The Impact of digital technology on education in present scenario

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Abstract

This research study predicts the role of digital technology on education in present scenario. The goal of this study is to address the fundamental research question: How will digital technology impact education? The role of technology in education has been an important question since the digital transformation and innovation. It remains an important issue today with debates about the impact of technology on our society, the implications of quick and easy online access to information for knowledge and learning and the effect of technology on young people's social, emotional and physical development.Therefore, it is important to take look of what we know about the impact of digital technology on education from what we have learned over the past several years.The Educationaltechnology can be defined as systematic application of scientific or other organized knowledge to practical task.It is the use of technology to improve education or a systematic process for designing instruction or training used to improve performance. Educational technology is sometimes also known as instructional technology or learning technology.

Keywords: Digital Technology, Education,Strategies, Tools, educators,learning.

Introduction

The word "**education**" defines the act or process of imparting or acquiring general knowledge, developing the powers of reasoning and judgment, and generally of preparing oneself or others intellectually for mature life (Dictionary.com, 2018). More intuitively, education represents

activities and means of a group of people or a community to pass interests, goals, and habits from one generation to the next.Education can be formal and informal. It employs different educational techniques and methods like lecture method, storytelling, learning by doing etc. generally it starts from pre-school to university stage (Apurva Sharma, Dibrugarh university,2013). The real education is a journey from converting the Human Being into Being Human. Schooling is a formal process of acquiring knowledge which is divided in classes, acquired in stages and ultimately it makes the student fit for the world. The critical aspect of schooling is its emphasis on student to make him employable. (Halbert Himanshu Joshi, 2017). Technology, has always been part of the **teaching and learning environment**. It is part of the teacher's professional toolbox. In other words, it is among the resources that teachers use to help facilitate student learning.

The process of **learning** is the acquisition or skills thorough study, experience or being taught (Oxford Dictionary). **Teaching** is the activity of conveying knowledge. In these terms, education can be defined also as the process of receiving (learning) and giving (teaching) systematic instruction at a school or university. The process of imparting and acquiring knowledge heavily depends on one's cognitive abilities. Since the beginning, education has been influenced by a variety of factors such as social, economic, political and technology. However, the most influential factor is technology.

Digital Technology Trends In Education, 2018

Education is an indispensable part of any modern society, and education technology can unfold a lot of 'not-realized' dreams of education institutes, education, and management. The education field is undergoing drastic changes because of different factors such as emerging technology innovation, student mobility, and government regulations. Suppliers to this industry are facing stiff pressure because of the high cost of books, low cost interactive web-based courses, and surge in the use of personal devices.

With easy internet access, the popularity of smartphone use, and social networking, the field of education has to grab opportunities for content delivery of educational material in the form of eLearning. Organizations should realize the need for virtual colleges and classrooms. The never-stopping tech evolution necessitates easily accessible as well as reliable web-based education.

Companies need to realize the potential with a new school of thought, best-in-class technology, and the right growth strategy. Technology trends for 2018 are as follows:

1.Cloud Based Technology for Storing Remote Database: In 2018, cloud computing is a method for delivering information technology (IT) services in which resources are retrieved from the internet through web-based tools and applications, as opposed to a direct connection to a server. Rather than keeping files on a proprietary hard drive or local storage device, cloud-based storage makes it possible to save them to a remote database. As long as an electronic device has access to the web, it has access to the data and the software programs to run it with more centralized storage for resources, cloud-based technology will allow educators to increase their reach and share information without increased expenditure, or additional time pressure.

2. Virtual and Augmented Reality to Boost Understanding of Content:SMT will provide teachers with tools for delivering enhanced learning experiences through augmented and virtual reality in 2018. After the success of **Pokemon Go**, we witnessed the emergence of augmented reality in education in 2018. **Teachers are increasingly using AR to layer virtual content on printed materials to enhance understanding and inspiration**. The number of free apps and teaching platforms designed specifically for virtual education is growing. VR and AR will move from experimental to ubiquitous in learning.

