They lessen the need for printing study materials. Anyone who has ever studied knows how time-consuming it can be to print out several notes or assignments. It is a drawn-out, unpleasant procedure that can now be completely avoided.

9. One-Time Price

Despite all these benefits, the cost of an e-Reader may be the most attractive one. Or maybe it's advantages that reduce costs. Online e-book purchases are sometimes subject to a fee, although study materials are often free. This makes sure that the gadget itself will be the learner's primary expense while taking the course. After then, the cost of the information could not be too costly, depending on what is being studied and where [5], [6].

What is the school reading requirement for e-books?

It's hardly surprising that schools are increasingly using digital books as a cost-effective and efficient approach to supply students with instructional materials given how technology is continuing to change the way we live and study. Students and instructors, however, require certain hardware and software in order to access these digital materials. The equipment needed might change depending on the kind of e-book and the technical capabilities of the institution. It

may be essential to have devices like Kindles, iPads, computers, and desktop applications like a PDF reader in the classroom.

Can teachers ask for e-books in their classrooms?

Whether you're a teacher, you may be wondering whether you can develop e-books for your own curriculum or make requests for them in schools. It depends, is the response. The regulations and financial resources of the school system ultimately determine whether or not instructors may request e-books for their classrooms. While some schools may not have the funds to do so, others could have already made an investment in digital textbooks or other materials for pupils. It's worth contacting the administration or technology department of your school if you're interested in utilizing e-books for your lessons to find out whether it's possible. If the e-books you need for your curriculum aren't available to your school, you may be able to make your own. For free online software, instructors may use a variety of tools to produce their own e-books. Though it might take some time, bear in mind that not all instructors will be able to create their own e-books. It's also crucial to make sure that any e-books you produce follow copyright regulations and are available to all students, regardless of aptitude. In the end, the regulations of the school, the available funds, and your own time limits may determine whether you may request digital books for pupils or produce them yourself. Though it's worth investigating your alternatives and evaluating how e-books might improve your teaching and your students' learning experiences as more schools continue to use digital learning resources.

Benefits of e-books for educators and students.

The use of e-books is advantageous in many ways, making it a desirable alternative for both in-person and online study. Some of the main advantages for students are as follows:

a. **Making notes is simpler:** With e-books, students may annotate the book and underline important passages. This makes it simpler to keep track of critical information since there is no longer a need for different note-books or papers.
b. **Highlighting that can be changed:** As opposed to conventional textbooks, e-books offer capabilities that let students choose the color and size of their highlights, making it simpler to distinguish between important ideas and supplementary information.
c. **Mobility:** On a range of gadgets, including computers, tablets, and cellphones, students may access e-books. As a result, students no longer need bulky bags or the chance of losing things at home since they can bring their full library of textbooks with them everywhere they go.
d. **Cost-efficient:** E-books often cost less than conventional textbooks, which may result in long-term financial savings for families and students.
e. **Availability:** Students with vision impairments or other disabilities may access electronic books since many devices come with built-in functionality like screen readers and scalable fonts [6]–[8].

E-books provide several advantages for instructors as well, including:

a. **Interactivity:** e-books are not limited to the printed page since they are digital. This entails that they may combine video elements, tests with immediate scoring, and

homework answer questions in a single location. A more engaging, effective learning environment is created by including interactive elements.

b. **Adaptable:** An e-book allows you to access whole lesson plans directly from your computer or mobile device, saving you the trouble of carrying around heavy textbooks. This feature is particularly helpful for self-directed or unconventional learners.
c. **Practical:** From many educational resource websites, you may quickly download e-books and the lesson plans that go with them. With online PDFs and reading materials readily available at your fingertips, ready to be browsed, downloaded, and annotated, this convenience makes it simple to personalize your educational experience.
d. **Accessible:** Students may save a lot of money by using e-books instead of paper textbooks [9].

In addition, by producing their own e-books to enhance course materials, teachers might get further advantages. The following are some benefits of producing e-books:

a. **Personalization:** You may individually adjust the material to your course and your students' requirements by creating your own e-book. This enables you to add extra notes, lesson plans, and supporting resources that improve learning and further your teaching objectives.
b. **Adaptability:** You may simply update and modify e-books, enabling you to make any necessary modifications and alterations all academic year long. By doing this, you can be confident that your pupils have access to the most recent materials and information.
c. **Availability:** You may make sure that the information is available to all pupils, regardless of aptitude, by producing your own e-book. This might include including audio or video information, offering alternate text explanations for photographs, or changing the font size and style for pupils who have visual impairments.
d. **Cooperation:** With the help of your colleagues, you may produce more in-depth materials for your students by working together on an E-book project.
e. **Commitment:** You may make your e-book more interactive and interesting for students, which can improve learning and retention, by including interactive elements like quizzes, movies, and animations. Either as a stand-alone course or as a complement to conventional textbooks, e-books provide a versatile and adaptable option that may be useful to both instructors and students.

Many e-book ideas are built on online PDFs. They're a fantastic substitute that saves time, paper, and money since they can be annotated just as simply as a standard textbook. While e-books are a fantastic resource for students, lesson plans and other teaching resources may not always be appropriate to use them. In certain circumstances, it could be more beneficial to combine e-books with PDFs that include worksheets, lesson plans, and other materials. When producing personalized instructional materials, PDFs are a great option since they are a flexible file format that is simple to generate and distribute. Teachers may provide pupils a complete variety of resources that are catered to their unique requirements and learning preferences by combining e-books and PDFs.The advantages of e-books in education hardly begin to cover digitization. Additional sources on digitalization, textbooks, and other topics are provided below:

a. Become familiar with scanning and digitizing textbooks.
b. Develop note-organizing skills.
c. Acquire knowledge of working remotely using digitalization software.
d. Gain knowledge about digital literacy [10], [11].

CONCLUSION

In conclusion, a transformational era of learning has begun as a result of the adoption of e-books and e-readers in schools, bringing new levels of accessibility, interaction, and engagement. E-books provide students quick access to a plethora of knowledge, enhancing the portability and flexibility of educational resources. E-readers improve the reading experience by providing a variety of customizable features and multimedia components.

The balance between screen time and conventional reading, instructional tactics, and digital equality are only a few examples of the aspects that must be carefully taken into account for implementation to be effective. The importance of physical books and the all-encompassing advantages of in-person encounters must be preserved even while e-books and e-readers provide access to cutting-edge learning possibilities. Teachers can use the benefits of e-books and e-readers to create engaging and dynamic learning experiences that prepare students for the digital world while upholding the core principles of education by thoughtfully embracing technology and incorporating it into a well-rounded educational approach.

REFERENCES:

[1] J. Jung, S. Chan-Olmsted, B. Park, and Y. Kim, "Factors affecting e-book reader awareness, interest, and intention to use," *New Media Soc.*, 2012.

[2] M. Nie, A. Armellini, G. Witthaus, and K. Barklamb, "How do e-book readers enhance learning opportunities for distance work-based learners?," *ALT-J Res. Learn. Technol.*, 2011.

[3] M. Ramdarshan Bold and K. L. Wagstaff, "Marginalia in the digital age: Are digital reading devices meeting the needs of today's readers?," *Libr. Inf. Sci. Res.*, 2017.

[4] W. Read, N. Robertson, and L. McQuilken, "A novel romance: The Technology Acceptance Model with emotional attachment," *Australas. Mark. J.*, 2011.

[5] S. Fahmy, N. Haslinda, W. Roslina, and Z. Fariha, "Evaluating the Quality of Software in e-Book Using the ISO 9126 Model," *Int. J. Control Autom.*, 2012.

[6] K. Schreurs, "Children's E-books are Born: How E-books for Children are Leading E-book Development and Redefining the Reading Experience," *Partnersh. Can. J. Libr. Inf. Pract. Res.*, 2013.

[7] R. Wexelbaum and P. Miltenoff, "Challenges to E-Reader Adoption in Academic Libraries," *Ref. Libr.*, 2012.

[8] M. Pinto, C. Pouliot, and J. A. Cordón-García, "E-book reading among Spanish university students," *Electron. Libr.*, 2014.

[9] L. Rutherford, A. Singleton, L. A. Derr, and M. K. Merga, "Do digital devices enhance teenagers' recreational reading engagement? Issues for library policy from a recent study

in two Australian states," *Public Libr. Q.*, 2018.

