The Importance of Digital Technologies in the Training of Future Primary School Teachers

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ABSTRACT:
Digital technologies have emerged as an essential tool to achieve this goal. These technologies are simple to detect emissions sources, prevent additional damage through improved energy efficiency and lower-carbon alternatives to fossil fuels, and even remove surplus greenhouse gases from the environment. Digital technologies strive to decrease or eliminate pollution and waste while increasing production and efficiency. These technologies have shown a powerful impact on the education system. This paper is brief about the need for digital technologies in education and discusses major applications and challenges in education..

Educational technology businesses are continually attempting to create novel solutions to expand access to education for individuals who cannot obtain adequate educational facilities. Social media as a learning tool has come a long way. Large numbers of teachers and students use social media as an essential element of the overall e-learning experience. It is a critical venue for exchanging information about crucial topics these days. Aside from the ability to communicate information anywhere, at any time, social media sites are also a fantastic source of producing networking possibilities to establish social activities and possibly new jobs.

Traditional classroom instructions fall short of providing an immediate learning environment, faster evaluations, and more engagement. In contrast, digital learning tools and technology fill this void. Some of the efficiencies such technologies provide are simply unrivalled by traditional learning methodologies. With smartphones and other wireless technology devices becoming popular among the general public, it only makes sense that schools and educational institutions make efficient use of them by putting technology in the classroom. Indeed, today's technology's adaptability and non-intrusive character make learning more appealing to the next generation. However, it may be a formidable technique to manage initially since traditional instructors are hesitant to include contemporary technology and gadgets in school, viewing them as a distraction rather than an intelligent learning aid. An online classroom calendar, where we may display class schedules, assignment schedules, field excursions, speaker events, examinations schedules, or semester breaks, will help students plan accordingly. Student response systems, such as smartphones and clicker devices, provide a quick and easy technique for teachers to determine students' learning of the presented content quickly and whether more explanation is required

Digital technologies influence agricultural operations, and they will soon revolutionise how farming is done in developed countries, reducing our dependency on pesticides and substantially cutting water use. Integrating technology into education provides students with an engaging learning experience, allowing them to remain more interested in the subject without being distracted. The utilisation of projectors, computers, and other cutting-edge technical gear in the classroom may make studying fascinating and entertaining for students. Student learning can become more dynamic and engaging by establishing tasks in class that incorporate technology resources, oral presentations, and group participation. Participation can extend beyond verbal communication as well.

From the environmental impact of using less paper for handouts and books to the time savings and convenience of research, digital learning is a wonderful way to cut costs, better utilise resources, promote sustainability and expand both reach and impact for students and teachers. Technology is pervasive and intertwined in many

aspects of modern life and society. The digital revolution that is sweeping the world has begun to infiltrate the realm of education. It is rapidly transforming the way students learn, and as a result, technology is expected to improve the face of education by making it more inexpensive and accessible This paper is brief about the applications of digital technologies in education. The next three sections discuss the need for digital technologies in education and brief about the Digital classrooms and applications of digital technologies in education. It is followed by a section on the challenges of digital technologies in education along with a discussion on the future of digital technologies in education.

The globalisation of education has already necessitated the application of digital technologies. Online platforms were available for conducting classes, sharing resources, doing the assessment and managing the day to day activities of academic institutions. However, the use of these platforms was proactive.. Developed countries were well equipped to deal with this crisis. However, developing countries worked hard to meet this requirement. Digital technologies have emerged as the saviour of education in this critical time. This global crisis highlights the need to be internationally integrated into the education system. Digital technologies assist in developing abilities that will require students' professional performance, such as problem-solving, thinking structure creation, and process comprehension. They are also preparing for a more unpredictable and changing future in which technology will play a critical role. Students' acquired qualities and abilities will be essential to their professional success. Educational resources and digital tools help to improve the classroom atmosphere and make the teaching-learning process more compelling. Furthermore, they give each educational institution greater flexibility and customisation of curriculum based on the requirements of each student. Children might become more engaged in learning if technology is used in the classroom. Because youngsters nowadays are pretty accustomed to the usage of electronic gadgets, incorporating them into schooling would undoubtedly assist in piquing their interest and enhancing their involvement levels. Integrating technology into education provides students with an engaging learning experience, allowing them to remain more interested in the subject without being distracted. The utilisation of projectors, computers, and other cutting-edge technical

gear in the classroom may make studying fascinating and entertaining for students. Student learning can become more dynamic and engaging by establishing tasks in class that incorporate technology resources, oral presentations, and group participation. Participation can extend beyond verbal communication as well.Using computers and other devices in conjunction with digital tools allows students to play a more proactive role and be at the centre of the process.The instructor becomes a guide in this process and can approve learning efficiency. Using the myriad of digital resources, learners may download the required information or upload their content. The web 2.0 technologies (wikis, podcasts, blogs etc.) facilitate learners to generate content, collaborate with others, assess each other work and move toward co-learning. Digital technologies make it easy to use classroom tactics like gamification or approaches like flipped classrooms that optimise learning. Learning landscapes have evolved as a didactic tool that mixes several techniques and enables distinct itineraries to be presented to each student. Technology makes the instruction more inspiring and meaningful .

