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TEACHER EDUCATION IN THE ERA OF DIGITAL SAKSHARTA ABHIYAN (DISHA): ISSUES AND CHALLENGES FROM AN INDIAN PERSPECTIVE

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ABSTRACT
The relationships between technological development and learning are described, and the development of cultural tools and external memories is highlighted. The mechanisms of how learning integrates with ICT are examined from both socio-cultural and constructionist theoretical viewpoints. The concept of digital literacy is seen to be inextricably linked to learning processes as social behaviors. Examples of ways to introduce and apply digital literacies in teacher education courses and programs are provided. Learning settings that can facilitate the development of digital literacies are illustrated using examples from teacher education institutes.

The Digital Saksharta Abhiyan (DISHA) aims to promote digital literacy across India, yet its integration into teacher education faces critical challenges. Limited digital infrastructure, inadequate training, and resistance to technological change hinder effective implementation. Teacher educators require redefined pedagogical approaches to align with digital competencies essential for 21st-century learning. Addressing these gaps is vital for realizing DISHA's vision of inclusive digital empowerment in education (MHRD, 2019; UNESCO, 2020).

KEY WORDS: *Digital Saksharta Abhiyan, Teacher Education.*

INTRODUCTION

Technology transforms learning and the learning environment. The challenge for teacher education is to translate ICT into learning opportunities. The usage of ICT has given rise to a modernized literacy concept known as digital literacy, which encompasses classic literacies such as reading and writing as well as information and media literacy principles. UNESCO defines literacy as the ability to identify, comprehend, interpret, produce, communicate, and compute using printed and written resources in a variety of circumstances. Literacy is a range of learning experiences that enable an individual to attain his or her objectives, develop his or her knowledge and potential, and fully participate in society.

The Digital Saksharta Abhiyan (DISHA), launched by the Government of India, is a nationwide initiative aimed at empowering citizens through digital literacy. In the context of teacher education, DISHA plays a crucial role in preparing educators to integrate technology into teaching and learning processes. However, the implementation of digital literacy within teacher training institutions faces multiple challenges, including inadequate infrastructure, lack of digital pedagogical skills, and limited institutional support. Strengthening teacher education through digital capacity-building is essential to ensure that teachers become facilitators of technology-driven learning in alignment with India's vision of a digitally empowered society (MHRD, 2019). Digital literacy has become a significant issue. The goal is to promote the development of digital competences and digital repositories in order to increase knowledge and employment in India. The political dimension generates debate, new research, and new definitions of digital literacy terms. Digital literacies are frequently defined as several types of abilities that can be acquired in order to master technology. This study examines digital literacies from a socio-cultural perspective, emphasizing the interplay of technology and learning as a social practice.

Technological Developments and its relation to learning

What goes into technology-based learning, and how does this relate to our understanding of digital literacies?
Säljö emphasizes the links between learning and material culture (technologies): "all human knowing is at some stage dependent on materiality and the coordination between minds, communication, and artefacts; what we call learning changes over time and thus is a moving target". We can witness throughout history how different modes of communication and resources affected brains and cognition, learning, and knowledge.
The creation of cultural tools, which externalize and inscribe our experiences and insights onto tangible objects, is an important process in knowledge acquisition. Säljö describes these externalizations as both physical and cerebral. Materiality underpins cultural techniques

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ranging from the creation of pictures as rock paintings to book printing and digital technology. Our intellectual artifacts, concepts, formulas, categorization systems, and social languages interact with physical objects like instruments, records, and databases. Our learning processes will be influenced by the social and discursive features, assumptions, and functions encoded in these cultural tools.

How have technological advancements influenced learning processes? How do people and tools shape one another? We can think of technology as a black box. Tools/machines are considered as solid, and their functions and operations are accepted without doubt (for example, a calculator). We may complete complex activities without knowing the steps or methods. Knowledge structures are inherent in technical systems and tools, and we learn how to obtain relevant knowledge rather than attempting to understand the structure or system. The development of external memory and storage devices, books, libraries, databases, and other archiving systems indicates that information storage difficulties have been resolved. Furthermore, it has had a significant impact on learning. Midoro defined the qualities of scripts as texts and multimedia, as well as the possibilities of digital technology. The hyper-mediality of digital documents provides more opportunities to manage parts of documents, implying a new approach of processing content. Thus, a large amount of information and prospective knowledge, such as text, audiovisual, etc., is arranged in external memory systems and may be retrieved and transformed into new knowledge by someone who knows how Knowing how to find information in databases or use a communication and learning platform requires meta-communication and meta-cognition on how to conduct a search or develop a model. This means that we are now dealing with concepts rather than hierarchically structured knowledge.

Individual and mobile storage devices such as mobile phones, i-pods mean that we can retrieve and manipulate information from external systems and databases and communicate, produce and present new material instantly without physical boundaries.

