IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

FUTURE TRENDS IN TEACHER EDUCATION ON DIGITAL TECHNOLOGY

Dr. V.GNANAVEL, Professor, Siga College of Education,

Villupuram District. Tamilnadu, India

Abstract: Digital Technological skills can change the behaviour of teachers and students towards education. We can use different type of technological skills to change education learning system and make better new communicated world. Digital technology is the study by creating and using available resources. Digital technology is the process of integrating technology into education in a positive manner. It promotes teachers and students to use technology in teaching learning process. Teachers need to develop the use of internet, digital literary information, use of social media, other apps and websites, citing useful sites. Teachers will have to use different presentation software, YouTube video and Blog information. Teachers will have to prepare about mobile technology, new technology and self- learning technology. Teachers will have to connect with E-mail networking, Free resources and citing sources, new apps and new educational websites, new teachers education and updated with new educational information. Digital devices like iPads and e-books offer lightweight and convenient alternatives to heavy notebooks and textbooks, increasing interest in research. This paper explores the necessity of digital technologies in education, highlighting their major applications and the challenges in education.

Key words: Digital Technology, Types of Technology in Teacher Education, Technology skills, Teacher Education,

INTRODUCTION:

Digital Technology has significantly impacted various fields, including education. The integration of technology in education has made the transfer of knowledge more accessible, convenient, and effective. Students now utilize the internet, projectors, and other technological aids to enhance their learning experiences. Appealing visuals and interactive tools engage students, making learning more dynamic and stimulating. Projectors in schools and colleges, for instance, elevate interaction and interest levels among students, and this trend is expected to grow with increasing support Modern Technology.

Digital technological skills

Digital Technological skills are the knowledge and capabilities to perform specialized tasks. Management often needs to have technical skills in order to communicate effectively with line workers and coordinate efforts. So digital technological skills are the knowledge of special field. In education field technical skills requires specific education or training. Technical skills are seen in practical manner. It allows a person to complete designated task in reality not in theoretical way.

The Essential Role of Digital Technologies in Modern Education

The globalization of education has already necessitated the application of digital technologies. Online platforms have been used for conducting classes, sharing resources, assessments, and managing day-to-day activities of academic institutions. However, the adoption of these platforms was often proactive. The COVID-19 pandemic forced institutions to adopt online teaching to sustain the education system. Developed countries were better equipped to handle this crisis, while developing countries worked hard to meet this requirement. Digital technologies have emerged as the saviour of education during this critical time. This global crisis highlights the need for international integration in the education system. Digital technologies assist in developing essential skills for students' professional performance, such as problem-solving, structured thinking, and process comprehension. They are also preparing students for a more unpredictable and dynamic future where technology will play a crucial role.

Objective of this theme paper

1.To know about useful technological skills.

The importance of technological skills is given below:

1. To provide technological education to the students.
2. To save teachers who failure in the classroom teaching.
3. To use modern technology in effective teaching learning process.
4. Students get digital information through technological skills.
5. To update with technology and new generation.
6. To use reflective with critical and creative thinking skills.

The Role of Digital Technologies in Education:

- Facilitate Teaching of students with exceptional needs.
- Build knowledge and understanding skills.
- Developing teamwork and
- communication skills Solving educational challenges.
- Enhanced access to educational resources.
- Convenient teaching and learning.
- Reduce the requirement for a blackboard.
- Improve students ‘performance
- Students gain self-learning abilities, flexibly in education.
- Quickly gain information & Expand knowledge.
- Access teaching up-to-date material

- Video-based instructional learning, MOOC platform, E-Books.
- Assessing students in real-time, Reduce teacher workload.
- Moving to Hybrid teaching & learning

Types of Digital Learning in Teacher Education:

1) E-learning/Online Learning

Online learning or electronic learning eliminates many academic barriers in education by enabling students to acquire knowledge in their own way over the internet. A higher educational institution can implement e-learning successfully simply by allowing students to access multi-format digital content – e-books, documents, videos, audiobooks, infographics, and presentations -over the internet.

Many educational institutions these days subscribe to ready-to-use digital libraries to accelerate and simplify online learning implementation. Also, the students can access the digital content anytime and anywhere using a computer or mobile device connected to the internet. This type of digital learning boosts higher education by facilitating self-paced learning.

2) Mobile Learning

Hence, educational institutions cannot optimize access to higher education without enabling students to learn using their smartphones and tablets. This digital learning technique enhances access to higher education by leveraging the massive popularity of mobile devices.

An educational institution can easily implement mobile learning by choosing e-learning solutions that can be accessed on mobile devices regardless of manufacturers and operating systems. However, they need to ensure that students can access the multi-format digital content using mobile devices without any hassle or delay.