Digital classrooms are defined by using electronic devices or platforms such as social media, multimedia, and mobile phones to teach students. With digital technology in education, today's educational landscape has altered for the better or improvements. Digital learning is a learning strategy that employs technology to fulfil the entire curriculum and allows students to learn quickly and rapidly . The digital classroom entirely focuses on teaching via the use of technology. Students use technological or internet-connected gadgets like laptops, tablets, Chromebooks, etc. Instead of taking notes on what the teacher has taught, most of the curriculum is delivered to students online through an engaging and interactive platform. Despite its many facets, education is fundamentally a kind of communication. The internet has resulted in the rise of new communication channels, which have extended the options for the transmission and

4. Applications of digital technologies in education

Digital technologies are a powerful instrument that can help improve education in various ways, such as making it easier for instructors to generate instructional materials and providing new methods for people to learn and collaborate. A new era has arrived with the Internet's worldwide reach and many intelligent devices connected to it. Thus, it will be up to instructional

designers and educationists to use advanced digital technology's potential to revolutionise education such that effective and efficient education is available to everyone and everywhere. Technology has continued to play an essential role in delivering education to children outside the classroom. Digital learning fosters creativity and gives students a sense of success, encouraging additional learning by thinking outside traditional techniques. All nations were able to adopt remote learning technologies utilising a combination of TV, radio, online, and mobile platforms, which is commendable. These provide easy access to information, easy retention of information, increased storage of information, and improved presentation of information; education became more interactive, easier sharing of knowledge and increased enthusiasm in learning

Educational technology is not without its difficulties, notably in implementation and usage. Educators must generate and comment on online educational content, encouraging students to analyse a topic from several angles in particular. Furthermore, while some students thrive in online learning settings, others struggle due to various factors, including a lack of support. For example, a student who has previously suffered in face-to-face circumstances may suffer far more in the current situation. These people may have been reliant on services that are no longer accessible. However, online education may provide difficulties for instructors, particularly in areas where it has not been the norm .

Some of the reasons for the learning crises are widely known. One crucial factor is the poor quality of instruction. Teachers frequently lack topic expertise and have received little training. There are technology solutions to this, and they could be helpful in both training instructors and instructing students. Technologies can provide in-service training or a combination of online and in-person training. Additionally, there is evidence that instructors require better incentives. They can educate but lack the motivation to do so. Even though education has always extended outside the conventional classroom, the changing circumstances and scale of digital and remote contexts demand significant adaptation, preparation, support, and engagement. Limited or no contact with students, rethinking engagement, reaching, teaching approaches, appropriately addressing a range of unique needs, motivating students, handling conflicting time demands, and coping with constrained settings may contribute to attentive learning and teaching.

There is also evidence that low-tech interventions for "instruction at the appropriate level" can significantly affect learning. Because low-tech solutions are less expensive and funding restricts impoverished nations, careful investigation is required to establish whether high-tech or low-tech solutions are better or not. Teachers are teaching through video, but they are not always teaching better than they would if they were standing in front of a classroom. More massive open online courses are being offered and taken up, but many are not for primary education and do not address the learning issue. It necessitates hardware and connectivity at home, inaccessible to children in low-income homes. Gamification and other strategies may encourage youngsters to devote more time to studying. Finally, consider that effective learning outcomes may be obtained without using education technologies .

Some students are having difficulties as a result of this online schooling. Some students come from low-income families and do not have cellphones in their homes; thus, they struggle in school. Millions of youngsters simply do not have access to the internet at home. Students under 15 acquire this complex technology early, yet they struggle with poor vision and backache. Teachers are also having difficulty since some are utterly inexperienced with digital technologies. Nonetheless, they do everything possible to educate their children through online classes. College students who take more practical subjects than theoretical subjects face similar challenges because practical knowledge is not attainable in online programmes .

While technology can be considered yet another avenue for cheating, it is possible to design assignments and assessments so that such an occurrence is unlikely. On the other hand, open-book exams can be used to emphasise problem-solving and mastery over retention. Time-consuming processes such as tracking student attendance and performance can be sped up with automation. Because of their objective nature, engagement tools can assist in expediting grading for writing assignments, conversations, and participation and address typical student inquiries. Without proper information and communication technology equipment, internet/mobile network connectivity, instructional resources, and teacher training, students cannot participate in distant education. Students from resource-poor locations, isolated rural
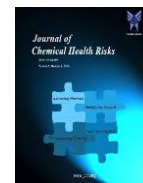
areas, and low-income households are more likely to fall behind. Learners with disabilities or who speak a language other than English at home will require additional individualised assistance.