Digital literacy – A Matter of Learning as Social Practice

The close relationship between technology and learning implies that digital literacy can be recognized as a "compound and complex concept that changes with the development of digital media". Digital literacies can be sorted into various dimensions, which can be useful when trying to set up programs for development of courses and educational programs. Information literacy can be described as the ability to collect, organize, evaluate information and form valid opinions on what is learned. Technology literacy can be described as the ability to use technology, use and access new media and the internet and communicate information. Media literacy is how to use new media in a creative way, produce, communicate and present contents to a wider audience. Global literacy is to understand the global complexity and interact and communicate accordingly. Literacy of responsibility is to consider social consequences and use and communicate information safely from privacy and other social issues.

Our understanding of and the conditions for digital literacy have to do with how we build representations of knowledge into digital collective memory banks; how we master and communicate these representations, and how we reconvert them into new knowledge. Other fundamentals are the social contexts where we learn and use digital tools/environments individually or as part of a group or community. Focus should be on learning in practice rather than acquiring specific skills to master technology. Digital literacies are here understood as social practices closely related to the use of technology. Socio-cultural perspectives on learning and knowledge originate from social constructivism and cultural history theories. Socio-cultural theory is often used to create frameworks of teacher education. To explain digital literacies as social practices the following aspects of socio-cultural theory are helpful: learning is situated; learning is social; learning is dependent on mediation and learning has to do with participation in communities of practice.

Learning is situated. This idea, which is well represented in many areas of research is that thinking as well as learning and production of knowledge is always embedded or situated in a context. This implies that learning as it normally occurs is a function of the activity, context and culture in which it happens. This contrasts with most classroom learning activities which involve knowledge which is abstract and out of context. The principles are that knowledge needs to be presented in an authentic context, i.e., settings and applications that would normally involve that knowledge. This implies that if we wish to design or understand the learning processes teacher education students engage in we have to comprehend the contexts or environments where they take place.

Learning is social. Social interaction plays a fundamental role in the development of cognition. Vygotsky claimed that cognitive activities/ learning always takes place on two levels: first, on the social level, and later, on the individual level; first,between people and then inside the individual. This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. Learning as a social phenomenon is understood by looking at the learner as situated in a context which he interrelates to. It involves our experience of participation. Learning thus requires social interaction and collaboration.

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Learning environments and Educational Frameworks

A difficulty for Teacher Education in India is how to meet the quantitative targets for proficiency and ability, which are as follows: "For teaching qualification, the student will demonstrate the ability to use ICT in teaching activities and recognize the role of multimedia." Even more "During the time of education the student will continuously use ICT as a support for his/her studies" .

Learning Environments

The Learning Resource Centre (LRC) has played a significant role in managing ICT issues in teacher education institutions. The goals are to provide tools and venues for learning and teaching, to improve the capabilities of future teachers, and to play an initiating, coordinating, and developing role in the use of ICT in education and research.

The LRC is organized into three functional units: the University Library with information services, user education, and physical/virtual learning spaces; the Media Production department with a media laboratory with facilities for text, images, video production, and services for computer- and video-conferencing; and the Educational ICT-department with the task of building collaborative projects with teachers, students, school projects, support distance education, and provide competitive The staff consists of professional librarians, media producers, ICT lecturers, technicians, web designers, and project managers from many fields. This means that diverse abilities can be considered when designing learning and teaching environments and tools.

Due to this theoretical view of knowledge one of the main tasks of the LRC, is to provide students and teachers with learning environments in their actual work situations where they are able to learn in social interaction and a variety of artefacts. Another task is to create and support with relevant scaffolds so learning can take place in the zone of proximal development whether it is students or teachers who are the learners.

Educational Frameworks

In order to improve the quality of students' scientific understanding and theoretical basis a general course was designed 2005 with the objectives to develop general abilities and competencies progressively throughout the teacher programme. The level 2 course objectives were to:

- Distinguish and use theoretical perspectives on human development and socialization, learning and education and special education issues
- Read and work with scientific texts

Analyze texts and pedagogical case studies from different perspectives. Another goal was to develop and establish digital literacy competencies within the course work. A team of teachers and LRC staff described the abilities and literacies in the form of a general matrix. To get the students on the same proficiency level of digital literacy a self-managed diagnostic web tool for basic ICT proficiency was developed and introduced at the LRC

CONCLUSIONS

To gain a better understanding of what we mean by digital literacies, it is useful to discuss learning processes and technological advancement. Technological development has conditioned learning processes in such a way that knowledge structures, culture, and human experience are embedded in material objects. Digital artefacts or cultural instruments that combine intellectual and technical/material resources can be mediated, transmitted, and used in ways that have a significant impact on learning processes. We suggest that learning should be understood as a social process, with context, social interaction, and shared repertoires playing important roles.

The implication of how we can understand digital literacy is that the idea evolves alongside the advancement of digital technology and digital artefacts/media. Second, to promote digital literacies within educational programs, students' use of technologies should be determined and integrated into learning practices aimed at understanding course content and attaining course objectives. To encourage digital literacy development, learning environments should be created with the complexity of learning processes and social nature in mind. Scaffolding is regarded as a crucial strategy for introducing digital literacy.

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