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Digital literacy skills in the context of nep-2020

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Abstract
Today's age is an age of Information and Technology (IT). The Internet has transferred the world into a global village and therefore the present generation of learners is referred to as the "e-generation". ICT tools are now used by all types of persons, especially the student's community to build relationships, connect with the world, share and gain knowledge and information, partake in group discussions from near and far destinations, build stronger personalities and have better social lives. Thus, it offers them the opportunities to connect, create and collaborate with one another. Moreover, the use of ICT by the students has enhanced their communication, increased their social connection and boosted their technical skills. The extensive use of ICT in teaching and learning has been highlighted in NEP- 2020. To facilitate the use of ICT in the education sector, the Indian government has developed several schemes, including the digital India campaign, e-pathshala, NROER, Swayam, Swayamprava, and NDL India. Digital literacy skills enable students to navigate, critically evaluate, and ethically engage with digital technologies. The NEP 2020 promotes technology to enhance access to quality education, improve pedagogical practices, and foster personalized learning experiences. By equipping students with digital literacy skills, the policy aims to empower them to become active learners, critical thinkers, and innovative problem solvers. The rapid advancements in technology and digital communication constantly impact learners in formal and informal learning situations. As they affect students' capacity for accomplishment in the twenty-first century, educators must recognize the advantages and challenges of digital literacy for secondary students. A socio-technological society impacts the applicability of digital literacy to teaching dramatic arts. Digital literacy encompasses a variety of sophisticated cognitive, motor, social, and emotional abilities and is present in both informal learning situations and modern educational contexts. Lack of these abilities restricts one's capacity to traverse digital reproduction, hypertextual navigation, evaluate the accuracy and reliability of the information, and progressively one's ability to be a competent student or empowered employee.

Keywords: Digital literacy skills, Communication and NEP-2020

Introduction

India's educational environment has been thrown off balance by the COVID-19 pandemic. In the context of their remote learning initiatives, schools and universities have begun to offer online lectures and tests. The educational scenario has changed substantially, and the most widely available option is education through Digital Learning. There have been several drawbacks to this abrupt change and overdependence on technology. Amidst all these changes, on July 29th, 2020, the new Education Policy was launched by the Ministry of Education for the first time after 34 years. The New Education Policy proposes several measures to promote digital learning and improve infrastructural needs. Kamala (2020) reports that the new education policy must provide to all students irrespective of their place of residence, a quality education system, with a particular focus on marginalized, disadvantaged and underrepresented groups. Due to India's socioeconomic and regional diversity, there are several obstacles to the availability and adoption of online learning and learning. To this end, NIOS organized a webinar to help the education system "extend the use of technology in teaching and remove language barriers in the education system". The NDEAR (National Digital Educational Architecture) is based on the digital-first mindset, where digital architecture supports teaching and learning.

The NDEAR encourages innovation and experimentation across the entire education ecosystem, including the Centre, States, UT, private sector, NGOs and technology players.

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NDEAR is part of the government of India's Digital India initiative, which aims to simplify life for students, parents, teachers, and administrators. The contemporary global socio-technical environment, which supports media technologies, digital communication, and multimodal communication, necessitates that learners have a working knowledge of how to utilize technology tools and know when and how not to use them. Gilster (1997) [2] defined digital literacy as the "ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers"

According to Gilster (1997) [2], the Internet is fundamentally used in modern education to integrate pupils into a socio-technological society. (Kaur, 2020), in her study reported that educational organizations around the world are choosing to make effective use of specialized assets to create Internet learning materials for students from every field of scholastics. Because of the quick changes in digital communication brought about by technological developments and the continued development of digital literacy, various reading and writing tools are coupled with intricate music and images. It is now more crucial than ever for students to get familiar with multiple digital literacies and technologies since the greater accessibility of digital technology has changed how society communicates. Therefore, teachers must adapt their pedagogical methods to consider the informal learning environment and become precise when describing the numerous reading and writing processes that are taking place due to digital communications technology.

