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Building Digital Literacy Competencies in Teacher Educators: Issues & Challenges

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Abstract

“The illiterate of the 21st century will not be those who cannot read and write, but those who cannot Learn, unlearn and relearn” Alvin Toffler (1928-2016).

Digital literacy and digital competency are concepts that are emerging trends in teacher Education curriculum. Teacher is a sculpture to shape students future. This paper presents a systematic concept of digital literacy competencies among teacher educators and what kind of issues and challenges are there to build digital literacy competencies among teacher Educators.

Educational applications and integration of digital technologies in teaching and Learning process, to enhance subject learning outcomes. Teacher education institutions developing these capabilities among teacher educators during their training period.

Knowledge and skills of Teacher educators need to develop the digital Literacy skills to make the students for global needs. Digital literacy competencies become an important concept, with a key emphasis in recent curriculum Frameworks 2023, NEP-2020 guidelines on school Education. These guidelines are strongly linked to 21st century skills enhancement is global need

to compete with the contemporary world. Digital literacy competencies in teacher educator's curriculum to become effective educators by enabling them to use teaching effectively with digital technology, to improve critical thinking and create dynamic experiences, challenges including the digital divide lack of institutional Infrastructure, professional development, as well as issues with online, safety and Evaluating information credibility.

Keywords: Digital literacy, Competencies, 21st century skills, issues, challenges

Introduction

Today's world the role of technology has become very important in every aspect of life. Digital literacy is the ability to use digital tools, technology and platforms effectively and making it an important skill for students and teacher educators, and institutions alive. Digital technology means effective utilisation of digital tools. In today's digital world digital literacy is an essential skill for personal, professional and social growth.

Digital literacy provides students with the necessary skills required for success in the modern job market such as proficiency in using software, online collaboration tools and basic understanding of advanced technologies like AI.

Digital literacy plays a crucial role in promoting inclusive education, different digital tools to enhance the learning needs of differently abled child, addressing the needs of students with disability. This will help to develop empathy, broaden their horizons and gain a deeper understanding of global issues.

Digital Literacy

Digital literacy is the ability to access, manage, understand, integrate, communicate evaluate and create information safely and appropriately through digital technologies. It encompasses both the technical skills to operate devices and software, and the critical thinking skills to navigate the digital world safely, such as by assessing information credibility and protecting online privacy.

The current model of digital literacy explores six skills

- 1. Reproduction literacy:** The ability to use digital technology to create a new piece of work or combine existing piece of work.
- 2. Photo Visual literacy:** The ability to read and deduce information from visuals.
- 3. Branching literacy:** The ability to successfully navigate in the non-linear medium of digital space.
- 4. Information literacy:** The ability to search, locate, assess and critically evaluate information found on the web and on-shelf in libraries, including validity of that information.
- 5. Socio emotional literacy:** The social and emotional aspects of being present online, whether it may be through socializing and collaborating simply consuming content.
- 6. Real time thinking:** The ability to process large volumes of stimuli at the same time digital literacy skills developing the AI.

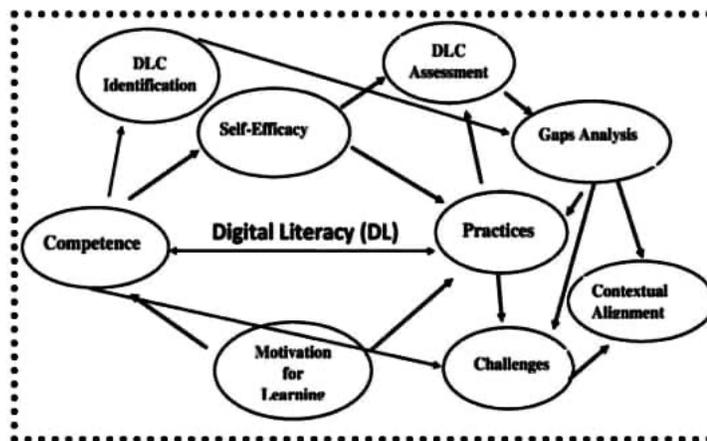
Digital Literacy Competencies

Digital literacy competencies include the ability to find, evaluate and create information using digital technologies, key areas include information and data literacy, communication and collaboration, digital content creation, and safety, alongside critical thinking and problem-solving skills. It is still needed to navigate and participate effectively in a technology-driven world, from basic technical use to understanding the social and ethical implications of technology.

Core Competencies

Information and data literacy: The ability to find, evaluate and manage digital data, information, and content. This includes identifying credible sources and understanding how to use search engines and other tools to find what you need.

Figure 1. Digital literacy competence (DLC) hypothesized model.



Communication and collaboration

Proficiency in using digital technologies to communicate, interact, and collaborate, with others while being aware of cultural and generational differences.

Digital content creation

The ability to create, edit and produce content using digital tools which can include anything from a simple text to document to a complex multimedia project.

Safety

Understanding and practicing online safety to protect oneself from threats and to act responsibly online. This includes managing one's digital identity and protecting personal data.

