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# Proceedings of the NATIONAL CONFERENCE ON "Skills Development for Sustainable Growth and Empowerment"

**NCSDSGE - 2023** 

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# INNOVATIVE MODERN TOOLS ADOPTION FOR QUALITY EDUCATION

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#### **Abstract**

From last few years have witnessed a drastic change in the learning model. The way students are being taught today is very different from the teaching methods that were adopted a few decades back. Technology has brought about various changes in the way education is delivered and received. From self-learning to flipped classroom approach, we have seen technology make a considerable impact on the learning and teaching methodologies. With numerous benefits to offer, digital learning has become an important part of the education system. Information and communication technology (ICT) brings in multiple benefits for digital learning and student-centric engagement. The ICT trends in education shaped the schools and universities to implement the latest in education technology in order to improve the teaching and learning process. Blended learning is widely known for its ability to improve learning, nevertheless little is still known about the best ways of designing effective blended learning environment which can support immersive learning such as greater learning experience and accessibility to education. In this respect, this study investigates the mapping of the principles of three Education 4.0 innovative pedagogies, namely, heutagogy, peeragogy, and cybergogy, with the capabilities of three technological learning tools, that is, Facebook (FB), Learning Management System (LMS), and Blog, via a systematic literature review technique.

Keywords---Education, Technology, Communication, Digital Learning, Schools, Universities, Etc.

# INTRODUCTION OF THE STUDY

The Poor quality education is leading to poor learning outcomes in India, ultimately pushing children out of the education system and leaving them vulnerable to child labour, abuse and violence. Many classrooms continue to be characterized by teacher-centred rote learning, corporal punishment and discrimination. Learning assessments show that many of those children who are in school are not learning the basics of literacy and numeracy or the additional knowledge and skills necessary for their all-round development as specified under the Right to Education Act. Much remains to be done to ensure a child-friendly learning environment where all children benefit from gender-sensitive and inclusive classrooms, as well as the availability of improved water, sanitation and hygiene, and mid-day meal practices.

Since March 2020, schools in India have been closed and learning has shifted to remote home-based learning for those who can access it. School closures will impact learning across the education system. Gains in enrolment, school completion, and learning must not get eroded due to the combination of schools being closed and socio-economic hardships related to Covid-19.

According to the World Bank, five months of school closures due to COVID-19 will result in an immediate loss of 0.6 years of schooling adjusted for quality, bringing the effective learning that a student can achieve down from 7.9 years to 7.3 years. During this period of school closure, efforts have been made by governments to ensure continuity of learning for children while they have been home. Digital tools including internet based high tech tools like apps and online learning classes, social media platforms, television and radio were used

extensively. India is now looking at delivering education programmes differently and speedily to employ solutions, that accelerate impact and achieve scale across interventions targeted at children and adolescents.

COVID-19 presents urgency as well as an incredible opportunity to act and transform the education system through technology using it as an important tool of capacity building, inclusiveness and quality learning, without replacing the essential role of teachers/facilitators. While technology is not a silver bullet to solve the problem of inequities in access and learning, it has huge potential for changing how teaching and learning is delivered in India, if employed in a systemic and inclusive way, empowering teachers, frontline workers, children and adolescents and increasing access to and quality of learning.

Currently around one-third of the 2.6 million secondary schools in India have ICT labs and a functional computer. Universal access to technology in homes is yet a dream in tribal belts, interior locations, rural areas, and amongst children with disabilities. Children with poor or no access to technology face most challenges in continuing to learn. There is disproportional access to the internet across state, further extending into the rural-urban schism, where 13 per cent people of over five years of age in rural areas can use the internet against 37 per cent in urban areas.

In 2022: Blended method were followed to set the quality in education In 2021:

- ❖ 57% of all US students had their digital tools.
- ❖ 75% of US schools had the plan to go virtual entirely.
- **\Delta** Education platforms took up 40% of student device usage.
- ❖ The use of remote management apps for educational purposes increased by 87%.
- ❖ There is an increase of 141% in the use of collaboration apps.
- ❖ 80% of schools and universities in the US had bought or tended to buy additional technology tools for students.

By the end of 2020:

• 98% of universities had their classes taught online.

#### PRESENT TRENDS IN TECHNOLOGY BASED EDUCATION

# **Collaborative Learning**

The innovative trends in educational technology have made it possible for everyone to stay connected. The impact of the current trends of ICT in the field of education has paved multiple options. We connect, discuss and enact upon situations collaboratively. This collaborative approach has gained importance in the learning process as well. In a classroom learning model, teachers encourage collaboration by assigning group activities and tasks. When students team up together to work on a project or solve a problem, it builds their collaborative skills. Working together improves their understanding and increases engagement. Although eLearning is quite popular, it includes collaboration with features to share and discuss. In a traditional teaching model, a teacher enters a classroom, speaks for about 30 minutes, and leaves when the bell rings. But today, technology has bridged the gap between teachers and students.

# **Learning Outside the Classroom Environment**

Various technology trends in education keep changing the digital world. Mobile-based devices have taken learning outside of the classroom. With mLearning and eLearning growing in popularity, students can learn at their own pace and time. This trend is expected to keep up as it is a convenient method of delivering as well as receiving the education. Designing mobile-first responsive content helps students to go through their courses anytime and anywhere. Internet connection is no longer an issue with offline reading capabilities. eBooks can be embedded with many features to enhance the learning experience. Complete with annotation tools, bookmarks, hyperlinks, dictionary, search feature, an eBook makes learning more flexible. Most of the educational institutes today have adopted mobile learning into their learning ecosystems, benefiting students and teachers alike.

