Role of Technology in 21st century Education: A Paradigm Shift in Pedagogy

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Abstract

Education is recognized as a fundamental catalyst for achieving sustainable development. In the Sustainable Development Goals (SDGs) 2030, Goal 4 specifically addresses Quality Education and aims to ensure inclusive and equitable education for all. National Education Policy (NEP)-2020, has been introduced by the Government of India in alignment with the vision and mission of SDGs. Technology has totally changed the way education is imparted in the 21st century. Smartphones, computers, and tablets which have replaced pen and paper have become an integral part of the teaching-learning process. With information being instantly available with the click of a button, it is not surprising that continuous efforts are being made to integrate technology with pedagogy. Learning is not the product of teaching but a result of the activity of learners. Different teaching aids like attractive power-points presentations, animations, videos, apps, live polls, feedback mechanisms, online quizzes etc., can therefore help to create learners who are actively engaged. Not all learners absorb and retain information in the same way or at the same pace. Technological integration also opens doors for customised instructions to address each student's specific skills, needs and interests. Technological tools have also become very handy for teachers. Teachers can now monitor attendance, manage real-time student data using online grading, cloud technology etc. and carry out formative and summative assessments as well. In this paper, the various aspects of technological use in pedagogy will be discussed from both teacher and learner point of view. Emphasis would also be laid on numerous ICT tools that can come in handy to an educator, while addressing the current generation of learners.

Keywords: NEP 2020, Education, Information and Communication Technology (ICT), Higher Education, Reforms, Technology in Education

What is 21st century Education?

21st century education refers to the modern approach and philosophy of teaching and learning that is tailored to the needs and demands of the contemporary times. It recognizes the rapid advancements in technology, the changing nature of work, and the globalised interconnectedness of societies. 21st century education strives to go beyond traditional content-focused instruction and aims to equip students with the skills and competencies required for success in the digital age, such as critical thinking, creativity, collaboration, and adaptability. It emphasises the development of lifelong learners who can continually learn, unlearn, and relearn in response to evolving challenges and opportunities. 21st century education aims to prepare students with the skills, knowledge, and competencies necessary to succeed in the digital age and thrive in a rapidly evolving world. Some key characteristics of 21st century education include:

1. **Critical thinking and problem-solving:** Emphasising the development of analytical and creative thinking skills, encouraging students to approach problems from multiple perspectives and find innovative solutions.

2. **Collaboration and teamwork:** Promoting collaborative learning environments that foster effective communication, teamwork, and cooperation among students to prepare them for the future job market.

SUSTAINABLE EDUCATION

ALIGNING WITH THE NEP 2020 & SDG'S 2030

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