3. Stem Is Now Converted Into Steam: For educators, there is now a greater need for science, technology, engineering and math's (STEM) concepts to integrate with the arts (STEAM) across the wider curriculum. Teachers working in cross-curricular STEAM settings often see their students making connections between concepts and solving problems in new and exciting ways. They demonstrate this by active engagement, their discoveries visible in enthusiastic "aha" moments**.**

4. Technology Now Help In Preventing From Bully: With the prolific nature of mobile devices and social platforms, it's a sad truth that online bullying is becoming increasingly common. While technology is an enabler for abusive behavior, Edtech will be used extensively in 2018 to monitor pupils' technology, track the use of search terms that they use, as well as all visited

websites. More apps will allow teachers and SMTs to remotely view any of their students' devices. Other technologies will be applied directly to pupils' devices to monitor tone of voice, location services, image scanning, keyword flagging and social media activity, to give an overall picture of a child's mood.Platforms to provide a means of reporting and communication between teachers and pupils will grow in popularity. These tools raise awareness of the widespread bullying issue, and enhance methods of communication.

5. Increase use of mobile phone for learning purpose: Today, many pupils own a mobile device. Tapping this technology for learning in 2018 will improve engagement and motivation across all learning abilities. Mobile learning also offer greater flexibility and accessibility for learning at home. Connecting mobile technology and devices within the classroom allow teachers to provide a fully immersive, integrated learning experience for all learning styles and abilities.

Thank to pupils' intuitive use of technology, in 2018 more schools are adopting tablet-like experiences for their front of class displays and incorporate this with camouflaged learning techniques and the gamification of learning. Traditional interactive whiteboards are becoming harder to scale or costly to replace, whereas SMTs are turning to more future-proof, upgradeable technologies like Promethean Active Panels.

Government Initiative To Increase Digitalisation In Education

In order to promote digital education literacy number of initiatives have been taken by the government in the country.They includes SWAYAM, SWAYAM Prabha, National Digital Library, e-Shodh Sindhu, FOSSEE and Virtual Lab.All these digital initiatives are operational under union Ministry of Human Resource Development.

Swayam: It an indigenously designed massive open online course (MOOC), It will host all the courses, taught in classrooms from 9th class till post-graduation and can be accessed by anyone, anywhere at any time. It aims to bridge the digital divide for students in e-education.

Swayam Prabha: It will provide high quality educational contents, developed by experts, through 32 DTH (direct to home) Television Channels with aim to bring uniformity in standards of education. It will cover diverse disciplines of all levels of education in various languages. It will be available to all and will be having new content of 4 hours to be telecasted 6 times a day.

National Digital Library: It is another initiative of the government to develop a framework of virtual repository of learning resources with a single-window search facility. So far, about 1.5 crore e-books and documents are available on NDL, contributed by 160 content contributors and over 30 lakh users from 9 thousand educational institutions were registered on the NDL.

E-Shodh Sindhu: This project of the government aims at providing access to quality electronic resources including full-text, bibliographic and factual databases to academic institutions at a lower rates of subscription. The MHRD has designed this project by merging three consortia initiatives such as ***UGC-INFONET Digital Library Consortium, NLIST and INDEST-AICTE Consortium.***

FOSSE*:* Designed by the MHRD, the **Free and Open Source Software for Education** (FOSSEE) project aims at promoting use of open source software in educational institutions to improve the quality of education, reducing dependency on proprietary software. This project is part of the National Mission on Education through Information and Communication Technology (ICT) and MHRD.

Virtual Lab*:* An initiative taken by the MHRD under the National Mission on Education through Information and Communication Technology, the Virtual Lab aims at providing remote-access to laboratories in various disciplines of Science and Engineering for students at all levels from under-graduate to research.

This project also plans to develop a complete Learning Management System where students can avail various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self-evaluation.