3) Virtual Classroom

This digital learning technique improves higher education by enabling students to learn in virtual classrooms instead of conventional classrooms. Most e-learning solutions these days support this form of digital learning. Also, educational institutions have the option to choose from a wide range of cloud-based virtual classroom software.

The virtual classroom solutions are developed with features to set up live classrooms. Also, they enable students to access content and learning materials in multiple digital formats. They further help teaches focus only on learning experience personalization by automating routine activities like attendance, assessment, and performance monitoring.

4) Blended Learning

As the name suggests, this type of digital learning enables higher education institutions to integrate teacher-led learning and self-paced learning. An educational institution can implement blended learning efficiently simply by choosing a cloud-based LMS that supports both self-paced learning and instructor-led learning.

Many educations institutions these days opt for blended learning to boost higher by allowing students to interact with teachers directly in virtual classrooms. At the same time, the students can learn at their own pace by accessing digital content in multiple formats. This digital learning model is more effective in boosting students' academic performance than online learning.

5) Gamified Learning

This digital learning model transforms conventional and virtual learning environments by integrating massively popular game elements – badges, coins, points, and leaderboards. Many educational institutions these days implement gamified learning to keep students interested, engaged, and motivated in a virtual and distributed learning environment.

The latest gamification_statistics depict the effectiveness of this type of digital learning in higher education in improving knowledge retention academic performance. A higher educational institution can easily implement gamified learning by choosing an LMS or virtual classroom software developed with features and options to gamify the learning experience.

6) Social Learning

This type of digital learning in higher education makes students acquire knowledge by learning from each other. The students can acquire knowledge from each other through both face-to-face interactions and virtual interactions. They can interact with each other directly in virtual classrooms.

Also, they can learn from each other through virtual interactions on online discussion forums and social networks. The new-age LMSs and virtual classroom software are developed with features to facilitate social learning implementation by supporting both direct and indirect communication between students.

7) Learning Analytics

Learning analytics is a digital learning model that does not facilitate remote learning or online learning. It helps higher education institutions to deliver personalized learning and boost the learning experience by leveraging student data collected regularly through e-learning solutions. Most LMSs and virtual classrooms these days feature built-in learning analytics systems.

The Top 13 Education Technology Tools & Solutions for Modern Education:

Trends in education technology include the following tools:

- **Webinars.** Webinars are live online seminars that allow for real-time interaction between educators and learners. They often include features like chat, polls, and Q&A sessions, influencing how students learn.
- **Learning Management Systems (LMS).** LMS platforms like Moodle, Blackboard, and Canvas facilitate the delivery of course content, assignments, and assessments in a centralized digital environment.
- **Interactive apps.** Educational app development comes in various forms, including interactive quizzes, flashcards, and simulation tools that engage students in learning through interactivity.
- **Augmented Reality (AR) and Virtual Reality (VR).** AR and VR technologies create immersive learning experiences, allowing students to explore subjects in 3D or augmented environments.
- **Digital textbooks.** Digital textbooks offer a more dynamic and multimedia-rich learning experience compared to traditional printed textbooks. They often include videos, animations, and interactive exercises.
- **Artificial Intelligence (AI).** Custom AI-powered platforms can provide personalized recommendations, assess student performance, and offer adaptive learning experiences. AI in education helps make learning more engaging, spots where students are struggling, and takes care of routine tasks for teachers, so they can spend more time teaching.
- **Big Data and analytics tools.** Data analytics solutions like Tableau and Power BI help institutions collect and analyze data to improve teaching and learning outcomes.
- **Video conferencing tools.** Platforms like Zoom and Microsoft Teams enable real-time video and audio communication, making remote learning and virtual classrooms possible.
- **Collaboration tools.** Tools like Google Workspace (formerly G Suite) and Microsoft Office 365 offer collaborative document editing, shared calendars, and cloud storage, facilitating group projects and communication.
- **Gamification platforms.** Gamification tools and platforms like Kahoot and Quizlet use game-like elements to make learning more engaging and fun, particularly for younger learners.
- **Podcasts.** Educational podcasts provide audio content on a wide range of topics, allowing learners to consume information on the go.
- **Simulations.** Simulations and virtual labs, like those used in science and engineering courses, provide hands-on experience in a digital environment.
- **Cloud-based storage and collaboration.** Cloud platforms such as Dropbox and Google Drive offer easy access to documents and facilitate collaborative work on projects.

Key Trends in Teacher Education Technology:

AI and Personalized Learning: Teachers are being trained to use AI for automated tutoring, identifying learning gaps, and creating customized curricula for students.

