



A Study of Advanced Technologies in Education

Dr. Pandit Sambhaji Waghmare, Assistant Professor, Dept. of Sociology
Smt. G. K. G. Kanya Mahavidyalay, Jaysingpur, Affiliation Shivaji University, Kolhapur

ABSTRACT

Modern technology has completely reshaped the entire education system. The digitally empowered classrooms over the internet have made education available to each and everyone who wants to learn across the world, anytime, any subject and anywhere. There is no limit to the strength of the classroom. Unlike physical classrooms that are limited to a maximum of sixty students, any number of students can access the virtual classrooms. When it comes to learning, there is an unlimited amount of knowledge available at no cost to an economically viable price. Undoubtedly, technology increased the interest in learning by many folds and modern technology helped the student improve their critical thinking and analytical skills which is very much necessary to face any kind of challenge. It has not only helped the students to become successful but also to excel. This is not only for schools but also for higher and professional studies.

Key Words: Reshaped, Empowered, Classrooms, Economically, Challenge etc.

1. Introduction

The education technology sector in India is growing exponentially bringing about a paradigm shift in the teaching and learning process. The changing trend has transformed the dynamics of education from classrooms to smart devices and created the need for virtual classrooms, online learning, video meetings, and online proctoring using tech tools with artificial intelligence. Industry experts attribute the growth in the Education Technology industry to the willingness of the educators and teachers to adapt to changes, the involvement and increase in the awareness of parents, and active participation by students. The Covid-19 pandemic situation has further accelerated this growth as virtual learning has become the new ways of learning. To mention, the University Grants Commission (UGC) a regulator that sets standards for institutions of higher education in India, has given approval to increase online learning component for 950 plus Universities during the pandemic. This trend in online learning will continue to grow, and could never be reversed. In the coming years, cohabiting with technology is the only way forward.

2. Objectives of the Study

1. To study the technologies and education.
2. To study the role of technologies in education.
3. To study the challenges of technologies in Education.

3. Technologies and Indian Education

In today's world, we all are interlinked with technology everywhere in our daily lives. So why not use Technology in Education. Technology is the only tool that helps to improve the education system in different ways. From teachers to students, technology leaves a vast impact on education. Modern Education Technology makes education more flexible and perceptive. Various technology driven education tools have introduced free online resources, personalized learning materials, more engaging content, and a better understanding of visuals and opportunities for advanced learning. Educational institutes have been upgrading and integrating technology in teaching practices, methodologies, and curriculum to stay relevant. The pandemic has catalyzed digital adoption and the parent community has also experienced the relevance, need, scope and power of technology in imparting holistic education. With the internet penetration rate estimated to reach above 55 per cent by the end of 2025 in India, digitization of education remains one of the topmost priorities of our government. Taking the cue, many e-learning portals have appeared and are performing well as an increasing number of learners enroll themselves for online courses — the new normal posts the pandemic. Starting 2020, Indian universities and colleges, which were earlier not permitted to offer more than 20 per cent of a degree online, are now lifting the restrictions on online learning to widen access to higher education and raise the profile of Indian institutions globally. Many education technologies companies have also surfaced and are offering learning management resources, including blended learning, 3D and DIY kits and AI-based experiential and interactive learning, to provide an unrivalled experience.

Access to information 'anytime, anywhere' is becoming the defining mantra for educational digital learning solution providers in India. Traditional classroom teaching model has slowly metamorphosed into digital education learning platform, which is self-driven, 'edupreneurial' and fast making India one of the biggest education markets in the world. Pupils well-versed with the likes of PlayStations and iPads, via digital learning, are making smart classroom environment more inclusive, participatory and transforming the education system into an IT-enabled education system. However, resistance to change along with certain infrastructure challenges is hindering the growth of this market.

Online learning or Live Virtual Classrooms (LVC) have opened new career avenues for young professionals who are driven to imbibe new skills – at the luxury and comfort of their own pace and time. With the evolution of technologies such as the Cloud, Data Centres & Virtualization, the digital education ecosystem that we foresee is not a distant reality. There is a growing affinity by Indian youth for new technologies and products such as tablets, notebooks, LMS and IWB, educational institutes, and schools as there is a huge potential for technology to be integrated into education industry.

4. Role of Technologies in Education

i. Promotes Effective Educational system

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

ii. Technology Helps Students Learn Much and Better

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

iii. Improvise better Communication and Collaboration

We all know that the existence of technology has improved communication and collaboration to a better level. Likewise, Educational technology also boosted communication and collaboration between teachers and students and students/ parents, teachers/parents, and peers. Teachers can interact with students to clear their doubts and make e-learning more effective. Technology enables one-on-one interaction in the classroom online.

iv. Provide Teachers More Resources

Educational technology provides teachers plenty of e-learning tools like Gamification, AR / VR, smartboards etc. Through Advanced modern technology of education, teachers can use various digital tools to magnify learning opportunities for students.