Problem-solving

The capacity to use digital technologies to solve problems, which includes troubleshooting issues, adopting to new situations, and using technology to achieve goals.

Critical thinking and Evaluation

The ability to critically analyse digital content to identify bias, misinformation and fake news. This also involves deeper understanding of the social and political impacts of digital information.

Importance of digital literacy for Teacher Educators

Enhancing teaching and learning: Digital literacy allows future teachers to create engaging lessons using multimedia, online platforms and interactive tools, moving beyond traditional methods.

Developing critical thinking

Teacher educators learn to guide their future students in critically evaluating online information, a vital skill for combating misinformation.

Promoting digital citizenship

They can become role models for responsible online behaviour understanding issues like cyber ethics, privacy and awareness.

Information and data literacy

The ability to find, evaluate and use digital information for their future teaching profession, investigate sources for accuracy and validity.

Training school students in 21st century skills

21st century skills are very important in global context according to NCF 2023, Nep-2020 guidelines. 21st century skills should be nurtured in the child from basic level.

To nurture child the teacher educators should get digital literacy competencies.

Student success

Helps future educators foster critical thinking, creativity, and problem-solving skills in their own students.

Career readiness

Prepares students for a workforce that increasingly values digital competencies, adaptability and efficiency.

Issues and Challenges

Digital divide: Unequal access to technology, devices and high-speed internet creates disadvantages for some students.

Teacher Training: Many instructors lack the necessary training and confidence to effectively integrate digital tools and teach digital literacy.

Curriculum integration

Curricula may not adequately incorporate digital literacy, leaving a gap in skill development for students who expect their courses to be digitally relevant.

Information overload and verification

Students struggle to effectively evaluate the vast amount of Information available on line, distinguish between reliable and unreliable sources and avoid misinformation.

Social & communication gaps

Over reliance on digital communication can lead to a lack of meaningful face to face interaction and a reduction in the development of inter personal skills.

Rapid Technological change

The fast pace of technology development makes it challenging for both students and teachers to keep their knowledge and skills up-to-date.

Cybersecurity and privacy

Increased use of digital tools raises risky related to privacy, Identity theft and other cyber threats which students may not fully understand.

Motivation card time Management

Digital learning requires a high degree of self-motivation and students may struggle with time management and distractions in a non-traditional learning environment.

Need for pedagogical integration

Simply adding digital tools to the curriculum is not enough: There needs to be a focus on how to use technology to enhance teaching and learning outcomes in a way that is effective and accessible.

Teacher mindset and training

Some educators have a negative uncertain mindset towards technology which can hinder their willingness to adapt new digital teaching methods.

Conclusion

In summary digital literacy competencies involves information and data literacy, communication, collaboration to create digital content, safety, problem solving, critical thinking and evaluation. These competencies are very important for the teacher educators for their future teaching profession and to shape the students to meet the global needs of the contemporary world. The future teachers require a holistic ongoing approach to get digital literacy competencies that integrates the both teaching skills with the digital skills and critical thinking into their professional development. To prepare future teachers for the modern classroom and job-market, educational institutions must address the digital divide and ensure that digital literacy is embedded throughout the curriculum not just as an add-on.

Ultimately, the success of future digitally literate teachers depends on a combination of individual student self-efficacy and a system level commitment to provide resources training in curriculum reform.

References

Ballantine, J., McCourt Larres, P., & Cyerle, P. (2007). Computer usage and the validity of self-assessed computer competence among first-year business students. *Computers & Education*, 49, 976–990.

- Bhadana, S., & Naaz, I. (2023). Techno-pedagogical skills in the 21st century and their relevance to NEP 2020 for achieving the vision of G20. *Bharat Manthan Multidisciplinary Research Journal*, 1(2), 73–81.
- Government of India. (2020). National education policy 2020. Ministry of Education.
- Jha, P., & Naaz, I. (2021). ICT for pre-service and in-service teachers: Implications and challenges. In S. Solanki, A. Raj, & V. Rastogi (Eds.), *Teacher education generation next: Perspectives, opportunities & challenges* (pp. 160–168). Universal Academic Books Publishers & Distributors.
- Kolandavel, C. (2011). ICT literacy in B.Ed. students in Madurai (M.Ed. dissertation). Gandhigram Rural Institute–Deemed University.
- Kumari, P., & Naaz, I. (2022). Web-based learning in inclusive education. In T. Gupta & K. N. Karun (Eds.), *Teaching-learning models and strategies for inclusive education* (pp. 233–245). Ankur Book Distributors.
- Naaz, I. (2015). ICT as a catalyst for learning for differently-abled learners. In *Proceedings of the International Education Conference 2015: Learning technologies in education* (pp. 224–234). Faculty of Education, Jamia Millia Islamia.
- Naaz, I. (2020). Innovations in open and distance learning (ODL). In A. Husain & R. P. Bahuguna (Eds.), *Distance education and educational technology* (pp. 338–344). Maktaba Jamia Ltd.
- National Council of Educational Research and Training. (2023). National curriculum framework for school education 2023 (Draft)