Latest advancement in Indian education sector

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The acceleration in digitalisation induced by the pandemic redefined the Indian education sector. It suggested new ways of learning beyond classroom teaching and memorisation of concepts. It has completely changed the way we learn and interact within the classroom.

From the chalkboard method to smart boards, the Indian education system has embraced modern digital tools, such as artificial intelligence (AI), virtual reality (VR), gamification and other online learning solutions. These modern-age solutions provide students and educators with flexibility, which allows them to access textbooks, assignments, test papers and other documents from multiple locations.

The accelerated adoption of digital solutions in the education sector comes at a time when the Covid-19 pandemic has wreaked havoc on learning, especially in the K-12 segment. In the last two years, hundreds and thousands of students have reeled under the pressure and chaos of the pandemic. Digital solutions have made education more accessible and flexible and democratised access to education.

Furthermore, the National Education Policy (NEP) 2020 has contributed to the evolution of education by providing an overhauled framework for curriculums, teaching assessments and upskilling teachers. Similarly, for students, the policy has emphasised adding coding to the curriculum from the 6th class onwards, recognising the need for mathematical and critical thinking to attain leadership roles in the numerous upcoming fields in the technology space.

Digital platforms have brought multiple changes in different areas of the Indian education system, and listed below are a few of these changes.

Interactive education: The appropriate digital tools help teachers to connect with students from anywhere without the confined boundaries of a classroom. It makes the classroom environment more interactive, engaging and familiar for students. It makes education student-centric with interactive technologies such as game-based learning, VR and AI. It makes learning fun and allows students to learn at their pace with different learning styles while developing critical thinking, collaboration and problem-solving skills. It helps students to become self-aware and identify their strengths and weaknesses.

Curriculum: The advancement in education includes the evolution of assessments to promote learning over grades. Unlike the traditional ways of memorising oral and written tests, education has shifted to competency-based assessment aiming to test and build students' skills, knowledge and learning development – for instance, introducing personalised learning and competency-based assessment system.

Even the NEP has emphasised redesigning and developing student-centric curriculums that focus on learning rather than memorising concepts. These new methodologies involve experiential, personalised, collaborative and project-based learning. In addition, with the advancement in technology and digitalisation, vocational education awareness has also increased.

Collaborative learning: Technological advancement has made it possible for students and teachers to stay connected more than ever. Teachers can enhance student teamwork and collaboration by planning various group discussions, activities and tasks using videos, social media, AI and VR.

Students working together on a project or solving a problem, build their collaborative skills. Working in teams improves their understanding and increases engagement. Unlike the traditional approach to learning, collaborative learning builds confidence and helps students to develop better interaction with their peers and build strong interpersonal skills.

Introduction of social media in education: Social media is becoming integral to classroom education. As the teachers couldn't restrict the students from hopping from one platform to another, they taught it in education to enhance learning outcomes. In addition, it is an effective communication tool for teachers to interact with parents and students. Commonly it is used by students to share pictures, videos, ideas and posts with their friends and followers. But social media features embedded in their e-books allow them to share study materials, opinions and projects on various platforms.

Assessment and feedback: The conventional assessment method restricted teachers with limited formats, but now teachers can have complete analytics of students' performance. They can record the number of tests attempted, understanding of the concepts and completed chapters. The homework and assignments can be more personalised and given to the students as per their capabilities. Teachers can see the data and analytics to evaluate the results online.

Enhanced automation in the classroom has enabled teachers to focus more on their course modules and offer in-depth guidance. It allows teachers to develop action plans to improve students' performance. Also, it makes the feedback instant that could be tracked in real time.

Gamification of education: It is always a challenge for teachers to engage students, and gamification can enhance students' engagement in the classroom. It is used in classrooms in different forms, such as leader boards, reward points, badges and stickers. It incentivises students to learn and practise and enhances learning by boosting motivation and creating an interactive classroom environment.

Teacher development: The National Education Policy 2020 emphasises teachers' development and training as they are at the forefront of delivering education. It has put immense focus on teachers who can be trained digitally to effectively provide new curriculums and pedagogies – for example, the online portal Digital Infrastructure for Knowledge Sharing (DIKSHA). The NEP 2020 also highlighted a 6-month certificate programme and one-year diploma programmes running through digital/distance mode and providing high-quality content to enhance teachers' abilities.

Technology enhances students' employability by involving them in various projects to build teamwork and collaboration among students. Also, the level of personalisation provides new avenues for peer reflection, self-reflection, feedback and supervisor evaluation.

Educationalists suggest that technologies such as gaming are helping teachers to make students learn complex science, social studies and maths and read complex texts. Not only students, but educational technology has also made it easy for teachers to plan and schedule classes, collect and manage their data, develop and administer tests and quizzes, track student progress and performance, and communicate with students and parents.