[10] M. D. Miller, M. Valenti, T. Schettler, and B. Tencza, "A multimedia E-book—A story of health: Filling a gap in environmental health literacy for health professionals," *Environ. Health Perspect.*, 2016.

[11] Y. M. Huang, T. H. Liang, and C. H. Chiu, "Gender differences in the reading of e-books: Investigating children's attitudes, reading behaviors and outcomes," *Educ. Technol. Soc.*, 2013.

CHAPTER 11

A BRIEF DISCUSSION ON PODCASTS AND EDUCATIONAL AUDIO

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

Audiobooks and podcasts for education provide a rich aural experience that goes beyond conventional teaching techniques. Learners interact with the material in this study world via the influence of sound, drawing on a format that fosters creativity and understanding. The idea of accessibility is at the center of this investigation. Through this study, podcasts and audio materials provide learners the ability to interact with knowledge while on the go or going about their everyday activities. This accessibility encourages a culture of lifelong learning and gives people the freedom to increase their knowledge as needed. The development of podcasts and instructional audio emphasizes its narrative potential. This study lens helps educators and content producers create tales that grab readers' attention, arouse strong emotions, and explain difficult concepts. Involving listeners on a personal level via narrative promotes critical thinking and deep connections to the subject matter.

KEYWORDS:

Audio, Aural Experience, Creativity, Education, Podcasts, Teaching Techniques.

INTRODUCTION

The history of podcasting is brief. In actuality, the term "podcast" first appeared in 2004. Despite being a relatively new technology, podcasts have had a significant influence on listeners all around the globe. What are podcasts, however, and why are so many people interested in them? While podcasts and radio broadcasts are similar, they have certain distinct benefits that draw listeners and content producers. There are many different kinds of podcasts, and no two are similar. Whatever definition you use, it's obvious that podcasting merits more study. So, what exactly is a podcast and how does it operate? A podcast, to put it simply, is a digital format made up of audio (or video) episodes that have a common topic. A podcast's hosts are referred to as "podcasters." While there are obstacles to entry for many types of media, a podcast is easy to make. Podcasters simply need fundamental tools, such as recording software and a microphone, to get started. Anyone is free to record and disseminate material on a podcast since they are unregulated.

Podcasters often record, edit, and distribute digital material with listeners. They may distribute the podcast episode directly via their website, upload it to YouTube, or upload audio files to a service that hosts podcasts (such Apple Podcasts, Google Podcasts, or Spotify). A podcast may draw listeners in a variety of ways after it is published. Users may find new podcasts via podcast directories and subscribe to them. Strong SEO (search engine optimization) may also help a podcast acquire listeners since major search engines show podcast episodes in search results [1], [2].

Podcasts: What they're for

Although every podcast has the same objective, in general, they are meant to be entertaining. A podcast may be listened to for informational purposes, to stay up to date on current affairs, or just for entertainment. A podcast may be an effective tool for marketing. Use podcasting to grow your following, advertise to potential customers, or promote your company. Building a following for your podcast may also help you establish credibility. In the US, there are more than 100 million active podcast listeners, and their popularity is rising. A podcast has the power to educate, motivate, or engage its listeners. A podcast's main purpose is to distribute material. While some people like to read articles, others would rather listen to things. Podcasters may utilize the format in a variety of ways since it is adaptable [3], [4].

How podcasts operate

The key technology of podcasting is straightforward and user-friendly. To create and listen to a podcast, you must do the following actions:

1. A user must provide audio or video material. For instance, this might include making audio recordings and editing movies. Portable devices may be used to record content, which can later be uploaded to a computer or straight to a repository.
2. Users must upload their work, often in MP3 format, to a web server. After that, they must publish an RSS file containing meta data about the audio file, including the URL, file name, and text.
3. Users must use a program that recognizes the multimedia file and its URL. The URL is then downloaded by the program and synced to a media player.
4. Users watch their video clip or listen to their audio.

An episode of a podcast is a single recording, whereas a channel is a collection of episodes. A channel may be linked to a particular individual, although it often focuses on a single subject and employs many writers to produce its episodes.

What Advantages Do Podcasts Have For Online Learning?

Five justifications for include podcasts in your training program

Employees are always trying to learn new skills as technology alters the environment around them. To close this growing knowledge gap, however, requires acquiring new material, which is easier said than done. Although employees are overloaded with information, they often lack the time or inclination to connect with it. Because of this, businesses are searching for innovative ways to teach their staff in order to maximize engagement and productivity. A recent example of this is the increasingly popular medium of podcasts. In this post, we'll look at 5 advantages of utilizing podcasts for staff training that will compel you to include them into your curriculum.

The Advantages of Podcasting You Should Know About

1. Create a customized learning environment

One of the key advantages of utilizing podcasts for education is the capacity to tailor instruction to the tastes and requirements of each individual. Your staff may choose the preferred format and

length of a podcast since they are available in a variety of formats. For instance, some listeners could like lengthier podcast conversations, while others might prefer shorter ones that tell stories. Podcasts empower students to participate more actively in the learning process and provide better learning results by putting them in control. Not to add, research has shown that audio content may support conventional learning activities by fostering a deeper comprehension and extending student engagement.

2. Fatigue from Combat Information

Up until a few years ago, text-based training materials dominated; now, visuals like pictures, animations, and videos have mostly taken their place. And although if they initially do a great job of grabbing the learner's attention, sometimes they might have the opposite effect. It's likely that, beyond a certain point, individuals in an environment where they are continually "attacked" by vivid colors, swiftly changing visuals, and loud noises, start tuning it all out. Podcasts, on the other hand, encourage listeners to focus primarily on their listening, providing a more relaxed learning environment. The ability to focus just on what they are listening to allows students to understand the material far better than they would if it were presented in video form.

3. Cut down on development costs

The majority of conventional training techniques need a lot of resources to create. For instance, printing and delivery costs for dozens or even hundreds of trainees are involved with written materials. You still need to set aside adequate resources for the online learning platform that will hold your textual material, even if you move it online. Another pricey option are videos, since they need a studio, equipment for filming and editing, and more. In contrast to all of that, podcasts may provide students with high-quality learning materials for a far lower price. This is due to the fact that you may generate them quickly utilizing tools that are easily accessible to you, such a smartphone.

4. Develop a community

Utilizing podcasts in your training program also encourages social learning by creating a community where students may exchange ideas, facts, and views. Users often have the opportunity to ask questions and engage in discussions about a range of subjects on the platforms where podcasts are uploaded, which might aid their overall educational goals. If not, they may still discuss their points of view and clarify any ambiguities in online forums on social media or a platform for corporate communications. The same holds true for educators and teachers. In addition to producing content for their target audience, they may also produce podcasts to assist their colleagues in a variety of ways, including attracting new learners, diversifying their training resources, and enhancing the efficiency of their training tactics [5], [6].

5. Make the content available at all times

One of the most adaptable and flexible instructional resources you can provide your audience is a podcast. With only their phone, users may listen (and learn) while exercising, walking, driving, cooking, or doing any other activity that can be accompanied by audio stimulation. Podcasts may be downloaded fast and utilized whenever necessary, so they don't even need a reliable internet

connection. Podcasts are the ideal tool for everyone due to their inherent flexibility and mobility. This includes multitasking college students who are easily sidetracked and busy professionals who need to expand their knowledge bases.

Benefits of Podcasting in the Classroom

Using podcasting, professors may effortlessly provide interesting audio information that students can access whenever and wherever they are. A student merely has to sign up for a podcast feed, and you can then send them instructive information instead of waiting for them to arrive. Podcasts are a simple way to engage students and enhance teaching and learning in schools, universities, and institutions.

Using podcasts for learning

Numerous educational institutions that have introduced podcasting into their curricula have noted success. This may be ascribed to the simplicity with which podcasts can be produced and consumed, as well as to the different ways in which educational podcasts can improve students' learning. The use of podcasts in education has several benefits. Let's look at this:

24 hour availability and flexible learning

The mobility and convenience of education podcasts is one of their biggest benefits. The ability to download podcasts to a mobile device enables the learner to easily and whenever access the instructional materials. Every smartphone may download free podcast subscription applications, which further simplify the procedure. In reality, iPhones come with Apple Podcasts, a fantastic podcast app, pre-installed. Once a student has subscribed to a program (which is quite simple to do), they don't need to start the download themselves since it happens whenever a new episode becomes available. Therefore, there is a teaching resource ready for them when they get on the bus. This provides the path for really flexible learning while also making podcasts highly handy.