Engaging & Empowering Learning Through Technology

Technology can be a powerful tool to reimagine learning experiences. Historically, a learner's educational opportunities have been limited by the resources found within the walls of a schools and colleges. Technology supported learning for engaging and empowering students are as follows:

• With high-speed internet access, a student interested in learning computer science can take the course online in a school that lacks the budget or a faculty member with the appropriate skills to teach the course.

• Learners struggling with planning for college and careers can access high-quality online mentoring and advising programs where resources or geography present challenges to obtaining sufficient face-to-face mentoring.

• With mobile data collection tools and online collaboration platforms, students in a remote geographic area studying local phenomena can collaborate with peers doing similar work anywhere in the world.

• A school with connectivity but without robust science facilities can offer its students virtual chemistry, biology, anatomy, and physics labs—offering students learning experiences that approach those of peers with better resources.

• Students engaged in creative writing, music, or media production can publish their work to a broad global audience regardless of where they go to school.

• Technology-enabled learning environments allow less experienced learners to access and participate in specialized communities of practice, graduating to more complex activities and deeper participation as they gain the experience needed to become expert members of the community.

These opportunities expand growth possibilities for all students while affording historically disadvantaged students greater equity of access to high-quality learning materials, expertise, personalized learning, and tools for planning for future education. Such opportunities also can

support increased capacity for educators to create blended learning opportunities for their students, rethinking when, where, and how students complete different components of a learning experience.

Educators Role In Technology-Supported Learning

Technology offers the opportunity for teachers to become more collaborative and extend learning beyond the classroom. Educators can create learning communities composed of students; fellow educators in schools, museums, libraries, and after-school programs; experts in various disciplines around the world; members of community organizations; and families. This enhanced collaboration, enabled by technology offers access to instructional materials as well as the resources and tools to create, manage, and assess their quality and usefulness.

To enact this vision, schools need to support teachers in accessing needed technology and in learning how to use it effectively. Although research indicates that teachers have the biggest impact on student learning out of all other school-level factors, we cannot expect individual educators to assume full responsibility for bringing technology-based learning experiences into schools. They need continuous, just-in-time support that includes professional development, mentors, and informal collaborations. Following are some descriptions of these educator roles and examples of how technology can play an integral part.

- **Educators can collaborate far beyond the walls of their schools**: By using tools such as videoconferencing, online chats, and social media sites, educators, from large urban to small rural districts, can connect and collaborate with experts and peers from around the world to form online professional learning communities.
- **Educators can design highly engaging and relevant learning experiences through technology.**Educators have nearly limitless opportunities to select and apply technology in ways that connect with the interests of their students and achieve their learning goals. For example, a classroom teacher beginning a new unit on fractions might choose to have his students play a learning game such as Conceptua Math, Factor Samurai, Wuzzit Trouble, or Sushi Monster as a way to introduce the concept. Later, the teacher might direct students to practice the concept by using manipulatives so they can start to develop some grounded ideas about equivalence.

To create an engaging and relevant lesson that requires students to use content knowledge and critical thinking skills, an educator might ask students to solve a community problem by using technology. Students may create an online community forum, public presentation, or call to action related to their proposed solution. They can use social networking platforms to gather information and suggestions of resources from their contacts. Students can draft and present their work by using animated presentation software or through multimedia formats such as videos and blogs. This work can be shared in virtual discussions with content experts and stored in online learning portfolios.

A school without access to science labs or equipment can use virtual simulations to offer learners those experiences that are currently unavailable because of limited resources. In addition, these simulations are safe places for students to learn and practice effective processes before they conduct research in the field. Just as technology can enhance science learning for schools lacking equipment, it can enable deep learning once students are in the field as well. Students can collect data for their own use via mobile devices and probes and sync their findings with those of collaborators and researchers anywhere in the world to create large, authentic data sets for study.