Teachers in elementary and secondary schools must thus create pertinent evaluation processes that consider recent technology improvements and, therefore, changed communication channels. The findings of the study conducted by Pandey and Pandey (2020) [6] revealed the positive effect of the use of ICT in teaching and learning. Further, it has also been observed that the use of ICT in developing countries like India is at a comparatively lesser rate as compared to developed countries. Pavel and Fruth (2014) [9] in their study reported that e-learning has certainly the potential to enhance the quality of higher education through the introduction of innovative pedagogies as well as by increasing the students' motivation, interest and engagement and thus facilitating the acquisition of digital literacy skills.

Technology Skills in reading are essential for adjusting to the digital society. However, people must have more extensive abilities and competencies to be literate in the digital age. Since the digitization of daily life has profoundly impacted education, there have been conversations among educators and institutions about how to best prepare students for the digital age. Digital literacy is finding, creating, consuming, assessing, and distributing content via the Internet and other informational mediums. Digital literacy is the knowledge and skill required to recognize, utilize, and access digital tools and resources and to manage, integrate, assess, and analyse them to produce new media and information. By using the Internet wisely, sharing, creating, selling, and purchasing, acting morally, gaining talents, being aware of risks and dangers, and being protected from such possibilities, it is possible to exist as a person in the digital world. Digital literacy training can help you put these elements into practice. Rapid changes in the labour market, particularly in the post-COVID era, have

made a trained workforce necessary to satisfy Industry 4.0's needs. Prime Minister Narendra Modi has been encouraging the young and the business to continually work on skilling, reskilling, and upskilling in anticipation of this shift. The Ministry of Skill Development and Entrepreneurship, Education, and other industry players must work together to increase young people's access to skills and livelihood options. If everything goes according to plan, by 2030, our nation could generate 2.3 million employments, second only to the US's 2.7 million jobs. He stated that academics must create materials that meet business demands, a goal that can only be achieved by providing students with the appropriate practical training.

NEP 2020 and Digital Literacy
NEP 2020 in India recognizes the critical importance of digital literacy in the education system. It acknowledges the need for students to acquire digital skills to participate in the digital age effectively. Here are some critical aspects of digital literacy as outlined in NEP 2020: Integration of technology:

- **NEP 2020 emphasizes** the integration of technology in teaching and learning processes. It promotes the use of digital tools, online resources, and multimedia content to enhance the quality of education. Technology integration enables students to develop digital literacy skills through practical application.

- **Foundational digital literacy:** NEP 2020 highlights the significance of providing foundational digital literacy to all students. It recognizes the need for students to have basic digital skills, such as using computers, accessing the Internet, navigating digital interfaces, and utilizing productivity tools. These skills are essential for students to engage with digital content and resources effectively.

- **Digital infrastructure:** NEP 2020 emphasizes developing and improving digital infrastructure in schools and educational institutions. It ensures schools can access reliable internet connectivity, computers, and other necessary digital devices. Robust digital infrastructure is crucial for promoting digital literacy and enabling seamless technology integration in education.

- **Teacher training:** NEP 2020 emphasizes the need for comprehensive teacher training programs to enhance educators' digital literacy skills. It recognizes that teachers are crucial in facilitating students' digital learning experiences. Teachers must have the necessary knowledge and skills to effectively use digital tools, implement technology-integrated pedagogies, and guide students in developing digital literacy skills.

- **Curriculum integration:** NEP 2020 emphasizes integrating digital literacy skills across the curriculum. It encourages the infusion of digital skills in different subjects, enabling students to apply digital tools and techniques in various contexts. The curriculum should promote critical thinking, problem-solving, collaboration, and creativity through digital means.

- **Open educational resources:** NEP 2020 emphasizes using open educational resources (OER) to promote digital literacy. OER refers to freely accessible digital learning materials, including textbooks, videos, and interactive modules. By leveraging OER, students can

access many high-quality resources to enhance their digital literacy skills.

- **Digital safety and ethics:** NEP 2020 recognizes the importance of digital security and ethics in the digital age. It emphasizes including digital safety education in the curriculum to educate students about responsible digital behaviour, privacy protection, cyberbullying prevention, and online security measures. Students should be made aware of the ethical use of digital resources, including copyright and plagiarism issues.
- **The goal of emphasizing digital literacy** in the NEP 2020 is to equip students with the skills necessary to thrive in the digital era. Digital literacy enables students to become digitally competent, critical thinkers and responsible technology users. It prepares them for future academic, professional, and personal pursuits in a digital society.