Your podcast may be made private.

If you just want your students to have access to the podcast, you may also choose to make a private one. All the same rules apply here; you simply need to provide each person a different URL or password to view the material. In our guide to creating a private podcast for students, you can read more about how to do this.

More students will listen than watch or read.

The attention that podcasting draws is one of its greatest strengths. It might be challenging to persuade students to read an article or watch a recorded lecture for 30 minutes. This is due to the fact that text and video demand the learner to pay close attention and sit still while concentrating on a single task. This is challenging, as you are surely aware, not the least of which is the variety of diversions that are just waiting on the next internet tab. However, podcasting may be done in time that would otherwise be squandered or in conjunction with a regular activity. If they can read your content while riding the bus, driving a vehicle, doing the dishes, or exercising, students are far more likely to do so. The topic receives a lot of attention since they are already preoccupied with a mundane chore. Podcasts often last an hour or more, whereas text and video

struggle to draw 2 or 3 minutes of watching time. A historical podcast that may last for more than three hours is one of the most well-known in the whole globe! You ought to be able to handle 10 minutes on your own program if one guy can get people to listen for three hours at a time to learn about World War 1 [7], [8].

Content Produced by Students

The idea of student-created material or active learning activities is one of the most fascinating and worthwhile applications of podcasting in education. Allowing students to make their own podcasts with questions, conversations, lectures, or projects is a possibility. Then, their peers may get access to these. This promotes engagement with the subject matter and gives students the opportunity to take charge of a portion of their education. They may make contributions, ask questions, and share knowledge with one another.

DISCUSSION

Podcasting in Education: A Review of the Lecture

You may utilize podcasting to easily record your current lectures. Students may now quickly access them, creating priceless study tools. The podcast may be used by students as a study aid or to get ready for future tests. Anyone who struggled to comprehend a subject in class is welcome to listen to this podcast. They are free to learn the material and comprehend the subject at their own speed. The ability to study material repeatedly is very helpful for pupils from diverse cultural backgrounds or those who struggle with learning. Finally, as we previously discussed, it might be challenging to persuade students to view an hour-long instructional video. Instead, provide them with audio so they may listen to it while doing their responsibilities.

Technology for recording voice

If you're taking notes during lectures in person, a cordless microphone setup could be your best bet. There are several ways to capture distant interactions if you teach your courses online. These days, Zoom is the default option for many instructors, but there are better solutions. Here is a comprehensive overview on how to record a podcast.

Podcasting for Education: Editing & Publishing

How can you convert an audio recording of your lecture into a podcast episode so that your students may hear it? First, you could want to consider working in production and editing. This does not always entail spending hours on a computer erasing and correcting many little errors. Simply cutting out the beginning and conclusion of the audio and executing a "top and tail" may do the task.

You may also include a little musical interlude at the beginning and end of each episode. Finding and incorporating podcast music into your audio content is straightforward. The good news is that many of the various alternatives for podcast editing software also function as podcast recording programs.

You'll need to register with a podcast hosting provider in order to publish. You may publish your material to these sites and share it with others [9], [10].

Make up any classes you missed

It's not always because a student is lazy that they skip class. Your unfortunate, ill student who has missed several lessons may download recordings of the lectures by taking use of your podcast option. They may thus "fill in the gaps" as a result.A professor may also record the lecture as a podcast if they are unable to attend their courses for a few of weeks. This fills in for any missed lectures by being made accessible to the students.

Experience of Students Over Time

A teacher or professor might use lecture recordings to assist them make sure they always present a subject in the best manner possible. This is useful when the professor in question conducts the same course throughout the course of numerous sessions. The instructor may then make sure that the curriculum is covered evenly and that each student has the same experience and knowledge.

Education Podcasting: Keeping Students Current

It's not necessary for podcasts in education to be about lectures and lessons. The administrative branch of colleges, universities, and schools may also utilize it. You may utilize a podcast to talk about recent occurrences on campus or to remind students to complete the most recent form. A podcast may serve as a more effective reminder than an email, which is often read quickly and forgotten.

Advantages for Visual and Mental Impairments

Learning via listening is perhaps one of the best pedagogical features that educational podcasting offers. Learning by hearing is more pleasurable and less tiresome than reading, according to many members of the present student generation. The lure of educational podcasts may persuade reluctant readers to pick up the book. Podcasts may be a huge help to kids who struggle with reading due to mental disabilities like dyslexia. When a visual handicap makes standard learning techniques difficult, podcasts might be just as helpful.

Learning a language

Language acquisition is one of the most prevalent applications of educational podcasting. Any podcast listener may locate a broadcast that is teaching any language they wish to learn and rapidly pick it up. This kind of instructional podcast is often produced in a "bite-sized" format, with the idea that we would learn one phrase or even one word in each episode. You can guarantee that at least one of your fellow passengers will have earphones in the next time you're flying to a vacation spot and will be learning how to place their first beer order.

How may podcasts be utilized in the education sector?

1. Podcasts are available constantly

The accessibility of podcasts at all times is one of their biggest benefits. The podcasts are simply accessible to students at any time that works for them. Students may now study wherever they are and whenever it suits them, thanks to this. Since many students have smartphones and internet access, they may download these podcasts to their mobile devices and listen to them

continuously or as often as they choose. Students may access a variety of podcasts and choose the ones they like the most thanks to the many podcast applications that can be downloaded on mobile devices. It is now much easier for students to access podcasts thanks to the addition of podcast streaming on several music streaming services like Spotify and Apple Music.

2. Longer podcast listens are simpler than extensive reading

The attention span of younger generations has diminished as a result of the kind of material we consume today and the changes in communication throughout time. Internet surfers thus choose audio and video material over printed stuff. Students would rather listen to podcasts in small segments than read the same content that has been printed in over 20,000 words. Additionally, kids may simply listen to podcasts while engaging in other activities from day to day, but it takes a lot of discipline for them to sit down and study for long periods of time when it is so simple to be sidetracked. A history podcast is one of the longest, and it may easily go more than three hours. If people can listen to that, they should have no trouble listening to instructional podcasts, which are often shorter in length.

3. Students may form communities via podcasts

Students may produce their own podcasts that include talks, questions, and other content. Students may use this information to make podcasts for themselves and to build a community of students where everyone can participate and assist one another. Students know and understand which learning approaches work best for them and their peers.

4. Revision

Lectures may be recorded by professors and uploaded as podcasts. These podcasts are available for students to download and listen to again. Additionally, this generates a wealth of educational resources for kids.

Students may readily access these recorded lectures and review them whenever they want since they are available anytime, anyplace. When students need to review material before examinations, these podcasts will be helpful.

As lectures will always be accessible to them, this will lessen the strain and stress that students experience before to tests. Students may utilize podcasts to comprehend a concept or subject that they struggled to understand during lectures. Podcasts' constant accessibility enables students to learn at their own speed.

5. Recover from missing courses

These podcasts allow students who have missed courses to keep up with their friends and avoid falling behind.

Students who have missed several lessons due to illness or other factors that prevented them from attending class may find this to be of great assistance. Similar to this, instructors may record podcasts of their lectures in advance if they won't be able to teach in the near future. These podcasts may be sent to students, preventing class from running behind schedule [11].

6. Excellent educational tool for pupils who are blind

For pupils who are blind or visually challenged, podcasts are a great resource. Whenever they want, users may quickly access podcasts and listen to them. For pupils who are blind or visually challenged, podcasts are a fantastic educational tool.

7. Podcasts can build educator communities.

There are a lot of podcasts produced by instructors for other teachers. These podcasts provide a forum for talking about the situations and experiences teachers have in the classroom. As a result, teachers from all over the globe now form a community where they can exchange knowledge and experiences, provide counsel, and encourage one another. These podcasts may also be used to discuss newly adopted techniques and the teachers' own experiences with them. The podcasts may also be used to discuss emerging technology and improvements in the field of education.