E-learning solution technologies enable teachers to improve their teaching skills. From technology, teachers can instruct well through video lessons, micro learning, attractive info graphics etc. Moreover, teachers can engage the students by delivering online tests and different courses.

v. Learning at Own Pace

The important roles of technology in education is to students as they can learn at any time and from anywhere. With the technology-based E-learning process, one can study in their comfort zone. Students can play, pause and re-watch complex topics using online educational applications until the concept is clear

5. Challenges of Technologies in Education

i. Budget Limitations

By far the greatest factor limiting the efforts of teachers and administrators to provide education technology to students, budget cuts and limitations are a major hurdle that proponents of education technology must overcome in order to successfully introduce tech into their classrooms. A recent study even demonstrated that 75.9% of respondents saw budget restrictions as the biggest challenge preventing them from embracing education technology.

ii. Lack of Professional Training

Increasingly new and advanced education technology appears every day. Teachers need to be able to know not only how to get the most out of each new tool themselves, but also how to train their students in its use. Providing classrooms with a shiny new tool that neither teacher nor student can use is unlikely to make an impact in any child's educational experience, and requiring busy teachers to teach themselves how to use a new tool can be frustrating and time-consuming. Although professionally training teachers, faculty, and staff may require time and money, it's necessary if students are expected to get the desired effects out of their technological experience.

iii. Poor Network Infrastructure

Simply handing a room full of students a box of laptops or notebooks won't have any beneficial effects if the school doesn't have the network infrastructure it needs to support them. A strong network infrastructure requires fast, high-quality WiFi at school and at home, as well as data privacy and security, access to digital resources, and much more. Designing, building, and supporting a strong network infrastructure must be done with a great amount of care and forethought, as it is necessary for the effective and responsible continued use of technology in education.

iv. Resistance to Change

Many teachers have demonstrated a resistance to change and unwillingness to adopt education technology. However, studies have shown that this resistance is not because teachers dislike technology. Rather, it's partly because teachers view learning a new teaching tool as a risky approach for which they're not adequately trained. It's also partly because their school administrators don't present a united front by highlighting which specific tools can have positive outcomes for their students. Although this resistance to change can be difficult to overcome, working with teachers to support them in adopting new education technology can help make them more likely to embrace it.

v. No Systems In Place To Utilize Technology In Curriculum

Although granting teachers access to tablets and smartboards may help boost their comfort with education technology, many teachers simply have not thought about how they can best utilize technology in their curriculum. Indeed, the way a history teacher utilizes laptops in the classroom may be very different than the way a math teacher utilizes a smartboard. Both likely require plenty of time for trial, error, and experimentation to bring their lesson plans up to date. A major challenge in the adoption of new tools is not providing teachers with the guidance they need to make education technology work for them in their specific classroom.

vi. Unreliable Devices And Software

The lack of a strong infrastructure can also be compounded by a lack of reliable devices and software, all of which can present major barriers to the adoption of education technology. An unreliable device can simply be a notebook that doesn't function properly, or it could be a bug causing students to have trouble accessing tests or staying logged in at school. In more extreme cases, Common Core test disruptions in 2015 and other test-based technical glitches represented an unforeseen challenge associated with using education technology to administer testing. Although education technology can be a powerful tool, devices and software need to be consistent and reliable for it to remain a viable option in the future.

vii. Administrators Don't See The Need For More Technology

Finally, another challenge facing technology in education is the fact that many administrators are simply unwilling to immediately adopt it. The reasons for this vary but are likely due to budget considerations as well as the fact that the benefits of education technology are not yet well-defined. This makes it challenging to pinpoint specific areas in which this technology could help raise test scores or boost other metrics. However, with distance learning on the rise and education technology becoming increasingly widespread, it seems likely that administrators' resistance to adopting technology will soon become a thing of the past.

6. Conclusion

Education is set to experience a huge level of reshaping from many emerging technologies. Students can make better use of technology by looking into each one. By researching each one, they obtain special insights on just how they can get the best out of their usage. On the other hand, teachers can use online course platforms to enhance the learning environment. In the days to come, digital education will further witness significant changes in the way universities and colleges provide education. This accelerated shift towards adoption of digital means in both accesses to education as well as its assessment isn't a temporary trend but will have long-term consequences that will shape the *new normal* future. We will soon experience a myriad of possibilities emerging out of digital education to empower the youth of India.

7. References

1. <https://www.thehindubusinessline.com/opinion/how-digitisation-and-technology-are-shaping-education-in-india/article34090642.ece>
2. <https://www.outlookindia.com/website/story/feature-how-technology-is-transforming-the-education-sector/396082>
<https://www.outlookindia.com/website/story/feature-how-technology-is-transforming-the-education-sector/396082>