Digital technologies allow students to experience the globe and go to faraway places from the comfort of their computers. Inviting a guest speaker to talk to the class about their expertise is terrific to spice up any lesson plan. Video conferencing systems make it simple to bring a subject matter expert face-to-face to our classroom, no matter where they are. We can easily organise a classroom video conference with kids from another institution. Online polls and other digital technologies engage all students, timid kids who would not ordinarily raise their hands in class. Online engagement tools enable checking in with students regularly to solicit input on course materials and assignments. Student insights can also be utilised to identify areas where students may be struggling. Student response systems promote digital citizenship in the classroom by allowing students to participate in class while also being rewarded. Schools serve an essential role in our communities, and their closure has far-reaching consequences for the psychological well-being of many families and children. Digital technologies can easily take up this challenge. Online learning allows students to learn at their speed, pause and rewatch videos, and explore course content independently.

Quizzes are another active learning strategy that education technology may help. Students may begin working on a project together in class and fluidly collaborate, communicate, and bounce ideas off one another utilising social media, interactive whiteboards, and other technology. Physical and social constraints allow students to collaborate from anywhere and at any time. Technology has also enabled students to join in spontaneous discussions and obtain immediate answers to any difficulties or questions regarding a subject. Because of self-paced learning and individual variances, students will virtually always complete their work at various times. When this happens, maintaining students' attention is as simple as giving them access to educational films, course-based games, or interactive learning tools. As a result, faster-paced students no longer need to wait for all of their colleagues to finish before continuing their studies, while slower-paced students are no longer tempted to rush through their work. This Education 4.0 programme will be implemented in future schools to improve education and

better prepare the next generation of potential. Further, Artificial intelligence will help driverless cars travel more effectively and reduce emissions. Material scientists are using AI to produce biodegradable plastic substitutes and techniques to clean our seas. Recycling and upcycling may appear to be simple procedures, yet they are highly effective instruments for increasing sustainability efforts. Recycling is a game-changer for sustainability, whether it is consumers reusing bottles to decrease plastic waste or businesses fashioning discarded objects into new goods.

Small, medium and large-scale education technology companies have started proliferating in the future and are offering various new digital solutions to academic institutions. This will improve the quality of digital infrastructure across the country, making innovative educational technology more accessible to larger masses. We foresee the removal of all linguistic boundaries and better Online availability of learning resources in regional languages. E-learning and m-learning programmes provide students and teachers access to a vast pool of information content. While technology will play an essential role in shaping the future of education, ensuring that new teaching tools are used effectively will require a new generation of educators who understand the importance of human connection in the classroom. These can lead to a satisfying and engaging career in education. Students gain the knowledge and skills necessary to employ new educational technology to maximise their advantages for today and in the future. In upcoming years, education trends will ride the tide of growing internet capabilities and network capacity, making it easier to incorporate innovative technology into classrooms. However, there is no complete substitute for offline (classroom) teaching & learning. Thus we have reached the era of hybrid teaching and learning, where both online and offline systems are integrated to enhance the outcomes and are envisaged as an outcome of the implementation of Education 4.0

In conclusion. Digital technology in the classroom refers to various software and gadgets meant to help students with particular accessibility needs. The most effective way to reduce the number of repetitive, time-consuming duties a teacher undertake is to use technology in the classroom. Educational technology applications may save a lot of time and energy by automating or partially automating day-to-day operations like attendance tracking and performance

monitoring. Students are taught how to use technology responsibly and strategically, which can help them make decisions and develop self-discipline. Technology in education can help students to prepare for lifelong learning. These technologies provide students with a virtual world and the freedom to access digital knowledge according to their learning styles. Thanks to digital content production tools that customise teaching and learning, students can study at their own pace. The digital classroom uses electronic devices and software to instruct students and incorporates technology into education. A traditional classroom is transformed into a digital classroom through computers and the Internet. Students can learn more efficiently and track their progress with the help of technology and sophisticated equipment. In the upcoming days, these technologies will successfully be implemented in education to enhance the students' digital learning environment and performance. Modern technologies have been instrumental in complicated data analysis and management to make long-term decisions in areas such as climate change, air and water security, biodiversity protection, catastrophe resilience, etc. These technologies refer to innovation that considers natural resources while also promoting economic and social growth. These aim to dramatically decrease environmental and ecological concerns while producing a long-term product. These technologies reduce degradation, pollution, and other negative environmental effects.

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