8. Discover new areas

With the extensive information accessible in the form of podcasts on a variety of themes and issues, students may learn more about subjects and topics they may be interested in pursuing further. When someone has free time or is engaged in routine activities like commuting, using public transportation, cooking, cleaning, going to the gym, or exercising, listening to podcasts is a terrific method to discover new interests. The finest aspects of podcasts are their ease of accessibility and the low cost of subscriptions some podcasts are even free! [12]–[14]

CONCLUSION

In summary, the popularity of podcasts and instructional audio material has improved the educational environment by giving students a flexible and open platform for learning. Podcasts provide students a flexible approach to interact with a variety of subjects, professional viewpoints, and stories that suit their interests and inclinations. Podcasts' aural format promotes time efficiency by enabling multitasking and learning while on the move. However, careful selection, integration into the curriculum, and the improvement of critical listening skills are necessary for the efficient use of podcasts in education. By making excellent material accessible to a wide range of people, this medium has the potential to democratize education and close knowledge gaps as it develops. In an increasingly audio-centric society, educators may take use of a dynamic tool that boosts engagement, inspires curiosity, and promotes lifelong learning by adopting podcasts as a complement to conventional teaching techniques.

REFERENCES:

[1] D. Cho, M. Cosimini, and J. Espinoza, “Podcasting in medical education: A review of the literature,” *Korean Journal of Medical Education*. 2017.

[2] L. Taylor and S. Clark, “Educational design of short, audio-only podcasts: The teacher and student experience,” *Australas. J. Educ. Technol.*, 2010.

[3] M. V. Dantas-Queiroz, L. C. P. Wentzel, and L. L. Queiroz, “Science communication podcasting in Brazil: The potential and challenges depicted by two podcasts,” *An. Acad. Bras. Cienc.*, 2018.

[4] S. Thomas and S. H. Toland, "Imitating podcasts by providing audio content to support and enhance language learning," *JALT CALL J.*, 2015.

[5] A. Chin, A. Helman, and T. Chan, "Podcast Use in Undergraduate Medical Education," *Cureus*, 2017.

[6] J. L. Hargett, "Podcasting in Nursing Education: Using Commercially Prepared Podcasts to Spark Learning," *Teach. Learn. Nurs.*, 2018.

[7] P. M. Sze, "Developing Students ' Listening and Speaking Skills Through," *Educ. J.*, 2007.

[8] N. Hennig, "Podcast Literacy: Educational, Accessible, and Diverse Podcasts for Library Users.," *Libr. Technol. Rep.*, 2017.

[9] A. Popova, P. A. Kirschner, and R. Joiner, "Effects of primer podcasts on stimulating learning from lectures: How do students engage?," *Br. J. Educ. Technol.*, 2014.

[10] S. Robinson, C. The, and P. State, "Podcasts in Education□: What , Why and How□?," *Allied Acad. Int. Conf. Acad. Educ. Leadersh. Proc.*, 2009.

[11] M. J. W. Lee, C. McLoughlin, and A. Chan, "Talk the talk: Learner-generated podcasts as catalysts for knowledge creation," *Br. J. Educ. Technol.*, 2008.

[12] D. McKinney, J. L. Dyck, and E. S. Luber, "iTunes University and the classroom: Can podcasts replace Professors?," *Comput. Educ.*, 2009.

[13] C. Dale, "Strategies for Using Podcasting to Support Student Learning," *J. Hosp. Leis. Sport Tour.*, 2007.

[14] A. Alikhan, R. R. Kaur, and S. R. Feldman, "Podcasting in dermatology education," *J. Dermatolog. Treat.*, 2010.

CHAPTER 12

A BRIEF DISCUSSION ONINTERACTIVE WHITEBOARDS

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

Interactive whiteboards provide a dynamic platform that encourages interactive learning experiences by fusing digital technology with conventional teaching surfaces. Within this conceptual setting, the classroom develops into a lively setting where students actively engage and teachers creatively deliver material. The idea of engagement is at the heart of our investigation. Through this hypothetical viewpoint, interactive whiteboards draw learners in by including multimedia components, interactive activities, and real-time comments. Active involvement, critical thinking, and a stronger connection to the subject matter are all encouraged by this interaction. The development of interactive whiteboards highlights their potential for teamwork. Students work together on common tasks, solve difficulties as a group, and communicate with one another within this study concept. This collaborative aspect fosters effective communication, collaboration, and an understanding for other viewpoints.

KEYWORDS:

Classroom, Conventional Teaching,Instructors, Interactive Whiteboards, Teachers.

INTRODUCTION

Using a projector and an interactive whiteboard, instructors may show graphics from a computer onto an electric screen in the classroom. Teachers may simultaneously display graphics, presentations, and movies to the whole class using the interactive whiteboard. Traditional chalkboards and whiteboards, which needed to be cleaned after each use, were replaced with interactive whiteboards. Teachers formerly need a regular supply of chalk or marker pens to utilize a blackboard or whiteboard, but the interactive whiteboard eliminates this necessity. Teachers may use a stylus to write on interactive whiteboards in addition to displaying pictures onto them. This function may be used for a variety of things, like annotating photographs, illustrating a math issue, and demonstrating to the class how to spell a word. Teachers and students may use interactive whiteboards without computers by touching the screen directly to draw, write, and click on items. Some interactive whiteboards can identify when more than one person is writing on them at once.

Teachers' lives are made simpler by digital whiteboards.

Teachers may use touch interfaces on digital whiteboards to engage directly with displays and presentations. There are typically two models of smart whiteboards: solo and networked. Users that utilize standalones may depend just on an interactive interface, a computer, and a digital whiteboard. Users must link their interactive whiteboards to PCs for the latter. Digital whiteboards are comparable to touchpads in this situation but provide viewers a much wider and more vivid view of the information.

A Whiteboard Interactive's Main Characteristics

Mobility

Digital whiteboards may be transportable or wall-mounted, making it easy for them to move between classes.

Collaboration

Increased engagement with displays and presentations is one important advantage of a digital whiteboard. This is made possible by a user's ability to interact with the interactive display, which improves concentration and knowledge retention. This is made possible by the next essential characteristic of interactive whiteboards.

Connectivity

Students have the ability to participate actively in classes by connecting to digital whiteboards directly. Real-time collaborative editing, polling, formatting, and so much more are made possible by this connectedness.

When did the first interactive whiteboards debut?

In the past, instructors would use chalk to sketch on blackboards in the classroom. This was typical up until the 1990s, when glossy whiteboards that could be written on with colored marker pens replaced chalkboards in schools. Although the first interactive whiteboards were created in the 1990s, workplaces rather than classrooms were the initial target market. In the early 2000s, the use of interactive whiteboards in the classroom gained popularity; by 2004, 26% of British classrooms had one. The interactive whiteboard is now a standard in UK schools, being used in more than 90% of British classrooms [1], [2].

What advantages do interactive whiteboards in the classroom offer?

In the classroom, the interactive whiteboard is a very helpful technology that supports learning in a number of ways. The interactive whiteboard feature makes the lecture more dynamic for the class as a whole and allows for more student participation. Students may engage with the whiteboard by selecting the right responses, participating in activities, or writing down examples of sentences and spelling words. Children are presented with material on the interactive whiteboard in an engaging and easy-to-read style, which helps kids remember it and take better notes.

Children have access to visual learning aids on screens because to the capability of including pictures and movies. One of the obvious advantages of interactive whiteboards in the primary classroom is the ability to conduct group activities that require participation from the entire class electronically with prepared presentations. This allows teachers to spend less time writing on the board and gives students more time to learn. The ability to promote group collaboration and problem-solving in classes is another advantage of employing an interactive whiteboard. Children may be given questions to answer and can work alone, in small groups, or as a class to discover the answers by writing or typing the questions into the screen [3], [4].

What to do with a KS2 interactive whiteboard

With our selection of eBooks appropriate for KS2 kids, you can bring tales to life on the interactive whiteboard. We believe you'll like Firebird, a thrilling fantasy novel created for group reading in the classroom. We offer a wide selection of excellent PowerPoint presentations to use with your KS2 class, including our bumper pack of Morning Starters, which will save you time in the morning preparation and give the kids a fun assignment to get the day started.

What Educational Purposes Can Interactive Whiteboards Serve?

The majority of us were educated using chalkboards in school and conventional dry erase boards in the workplace. The world will likely always need certain analog technologies, but if you've ever used an interactive whiteboard, it's obvious that digital technology has a lot to offer. The largest users of interactive whiteboards are school systems and higher education institutions, and teachers value how these tools enhance their classes and students' learning [5], [6].