- **Educators can lead the evaluation and implementations of new technologies for learning.**

Lower price points for learning technologies make it easier for educators to pilot new technologies and approaches before attempting a school-wide adoption. These educators also can lead and model practices around evaluating new tools for privacy and security risks, as well as compliance with federal privacy regulations. Teacher-leaders with a broad understanding of their own educational technology needs, as well as those of students and colleagues, can pilot the chosen technology with a small number of students to quickly and rigorously assess the implementation of approach and whether the technology delivers the desired outcomes. This allows schools to gain experience with and confidence in these technologies before committing entire schools or districts to purchases and use.

- **Educators can be guides, facilitators, and motivators of learners**. The information available to educators through high-speed Internet means teachers do not have to be content experts across all possible subjects. By understanding how to help students access online information, engage in simulations of real-world events, and use technology to document their world, educators can help their students examine problems and think deeply about their learning. Using digital tools, they

can help students create spaces to experiment, iterate, and take intellectual risks with all of the information they need at their fingertips.

- **Educators can be co-learners with students and peers**. The availability of technology-based learning tools gives educators a chance to be co-learners alongside their students and peers. Although educators should not be expected to know everything there is to know in their disciplines, they should be expected to model how to leverage available tools to engage content with curiosity and a mindset bent on problem solving and how to be co-creators of knowledge. In short, teachers should be the students they hope to inspire in their classrooms.
- **Educators can become catalysts to serve the underserved**. All students deserve equal access to the internet, high-quality content, and devices when they need them and educators skilled at teaching in a technology-enabled learning environment. When this occurs, it increases the likelihood that learners have personalized learning experiences, choice in tools and activities, and access to adaptive assessments that identify their individual abilities, needs, and interests.

Recommendations

- **Provide pre-service and in-service educators with professional learning experiences powered by technology to increase their digital literacy and enable them to create compelling learning activities that improve learning and teaching, assessment, and instructional practices.** To make this goal a reality, teacher preparation programs, school systems, state and local policymakers, and educators should come together in the interest of designing pre- and in-service professional learning opportunities that are aligned specifically with technology expectations outlined within state standards and that are reflective of the increased connectivity of and access to devices in schools. Technology should not be separate from content area learning but used to transform and expand pre- and in-service learning as an integral part of teacher learning
- **Use technology to provide all learners with online access to effective teaching and better learning opportunities with options in places where they are not otherwise available**. This goal will require leveraging partner organizations and building institutional and teacher capacity to take advantage of free and openly licensed educational content such as those indexed through Learning Registry's #Go Open Node (LearningRegistry.org). Adequate connectivity will

increase equitable access to resources, instruction, expertise, and learning pathways regardless of learners' geography, socio-economic status, or other factors that historically may have put them at an educational disadvantage.

- **Develop a teaching force skilled in online and blended instruction**. Our education system continues to see a marked increase in online learning opportunities and blended learning models in traditional schools. To meet the need this represents better, institutions of higher education, school districts, classroom educators, and researchers need to come together to ensure practitioners have access to current information regarding research-supported practices and an understanding of the best use of emerging online technologies to support learning in online and blended spaces.
- **Develop a common set of technology competency expectations for university professors and candidates exiting teacher preparation programs for teaching in technologically enabled schools and postsecondary education institutions.** There should be no uncertainty of whether a learner entering a PK–12 classroom or college lecture hall will encounter a teacher or instructor fully capable of taking advantage of technology to transform learning. Accrediting institutions, advocacy organizations, state policymakers, administrators, and educators have to collaborate on a set of clear and common expectations and credentialing regarding educators' abilities to design and implement technology-enabled learning environments effectively.

Conclusion

Technology can definitely help teachers do a better job, not replace them. Thus, teachers don't have to worry about the way technology is revolutionizing the field of education. As schools and teachers continue adopting a growing number of tech solutions and software development tools, it's important to consider new trends in education and how students learn. Like other sectors in today's society, the field of education should be updated with the latest technologies to meet student's needs. There has been a strong pedagogical focus to increase the digital literacy of pupils, and encourage more students to adopt tech-focused subjects over the past few years. This has ensured children grow into more responsible citizens, as well as fostering key transferable skills for their futures.

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