#### Social Media in Learning

The technological trends in teaching and learning are rapidly changing every day. With kids as young as eleven having social media profiles on various platforms, you can't really expect to keep them away from social media for too long. So, teachers found a way to utilize this trend and turn it into a powerful tool for enhancing the learning process. Educational institutes have started using social media as a communication tool, where students can interact with their peers and faculty members. Usually, students share videos and images with their friends and followers. But with social features embedded in their eBooks, they can share study materials, opinions, projects etc.

#### **Interactivity in Classroom**

Bringing technology into the classroom has made classrooms lively and interactive. With eBooks, the course content can be embedded with videos, augmented reality, audio files etc. Unlike a printed book, eBook allows for more interaction to take place in the classroom. The flipped classroom model has allowed students to do all the learning at home and all the practical work at school. All these new technologies have brought about a change in the way that classes used to function traditionally. Teachers can now assist and guide students with their homework in class.

#### **Data Management & Analytics**

Managing data has become ever so convenient and important with the advent of technology in the education system. Teachers can now have complete analytics of a student's performance, such as the number of tests attempted, chapters completed etc. Homework and assignments can be assigned to the entire class at once and teachers can evaluate the results online. This kind of automation in classroom activities has enabled teachers to focus more on their course modules and offer in-depth guidance. Analytics has become an important part of any online learning model as it enables the measurement of a child's engagement and academic performance. According to the data available, teachers can develop action plans to improve students' performance.

# Immersive Learning with AR and VR

With the introduction of augmented reality and virtual reality into the education system, the classroom learning experience has undergone a tremendous change. Learning has become much more immersive than traditional methods. Unlike plain images and hands-on experiments in the lab, students can now view enhanced versions of the image and objects on their mobile devices. The augmented and virtual reality trends in education technology are making learning a compelling experience. While augmented reality provides an enhanced view of a real image, virtual reality gives a false perception of reality around them. Both these techniques have taken digital learning to new dimensions. AR and VR are increasingly being used to explain complex concepts. From atoms to planets, and from Egypt to the Colosseum, students can explore and learn so much more.

#### **Gamification in Education**

The latest trends in educational technology have been gaining popularity for the simple reason that it increases student engagement. We have seen gamification being used in classrooms in different forms such as leaderboards, reward points, badges, stickers etc. Of all the trends in education technology, gamification is the one trend which guarantees an increase in participation, engagement, and competition. Students become actively involved in the classroom activities to increase their scores and leaderboard rankings. And the need to lead the scoreboards result in improved performance and better retention. Gamification incentivizes students to learn and practice, improving the overall learning process. So, teachers use gamification as a means to increase engagement, boost motivation and create an interactive classroom environment.

## Online Data and Cyber security

The need for data security is at an all-time high. While cloud storage has become the norm these days, it could prove disastrous at times. People and institutions prefer cloud storage because it is a shared environment and it makes accessing data easy for everyone. With that being said, there have been a lot of instances in the past where online data has been hacked for ransom.

Cyber threats have been a cause of worry for many institutions- educational and otherwise. Student information like name, email address, date of birth and phone numbers cannot be compromised. Test results and assignments are also stored on the cloud by many. Education institutes are implementing the best data security measures to protect their online data and their students' interests. While we are at the topic of cybercrimes, we must also address cyber bullying. In 2022, 14.5% of students in the U.S. reported that they were bullied electronically. Cyber bullying could lead to dangerous outcomes, and hence schools and universities are taking appropriate precautionary measures to prevent online bullying. Cyber security, therefore, is one trend which holds a lot of importance in these times.

# **Benefits of Innovative Teaching Methods**

# **\*** Encourage Research

Innovative approaches to learning encourage students to explore and discover new things and tools to broaden their minds.

#### **❖** Improve problem-solving and critical thinking skills

Creative teaching methods allow students to learn at their own pace and challenge them to brainstorm new ways to address a problem instead of finding answers already written in textbooks.

# ❖ Avoid Receiving a Lot of Knowledge at Once

Teachers using new approaches still give students information, but they tend to split it into smaller parts. Digesting info can now be more accessible, and keeping things short helps students get the basics faster.

# **Adopt More Soft Skills**

Students have to use more complex tools in class to finish their work, which helps them learn new things and spark their creativity. Also, when doing individual or group projects, students know how to manage their time, prioritise tasks, communicate, work with others better, and much more.

# **Check Students' Understanding**

Grades and exams can say something, but not everything about a student's learning capacity and knowledge. Innovative teaching ideas let teachers monitor classes and better know what their students struggle with to find the most suitable solutions.

#### **!** Improve Self-Evaluation

With great methods from teachers, students can understand what they've learnt and what they're missing. By discovering what they still need to know, they can understand why to learn particular things and become more eager to do it.

# **\*** Enliven Classrooms

Do not let your classrooms be full of your voice or awkward silence. Innovative teaching methods give students something different to get excited about, encouraging them to speak up and interact more.

#### **CONCLUSION**

The timing has never been better for using technology to enable and improve learning at all levels, in all places, and for people of all backgrounds. From the modernization of E-rate to the proliferation and adoption of openly licensed educational resources, the key pieces necessary to realize best the transformations made possible by technology in education are in place. Educators, policymakers, administrators, and teacher preparation and professional development programs now should embed these tools and resources into their practices. Working in collaboration with families, researchers, cultural institutions, and all other stakeholders, these groups can eliminate inefficiencies, reach beyond the walls of traditional classrooms, and form strong partnerships to support everywhere, all-the-time learning. Although the presence of technology does not ensure equity and

accessibility in learning, it has the power to lower barriers to both in ways previously impossible. No matter their perceived abilities or geographic locations, all learners can access resources, experiences, planning tools, and information that can set them on a path to acquiring expertise unimaginable a generation ago.

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