DISCUSSION

An interactive whiteboard: what precisely is it?

A whiteboard fixed to a wall or movable cart may be used by instructors to project their computer or mobile device's screen onto the board using an interactive whiteboard, also known as an interactive smart whiteboard or electronic whiteboard. Students and instructors may engage, work together, and even alter data on the touch screen using their finger or a pen tool, in contrast to a typical projector and screen. Here are some advantages and suggestions for making the most of interactive digital whiteboards, whether you've been using them in the classroom for years or are considering adding one to your technological arsenal.

1. Gather Excellent Ideas

The fact that it is a blank canvas is the most apparent advantage of an interactive whiteboard. It may be used by teachers to create lists of topics for investigation or to outline the ramifications of the current topic under discussion. These lists may be copied, distributed, or even used as the basis for homework projects for students. Print the notes out immediately. Better send them to students or post them online as a PDF so they may view them from home. Sharing digital files promotes your school's environmental goals while reducing the use of paper. With one of our Sharp AQUOS boards, for instance, you may take a snapshot, preserve the digital ink layer, and then email or upload the screenshot to your website.

2. The making of multimedia presentations

When you use the screen recording features on your whiteboard, you may record more than just a single page.

A lot of whiteboards allow you to record audio, and you can use online screen recording tools to turn the information on your board into a multimedia presentation. Utilizing the many ways that whiteboards may record information facilitates the integration of a variety of learning methods, including visual, aural, and hands-on interactions [7], [8].

3. Instruction in Collaborative Problem-Solving

Teachers may offer a question to the class using the interactive whiteboard as their main tool, then give the students the controls so they can figure out the issue on their own. The interactive whiteboard allows students to participate actively and work together. They may utilize online data to aid in their decision-making since it is linked to the internet. Even distant learners may take part and provide comments in real time.

4. Speak to Students Differently

The opportunity for your pupils to engage with the subject matter and modify items directly on the whiteboard is maybe the largest benefit interactive whiteboards provide. According to research, classes that accommodate different learning styles help youngsters learn more effectively. For instance, kinesthetic learners like engaging classes that encourage students to get up and move about. You may jot down notes and create diagrams to illustrate your points on a standard white board.

A capital city can be highlighted on a map, lines of text can be revealed as you read, and words can be highlighted with your touch on interactive whiteboards. Additionally, you may design boxes that conceal information and graphics for subsequent revelation in your lesson. To call attention to certain aspects of your lesson, such as graphs, keywords, or photos, you may enlarge certain sections of the board [9], [10].

5. Keep All Students Learning Engaged

How can interactive whiteboards maintain students' interest in the subject matter? You may ensure that everyone has a voice by using interactive technologies rather than always calling on the children whose hands appear to be raised all the time. Use a random name generator to enter the names of the kids in advance, then choose them as they appear. This tool may also be used to allocate groups at random for brief activities. Young people of today are digital natives, thus they readily accept digital whiteboard features.

6. Making Use of Online Resources

Many of the free materials and pre-made lesson plans that are accessible online may be supported by interactive whiteboards. All you have to do is enter in the variables for your own classes; the graphics, audio, and special effects are all there. Of course, interactive whiteboards also enable PowerPoint presentations and video in addition to web resources and text-based training.

7. Keep moving

You can now operate your interactive whiteboard from anywhere in the classroom using a wireless pad and pen, eliminating the need to face away from your students while you instruct. To transform your iPad or other tablet into a remote control, download interactive whiteboard applications. Students may use applications like Ink2go or one from your company to write or draw on iPads. You may now focus on supervising and assisting individual students as your pupils utilize these tools to show their comprehension of arithmetic problems, identify the

components of a simple machine, or ask questions for you or their classmates to respond to. With the use of interactive whiteboards, free online courses, and mobile learning tools, the contemporary, digital classroom may be transformed into a far more engaging and productive learning environment [11], [12].

Interactive whiteboard benefits

The interactive whiteboard is the next step in the technological development of traditional office and classroom whiteboards. Although they may not be entirely new, their benefits for meetings and presentations have lately gained prominence in contemporary business. Here are five ways that collaborative use of interactive whiteboards may enhance workplace efficiency:

1. Boost participation in collaborative productions

Colleagues may participate with the material being discussed on an interactive whiteboard rather than spending 30 minutes on one-way presentations presented over a PowerPoint presentation. On the interactive whiteboard, files may be readily shared, viewed, modified, and stored. Meeting facilitators may shift the focus of a discussion in the moment based on input from participants.

2. Increased communication

An interactive whiteboard makes it simple to share the screen with distant guests in addition to sharing files with those present. Everyone will be on the same page and will have access to the exact same information. The meeting facilitator may email, print, and share anything that was discussed during the white boarding session after the meeting or presentation.

3. Effective document annotation

Users with interactive whiteboards, as opposed to those who share documents, may make lasting and useful modifications to papers while the session is in progress. Whiteboards come with tools that may be used for 3D modeling, estimating, hyperlinking, video linkages, and other applications that help strengthen papers and increase communication. It's more difficult to misinterpret writing since it's straightforward and precise.

4. Increased data exchange and networking with support for mobile connectivity

Users may use a single program to link interactive whiteboards to iOS and Android smart devices with the proper hardware. As a consequence, there is more data exchange and connection.

5. Your fingers can access information thanks to touch technology.

Touch-screen whiteboards may be used with one to five fingers, eliminating the need for a mouse, pointer, and messy ink stains. Users are unable to do this while exchanging documents.

What about sharing your computer's screen with others to work together?

A laptop's screen sharing feature is a useful tool for getting everyone on the same page. Users may share what is on their screen or see what is on the screen of another user thanks to tools.

When something breaks and you can repair it quicker than you can describe it, this is helpful. Screen sharing enables others to participate in troubleshooting, training, and other situations when a user may just need to "show" rather than "tell" what is occurring. To ensure that everyone is seeing the same presentation or schematic, documents may also be shared.

Is screen sharing still preferable to whiteboarding as a method of collaboration?

Businesses may make the collaboration process more similar to editing than working together by using whiteboarding. This is especially useful when workers are collaborating with a stranger or customer since formal settings may make it challenging to develop concepts effectively. A whiteboard provides a more impromptu atmosphere for brainstorming since it enables participants to spread out their thoughts next to one another in a real location.

Some of today's most creative businesses dedicate a lot of room to their whiteboards as a reflection of their collaborative nature. Businesses may employ unified communication and collaboration tool sets, which include virtual whiteboards, to accomplish the same spirit while working remotely. In order to demonstrate the advantages of interactive whiteboarding over document sharing solutions, VARs should go through these advantages with their clients.

Why are smart whiteboards advantageous for students?

Anyone considering installing an interactive whiteboard in their classroom or school should consider these many benefits. For students particularly, there are a number of advantages, from remote learning to problem-solving. Why Participate in centralized classes when remote learning is prevalent - With the popularity of remote learning growing, digital whiteboards are becoming more and more common, particularly because certain models let professors to share their displays with students and to participate in video chats or meetings. This implies that while maintaining their engagement with teachers, students are given the most time possible to evaluate the content that has been provided.

a. **Presentations may be recorded:** Another key advantage of interactive whiteboards for students is the ability to record and watch presentations even after class has ended. This enables students to examine areas of their education where they are weak and get a direct-from-source review bank, ensuring that they are picking up the right knowledge.
b. **Take use of gamification in the classroom:** Research indicates that the use of digital whiteboards increases student engagement, which is one of the most exciting advantages for students. Teachers may gamify their lessons with the use of digital whiteboards, which makes studying more enjoyable and improves motivation and attention. Here is our comprehensive guide to classroom games.
c. **Provide for various learning preferences:** Using smart technology, you may accommodate a student's preference for visual, aural, reading, writing, or kinesthetic learning. Play music, call students up front to use the interactive whiteboard, assign writing assignments based on the videos on the interactive display, or just let them watch a movie. Every kind of learner may find something to like, including auditory and active ones.

d. Neurodiverse kids may learn in a method that works for them since each and every student, regardless of whether they belong to a neurological minority or majority, will react differently to various lesson formats. Making your classroom interactive with smart technology may help all kids learn more effectively [13]–[16].

How can interactive whiteboards help teachers?