Immersive Education (VR/AR): Educators are learning to use Virtual Reality (VR) and Augmented Reality (AR) to create experiential learning, such as virtual field trips or interactive science simulations.

Data-Driven Pedagogy: Future educators will rely on, analyze, and apply data from Learning Management Systems (LMS) to optimize classroom instruction and improve student outcomes.

Digital Competence & Ethics: Training now emphasizes the ethical use of technology, particularly in managing AI and data privacy, and ensuring equitable access to technology.

Gamification & Interactive Content: Teachers are incorporating game design elements to increase student engagement and motivation.

Hybrid and Collaborative Tools: Increased training in facilitating learning across blended environments, using tools like Google Classroom and Microsoft Teams for real-time collaboration.

TEACHER EDUCATION:

In future teachers should be more smart and powerful than present time. They will have their special responsibility. They will have to experiment in education research on teaching learning process. They will have to implications of the changing environment. Teacher education will contribute to building a technological teaching profession. They will have the capacity, qualities and special skills. They will provide best educational experience for new generations' students. The expectations of teachers will have grown considerably in further years and so that the job of teachers will have become complex and remindful.

CONCLUSION:

Digital technologies hold immense potential to revolutionize education and empower learners worldwide. By leveraging digital tools effectively, educators can create engaging, personalized learning experiences that cater to diverse student needs. However, addressing the challenges associated with digital technologies is equally important to ensure equitable access, protect privacy, and foster critical thinking skills. By navigating these challenges thoughtfully, we can harness the full benefits of digital technologies to create a brighter future for education. The digital classroom, utilizing electronic devices and software, transforms traditional education through computers and the Internet, allowing for more efficient learning and progress tracking. Future implementation of these technologies will enhance students' digital learning environments and performance. Modern technologies also play a crucial role in complex data analysis and management, aiding long-term decisions in areas like climate change, resource security, and disaster resilience. So we shall have to use digital technology in different kinds of education field for students. It will need in teacher education for update with new generation and new technological world.

Reference:

1. Agarwal, J. P. (2013). Modern Educational Technology. Black Prints: New Delhi
2. Barseghian, T. (2011). Five big Changes to the Future of Teacher Education. (article. November 22, 2011). Retrieved from https://www.school leadership20. com>blogspot. Houle, F. D. (2014). The Future of Education Technology. https://davidhoule.com/evolutionshift- blog.
3. Dreimane, R. Upenieks, Intersection of serious games and learning motivation for medical education: A literature review, in: Research Anthology on Developments in Gamification and Game-Based Learning, 1938–1947.
4. Kostopoulos, S. Kotsiantis, xploiting semi-supervised learning in the education field: A critical survey, in: Advances in Machine Learning/Deep Learning-Based Technologies, 79–94.
5. Olutola, O.O. Olatoye, Challenges of e- learning technologies in Nigerian university education, Journal of Educational and Social Research 5 (1) (2015) 301 -301.
6. Pal, Kaushik, et al. "Influence of carbon blacks on butadiene rubber/high styrene rubber/natural rubber with nanosilica: morphology and wear." Materials & Design
7. 1156-1164.
8. Sledd, M. (2015). The 8 Skills Students Must Have For The Future. (article. April 2,2015). Retrieved: from https://www.edudemic.com>articles.
9. Thompson,G. (2014). 10 Tech Skills Every Educator Should Have. Retrieved from https://thejournal.com>2014/01/22/10-tech-skills-every-educator-should- have.aspx?m=1
10. Tumer, L. (2005). Technology Skills Every Educator Should Have. Journal: College of Education. Black Hills State University. june-2005. Retrieved from https://thejournal.com/articles/2005/06/.
11. Vanaja, M. & Rajasekhar, S. (2009). Educational Technology and Computer Education. Hyderabad: Neelkamal Publications Pvt. Ltd.
12. Venkataiah, N. (1995). Educational Technology. Atul Publishers: Daryaganj. New Delhi.
13. Zabiyeva, K., Seitova, S., Andasbayev, Y. S., Tasbolatova, R., & Ibraeva, S. N. (2021). Methodology for using web technologies to develop the intellectual abili-ties of future mathematics teachers. Thinking Skills and Creativity, 41, 100904. Kirriemuir, J. (2002). Video gaming, education, and digital learning technologies. D-lib Magazine, 8(2), 7.
14. https://www.ripublication.com/ijeis16/ijeisv6 n1_01.pdf
15. https://www.advanc-ed.org/source/teachers- future-using-new-skills-prepare-students