Students aren't the only ones that gain from this. An interactive whiteboard has numerous significant benefits over a conventional whiteboard and is mostly used as a classroom tool by instructors.

a. **Accessible instructional resources:** Interactive whiteboards of today are loaded with standard educational resources, like rulers, protractors, the periodic table of elements, and more.
b. **Accurately display data and immediately activate presentations:** Teachers can rapidly create engaging presentations with the right angles and charts using digital whiteboards.
c. **Directly engage with the interactive whiteboard during a session:** Since the interactive whiteboard allows for direct writing, instructors may avoid fumbling with practically dried-out markers.
d. The whiteboard is a blank slate that is always fresh and clean; the issue with soiled whiteboards is a thing of the past. Writing and doodles may be easily erased from digital whiteboards without leaving behind eerie echoes.
e. **Annotate while you're on the road**: A smart whiteboard also enables educators to mix photos and make direct annotations on the display.
f. **Transfer lesson plans directly from your laptop:** A smart whiteboard allows you to prepare lesson plans and presentations on your laptop or computer and transfer them directly onto the whiteboard. Additionally, you may manage them via a computer [17], [18].

You can access a wealth of information since your interactive whiteboard can connect to the internet. Download presentations and videos from the internet. Save whole lesson plans, PowerPoint presentations, or films to embed for your students to view.

Include tests and games in your classes not simply lectures and videos, however. With an interactive whiteboard, you may display games or give your pupils quizzes. Files and presentations may be stored directly on the internal storage of the interactive whiteboard, depending on the model [19].

CONCLUSION

In conclusion, interactive whiteboards have transformed the learning environment in the classroom by fusing conventional instruction with cutting-edge technology. These cutting-edge technologies provide instructors with a vibrant and captivating platform on which to speak, work together, and engage with students. In addition to improving learning outcomes and student engagement, interactive whiteboards encourage active involvement, the visualization of difficult ideas, and real-time feedback. However, effective integration calls for prepared teachers, deliberate lesson design, and consideration of various learning styles. Although interactive

whiteboards have many benefits, they work best when utilized in addition to, not as a substitute for, conventional teaching techniques. A more dynamic and successful educational experience may be achieved by using interactive whiteboards to create immersive learning environments that stimulate curiosity, critical thinking, and teamwork.

REFERENCES:

[1] M. Barbarić Pardanjac, D. Karuović, and E. Eleven, "The interactive whiteboard and educational software as an addition to the teaching process," *Teh. Vjesn.*, 2018.

[2] P. T. S. Perinpasingam, N. Arumugam, Sathyaperbha, and G. Mylvaganam, "Development of a science module through interactive whiteboard," *Rev. Eur. Stud.*, 2014.

[3] B. Tosuntaş, E. Karada□, and S. Orhan, "The factors affecting acceptance and use of interactive whiteboard within the scope of FATIH project: A structural equation model based on the Unified Theory of acceptance and use of technology," *Comput. Educ.*, 2015.

[4] K. T. Wong, T. Teo, and S. Russo, "Interactive Whiteboard Acceptance: Applicability of the UTAUT Model to Student Teachers," *Asia-Pacific Educ. Res.*, 2013.

[5] B. Šumak and A. Šorgo, "The acceptance and use of interactive whiteboards among teachers: Differences in UTAUT determinants between pre- and post-adopters," *Comput. Human Behav.*, 2016.

[6] M. Northcote, P. Mildenhall, L. Marshall, and P. Swan, "Interactive whiteboards: Interactive or just whiteboards?," *Australas. J. Educ. Technol.*, 2010.

[7] Y. Shi, C. Peng, H. H. Yang, and J. MacLeod, "Examining interactive whiteboard-based instruction on the academic self-efficacy, academic press and achievement of college students*," *Open Learn.*, 2018.

[8] D. D. Olivares and R. R. Castillo, "ICT in the classroom: Primary education student teachers' perceptions of the interactive whiteboard during the teaching practicum," *Educ. Inf. Technol.*, 2018.

[9] Y. K. Türel and T. E. Johnson, "Teachers' belief and use of interactive whiteboards for teaching and learning," *Educ. Technol. Soc.*, 2012.

[10] L. Mata, G. Lazar, and I. Lazar, "Effects of study levels on students' attitudes towards interactive whiteboards in higher education," *Comput. Human Behav.*, 2016.

[11] E. Aflalo, L. Zana, and T. Huri, "The interactive whiteboard in primary school science and interaction," *Interact. Learn. Environ.*, 2018.

[12] I. Hall and S. Higgins, "Primary school students' perceptions of interactive whiteboards," *J. Comput. Assist. Learn.*, 2005.

[13] J. W. Hur and S. Suh, "Making Learning Active with Interactive Whiteboards, Podcasts, and Digital Storytelling in ELL Classrooms," *Comput. Sch.*, 2012.

[14] A. Isman, F. A. A. Abanmy, H. B. Hussein, and M. A. Al Saadany, "Saudi Secondary School Teachers Attitudes' towards using Interactive Whiteboard in classrooms," *Turkish Online J. Educ. Technol.*, 2012.

[15] Y. K. Türel, "An interactive whiteboard student survey: Development, validity and reliability," *Comput. Educ.*, 2011.

[16] H. Slay, I. Siebörger, and C. Hodgkinson-Williams, "Interactive whiteboards: Real beauty or just 'lipstick'?," *Comput. Educ.*, 2008.

[17] B. Yulianto and L. C. Dewi, "Beeboard: From wiimote to interactive whiteboard application for classroom," *J. Comput. Sci.*, 2014.

[18] O. Samsonova, "Elementary teachers' uses and perceptions of interactive whiteboards for instruction," *Int. J. Learn. Teach. Educ. Res.*, 2018.

[19] B. Šumak, M. Pušnik, M. Heričko, and A. Šorgo, "Differences between prospective, existing, and former users of interactive whiteboards on external factors affecting their adoption, usage and abandonment," *Comput. Human Behav.*, 2017.

CHAPTER 13

A BRIEF DISCUSSION ON SOCIAL MEDIA IN EDUCATION

Balram Tonk, Assistant Professor, Department of Education,
Shobhit University, Gangoh, Uttar Pradesh, India,
Email Id- balram.tonk@shobhituniversity.ac.in

ABSTRACT:

Social media in education refers to the integration of digital tools into instructional strategies. Education is extended into virtual areas where students and teachers may communicate, exchange, and learn together via this study domain. The idea of communication is at the center of this investigation. Within this conceptual framework, social media enables rapid contact, dissolving geographic boundaries and allowing students to interact with classmates, professors, and experts from across the globe. This connection fosters a collaborative and international mindset. The exploration of social media highlights its capacity for involvement. Learners engage with instructional information via dynamic images, videos, debates, and real-time updates through this study lens. This interaction encourages critical thinking, active learning, and the synthesis of many points of view. This investigation emphasizes how social media may be used in a variety of educational scenarios. In the study, teachers utilize platforms to extend learning beyond scheduled class times, promote debates, and augment conventional classroom activities. This adaptability accommodates various learning styles and preferences, improving educational outcomes overall.

KEYWORDS:

Classroom, Debates, Education, Images, Social Media, Videos.

INTRODUCTION

Social media isn't only restricted to sharing holiday photos online, as the dictionary defines it as "websites and applications that enable users to create and share content or to participate in social networking." Over time, social media has established itself as a trustworthy information source and a venue for businesses to engage with customers. Education institutions are now incorporating these changes into their systems and relying on collective resources and procedures to enhance the quality of life for students. Social media usage in the classroom enables students, instructors, and parents to connect with learning communities and other convenient educational systems, as well as to get more helpful information. Students and institutions have many potential to enhance learning techniques thanks to social networking applications. You may use social media plugins on these networks to facilitate engagement and sharing. Online lessons on YouTube, distance learning courses from other institutions through Skype, and a wealth of information that is shared on social media are all helpful to students.

Social media may provide useful information for research purposes, such as analytics and insights on numerous subjects or concerns. Being involved on as many social media platforms as you can as a school is essential because it helps you develop better student training programs and impacts student culture. The beautiful thing about utilizing social media in education is that you can quickly identify the authorities in many disciplines and sectors. By starting to follow these professionals, you may learn more about them and get helpful material from them, which gives

you the ability to achieve excellent outcomes [1], [2]. Social media may help you get a broader perspective on a variety of topics and can provide fresh, immediately enlightening knowledge. You may consult professionals to gain information on subjects in which you might require assistance.

Learning institutions may communicate with students using social media sites like Facebook, Google Plus groups, and YouTube. These platforms may be utilized to notify students about important information, disseminate school news, and make announcements. This increases contact between the college and the students, which helps in resolving many student difficulties via group discussions. Institutions may provide encouraging and uplifting postings to all students who are logged onto the networks and sites. You may start hashtag discussions on social media to get students involved and have useful online conversations. You may post movies that excite students and assist them in their course material using this popular and efficient tool in social media trends. The exchanges between students and the school may be maintained using social media platforms like YouTube, Facebook, or Instagram live video. Social media's educational advantages should not end with the teacher-student interaction. The usage of social networking at higher levels may also provide a wide range of additional advantages. Administrators or principals, for instance, might devise fresh ways to incorporate social media. Like disseminating school information through social media, hosting a parent online meeting, or even launching fundraising efforts for certain initiatives [3], [4].

Our fast-paced lifestyles mean that social media may swiftly replace other forms of contact since parents are often preoccupied at work and unable to attend school events. However, this does not imply that they should not be aware of current affairs or be able to periodically check in on their children. Social media is one of the greatest venues for data extraction since it provides audience and topic monitoring tools that are valuable. By utilizing tools like Instagram/Facebook polls, surveys using Google Forms or Survey Monkey, or online discussion boards like Quora, you may learn how the majority of people feel about a given problem. This may assist students in gathering and producing pertinent study information. Some of the finest data and outcomes may be gleaned from social media, whether students are working on an assignment, working on a project, or seeking to acquire more insight on a topic. Presentations of such data may be made with the aid of Slideshare. A networking application called a learning management system allows schools to carry out additional administrative tasks in addition to delivering educational programs. The LMS's social media learning features might include video, forums for information sharing, and other instructional tools to aid students. The LMS system improves student engagement and facilitates team project collaboration. This method was put in place to address concerns with students and learning in order to enhance educational programs. For the highest reach and impact via the system, institutions should adopt well-known learning management systems with social media integration. Live conferencing tools, webinar functionality, the opportunity to share group evaluations, blogs, and a lot more are further advantages of social learning. Additionally, teachers use social media as a networking tool and to stay up to date on what is going on in classrooms across the globe as well as to find new resources to supplement their lessons, activities to teach certain concepts, ideas for bulletin boards, and information on new applications [5], [6].

Social media advantages for schooling

Due to the fact that so many kids are used to social media and technology, incorporating their usage into the classroom is more natural than ever. Every social media site has a variety of educational applications, including posting announcements, hosting live lectures, and much more. First, social media gives students, instructors, and parents a smoother, more direct way to communicate. They may check in and ask or answer questions. There are more chances for e-learning thanks to social media. Social networking may assist in teaching students how to work remotely, which is a vital lesson as remote employment and online education grow in popularity. Before adopting social media in education, it's critical to understand its effects, but we firmly believe that it will increase students' technological proficiency [7], [8].

Facebook in the classroom

Let's start by discussing the many ways social media may be utilized in the classroom. For students of all ages, from kindergarten to college, there are a variety of social media platforms for education that may be used.

1. Use a Facebook Page to share announcements and updates.

Facebook could be the ideal social media site to use in the classroom. Stick to what everyone is already familiar with when using a typical online classroom dashboard to avoid subjecting teachers and students to a new learning curve. Encourage students to like the class' Facebook page so that the teacher may use it to publish class updates, distribute homework, and promote conversation. These Pages are remain available after signing out, even if a student isn't active on Facebook. Bear in mind, however, that Facebook Pages are open to everyone with a Facebook account, allowing anyone to remark on the postings.

2. Use a Facebook group to organize conversations and broadcast live lectures.

For each of their courses, instructors may also set up Facebook Groups, either public or private, where they can post discussion topics, give homework, broadcast Facebook Live lectures, and more. Posting reminders and assignments will help students stay focused during vacations or snow days so they won't have to reread them when class begins. It's crucial to maintain a professional border while utilizing social media for education, thus when creating a Facebook Group, instructors do not need to submit friend requests. Send an access link to the Facebook Group to parents and kids through email. Particularly for an online course, groups are the ideal "home base," and they may make it simple to communicate with students.

3. Message your classmates on Twitter.

As a bulletin board or discussion forum for a class, Twitter may be fantastic. Teachers have the option of creating a single Twitter account per class and using it each year or creating a new handle for each academic year. Students are forced to consider how to communicate succinctly and effectively, which is a valuable skill to learn. Teachers may publish motivational quotations, links to useful resources, and reminders about assignment deadlines on Twitter. Additionally, teachers may start Twitter conversations and debates centered on a chosen hashtag.

4. For photo essays, use Instagram.

Students may use Instagram to present a collection of images or graphics in a visually attractive way in a class that emphasizes visual content. Instagram enables students to practice digital storytelling in a manner that may not be possible on other social media platforms. Students are allowed to create Instagram profiles only for their classes, which they are free to remove once the semester is complete.

5. Make a discussion blog for your class.

Students have a second outlet for their digital material when they write blog articles, which they may then quickly connect back to on the class's social media platforms. Teachers may build a class blog on a variety of different platforms, including WordPress, SquareSpace, Wix, Blogger, Tumblr, or Medium. To participate in discussions and provide comments on class assignments, students may establish their own user profiles. A blog may be used as a primary hub for the distribution of the course curriculum as well as any assignments, updates, and resources.

6. Give blog posts essay assignments.

Another method for integrating social media and learning is to have students write essays or other little pieces of writing on their personal blogs. The use of blogs as a semester- or year-long project may help students' critical thinking and short-form writing skills. Make the assignment as casual and loosely organized as you can by giving them weekly questions to react to. Don't feel as if this usage of social media in education is just applicable to English or writing classes; it can be used to other academic areas.

7. Create a Pinterest board for your class.

For each of their courses, instructors may create Pinterest boards where they can store pins that are pertinent to the sessions. Teachers may create and organize materials, lesson plans, and worksheets for their courses in one location using Pinterest, a terrific social networking tool. Make boards for each class or subject, then make sub-topic boards for each week's lesson or for all of the worksheets. Students may utilize Pinterest to compile a digital bibliography for papers, group projects, and research projects. When it's time to write, students may go to a board on which they have pinned webpages, books, or videos on a certain subject.

Social media marketing for education

There are several applications for social media in education marketing, just as there are numerous ways to utilize social media in the classroom. If you want to promote your school or institution to a bigger audience, social media marketing might be useful.

8. Links to social media should be included on the school website.

Create a social media directory or include links to the website's main navigation to make it simple for parents and students to locate your school's social media accounts. A school's website is often the first place parents and prospective students go if they're interested, so providing other methods to follow the institution offers a unique perspective on campus life.

9. Images and events from the school.

Share images of campus events and activities to inform prospective parents and students what to anticipate when they visit your institution. Your school can separate out from the competition if you highlight events and extracurricular activities. While school and university websites often adhere to a template, social media gives you the freedom to be more distinctive and relaxed.

10. Create Facebook groups based on interests.

Even after they graduate, many people especially graduates from universities want to stay active in their institutions. For both current students and alumni, creating Facebook groups may boost participation and school pride. Students may interact and connect with individuals who share their interests via alumni groups, groups for certain graduating classes or departments, and organizations for other extracurricular. Groups may be open so that prospective students can see the kinds of discussions and events these groups are having before asking to join, or they can be closed or secret so that they are only visible by invitation or with the agreement of a group admin.

11. Make a crisis management plan for social media.

How would you alert everyone on campus in case of an emergency? Decide how your school will include social media into its crisis communication strategy, regardless of whether there is a fire, tornado, or other urgent campus issue. Share information about the incident and whether or not authorities are involved to keep parents and pupils informed of the situation. Even though many campuses are set up with automatic SMS warnings, leveraging social media will keep even more people informed and up to date.

12. Manage all of your accounts from one location.

Your school's or university's social media marketing strategy should be solely focused on helping parents and potential students perceive your institution as the best choice. The only thing you really need is a social media management tool that makes it simple for you to post material to all of the social media channels for your school. Whether you're a single marketer or have a large marketing organization, a platform like Sprout Social may make managing social media a snap. The Sprout platform enables many users to produce content with unified messaging and schedule postings across all networks. With Sprout, you can manage and monitor several accounts on various networks, which is perfect for educational organizations. A social media management tool may help you make sure the proper posts are being shared on each of these accounts. Each department or teacher at your school may have their own unique social media accounts for sharing certain information. Additionally, Sprout enables users to share the same item across several accounts with a single click if it pertains to news or content for various departments.

DISCUSSION

Social Media's Value to Students

Social media is a huge part of every student's life nowadays. It makes it simple to communicate with friends, students, professors, and coworkers as well as to provide and retrieve a lot of

information. Together, instructors and students are better able to utilize this platform to both receive and impart knowledge.

Social media benefits for students

However, social media has received a lot of criticism for the impact it has on how children learn and remember information. It provides a wealth of chances for both contact and education. The use of internet-based media as a beneficial tool for kids has a number of benefits.

1. Benefits of Social Media for Education

Social media has developed a strong reputation over the years as a reliable source of information and as a tool for connecting businesses with their worldwide consumers. Teachers can increase students' technology proficiency and academic engagement by using social media. Along with improving communication with kids, it fosters a positive feeling of teamwork in the classroom.

2. Easy information sharing

Students may now share material with their friends, classmates, and other contacts very easily, including links to other websites. They often communicate with one another by using mobile phones, laptops, PCs, tablets, etc. to connect to the internet and share ideas, advice, study materials, assignments, and other sorts of helpful reading material. They provide useful information on their tests and lectures via this.

3. Social Perceived Value

Many schools, colleges, and universities now have the ability to engage with a significant number of students through social media platforms like Facebook, Twitter, and YouTube. These platforms may be used to disseminate and transmit school news, instructional information, make announcements, and provide students more useful information. Through the group affiliations, this fosters participation between the school and the students, which helps in resolving a number of student-related concerns.

4. Budget-friendly Communication

For the user, social media is a fantastic and cost-free channel! It may be used for more than just communication. It is a fantastic tool or technology for advertising events, new programs, and cutting-edge research. Thus, it may be used to increase learning.

5. 24/7 Connectivity

Since most social networking sites are not restricted by geography, there is often a response from the global community. The introduction of several social media websites has made ATC (Any time connection) viable. You may ask your inquiry online and wait a few hours for an answer.

6. Information and knowledge exchange

One may exchange expertise and build reputation in their chosen field(s) or specialization(s) through social media. Additionally, they may get knowledge and perspectives from others in an online community.

How Social Media is changing the Way Schools Are Run Today

There is no disputing that everything has changed since social networks and social media entered our lives. Starting with how we communicate, mingle, organize parties, or even how often we go out. We won't engage in a discussion on the moral implications of how social media is affecting our lives. Instead, this piece suggests concentrating on the many ways social media is altering how the educational system functions. So, keep reading to see how social networking affects our children's education both inside and outside of the classroom.

Efficacious Results

Social media has a role to play in empowering parents, students, and instructors to utilize new means of sharing knowledge and building communities, starting in elementary school and continuing until university graduation. According to statistics, 96% of students with internet access use at least one social network. Even more remarkable is the fact that many students genuinely utilize social media to promote a variety of beneficial and helpful activities, despite the fact that some of them use it for entertainment and other reasons. Everything is made feasible, whether locating a summer internship, publicizing a success story on how to defeat student loan debt, or working together on cross-border initiatives [9].

Applied in Educational Settings?

Schools often have diverse stances on social media. Everyone agrees that they're helpful when it comes to information exchange or task organization at school. Additionally, social networking is held responsible for pupils' lack of focus in class. However, there is a growing tendency for students to use social media in the classroom. And given the amount of time kids currently spend using social media and interacting with people outside of school, why not do it in class as well? Using the internet world to connect with your kids makes perfect sense given that they are already there the most of the time, so it really comes down to practicality. Another case study on social media use in schools is not necessary. Any school or workplace has halls where you can easily observe children of all ages engrossed in their cellphones. Their daily routine now includes scrolling through their news feed, posting images on Instagram, and sending messages on Snapchat.

How Can Teachers Access the Online Environment?

Just two examples of learning management systems that have been used for online learning for more than ten years are Moodle and Blackboard. Such methods will gradually but surely lead to the real integration of social media into classrooms. And social media itself is the finest instrument now accessible for instructors.

They won't be able to connect with kids in a genuine way unless they are willing to be open-minded and use technology themselves.

Students respond favorably when a teacher is willing to utilize and adjust their ways as part of the educational process, as the preceding remark indicates. And that makes perfect sense since schoolwork has a strictness to it, but an online discussion on a particular book allows students to open up and express their thoughts.

Fearless Teachers

Of course, there are many more instances of instructors using social media in the classroom than we are aware of, but a select handful did it so well that their pupils almost made them famous. For instance, a biology instructor from Bergen County issued his pupils with a challenge. They had to use a certain hashtag when debating the topic of meiosis on Twitter. For kids, this is a fantastic chance to have fun and study at the same time [10].

Social Media Builds a Stronger Community

Social media's educational advantages should not end with the teacher-student interaction. The usage of social networking at higher levels may also provide a wide range of additional advantages. Administrators or principals, for instance, might devise fresh ways to incorporate social media. Such as disseminating school information through social media, hosting online meetings with parents, or even initiating a fundraising campaign for certain initiatives. Our fast-paced lifestyles mean that social media may swiftly replace other forms of contact since parents are often preoccupied at work and unable to attend school events. However, this does not imply that they should not be aware of current affairs or be able to periodically check in on their children. Communication is essential in any industry, just as it is here, so why not use social media to make it simple? Even while they may not yet be requirements, inquiries like "Does this school have a Facebook page?' could prove to be just as significant as the questions that parents are now asking. Like what extra courses their kid may enroll in or how well-equipped the library is [11].

CONCLUSION

In conclusion, social media integration in education has created new opportunities for interaction, cooperation, and participation with the educational process. Social media platforms provide students and teachers a place to interact, exchange ideas, and access a wide variety of educational materials. Social media improves learning outcomes and encourages the development of digital literacy skills by promoting a feeling of community and enticing active engagement. However, effective use of social media necessitates giving privacy significant thought, acting responsibly online, and striking a balance between personal and academic usage. Utilizing social media's potential demands a careful strategy that is in line with educational objectives and equips students for responsible digital citizenship as technology continues to transform education. Teachers may provide a dynamic and engaging learning environment that reflects the contemporary communication landscape and equips students for success in a connected world by using social media's advantages while minimizing its drawbacks.

REFERENCES:

[1] S. Ranginwala and A. J. Towbin, “Use of Social Media in Radiology Education,” *J. Am. Coll. Radiol.*, 2018.

[2] H. Vanwynsberghe and P. Verdegem, “Integrating social media in education,” *CLCWeb - Comp. Lit. Cult.*, 2013.

[3] C. Greenhow and C. Lewin, “Social media and education: reconceptualizing the boundaries of formal and informal learning,” *Learn. Media Technol.*, 2016.

[4] R. Faizi, A. El Afia, and R. Chiheb, "Exploring the Potential Benefits of Using Social Media in Education," *Int. J. Eng. Pedagog.*, 2013.

[5] Y. Gülbahar, C. Rapp, S. Kilis, and A. Sitnikova, "Enriching higher education with social media: Development and evaluation of a social media toolkit," *Int. Rev. Res. Open Distance Learn.*, 2017.

[6] A. Mawdsley, "Pharmacy students' perceptions of social media in education," *Pharm. Educ.*, 2015.

[7] A. Irfan, A. Rasli, A. Sami, and H. Liaquat, "Role of social media in promoting education tourism," *Advanced Science Letters*. 2017.

[8] E. O'Sullivan *et al.*, "Social media in health science education: An international survey," *JMIR Med. Educ.*, 2017.

[9] Z. Ngonidzashe, "Challenges and perceptions towards use of social media in higher education in Zimbabwe: a learners' perspective," *Int. J. Sci. Eng. Res.*, 2013.

[10] L. V. Flynn, A. Jalali, and K. A. Moreau, "Learning theory and its application to the use of social media in medical education," *Postgrad. Med. J.*, 2015.

[11] A. Tripathi, M. Srivastava, and V. Vyas, "Social media in higher education," *Soc. ION*, 2018.