Role of Digital Literacy in Education
By giving pupils the information and abilities to successfully traverse the digital world and live in a technologically advanced society, digital literacy plays a significant role in education.

Here are some critical roles of digital literacy in education
- **Access to information:** Digital literacy enables students to access vast amounts of information available online. They can search for resources, access educational materials, and explore various perspectives. Digital literacy empowers students to become independent learners by giving them the tools to find and evaluate information.
- **Critical thinking and evaluation:** Digital literacy encourages critical thinking skills as students learn to evaluate online information's credibility, accuracy, and relevance. They can analyse different sources, consider biases, and develop a discerning mindset. Digital literacy helps students develop a questioning attitude and make informed judgments.
- **Collaboration and communication:** Digital literacy facilitates collaboration and communication among students, teachers, and peers. It enables them to connect, share ideas, and work together on projects through digital platforms, online discussions, and collaborative tools. Digital literacy encourages practical communication skills, including online etiquette, respectful discourse, and active participation.
- **Creativity and innovation:** Digital literacy provides students with tools and platforms for creative expression and innovation. They can create content, design projects, and showcase their ideas using multimedia resources, digital tools, and software applications. Digital literacy encourages students to think outside the box, explore new possibilities, and express creativity.
- **Personalized and differentiated learning:** Digital literacy supports personalized and differentiated learning experiences. Students can access online resources tailored to their interests, learning styles, and skill levels. They can engage in self-paced learning, explore diverse topics, and access various educational materials. Digital literacy allows educators to design customized learning experiences and provide targeted support to individual students.

- **Global awareness and citizenship:** Digital literacy promotes worldwide awareness and citizenship among students. They can connect with peers from different cultures, participate in international discussions, and develop a broader world perspective. Digital literacy fosters empathy, cultural understanding, and appreciation for diverse perspectives. Students can engage in digital citizenship by practising responsible online behaviour, respecting others' opinions, and participating in digital communities.
- **Career readiness:** Digital literacy is a vital skill for future career success. In a digitally-driven workforce, proficiency in technology and digital tools is essential. Digital literacy prepares students for the demands of the job market by equipping them with skills in digital communication, data analysis, problem-solving, and adaptability. It enhances their employability and enables them to thrive in a rapidly evolving digital landscape.
- **Digital literacy empowers** students with the knowledge and skills necessary to navigate the digital world, engage in meaningful learning experiences, and participate actively in a technology-driven society. It is an essential component of modern education, enabling students to succeed academically, professionally, and personally.

Importance of Digital Literacy Skills
We currently live in a world that is both enhanced and burdened by computers and gadgets, thanks to the growth in technology over the years. The dominance of technology in daily life emphasizes the need for digital literacy for both adults and children. The digital world is full of advantages and benefits for everyone, but it can also be overwhelming and even hazardous if technology is not used and understood correctly. For children to utilize technology safely and efficiently, they must be able to comprehend it. Learning how to update your Facebook status or take a picture is one of many aspects of digital literacy. Understanding and utilizing technology are both parts of digital literacy. Traditional literacy is a term we are all familiar with; reading and writing are both literacy components. However, more than being literate is required in the modern digital environment. Kids must learn digital literacy as well. Understanding and using technology are both components of digital literacy. It concerns the capacity to locate, utilize, and produce information online positively and helpfully. Digital literacy also entails being aware of the limitations of technology and the risks and safety measures associated with its use. Students must also be taught about cyber safety, "digital footprints," and about net etiquette (Osborne & Connely, 2015) [13]. There is still a great debate going on as to what extent digital literacy instruction will be integrated into traditional classroom instruction, and many studies have been conducted in an attempt to understand how to integrate both the methodologies in the best manner. (Kervin, Verenikina, Jones, & Beath, 2013; Henderson, 2011; Walsh, 2010; 2008) [5, 14, 15].
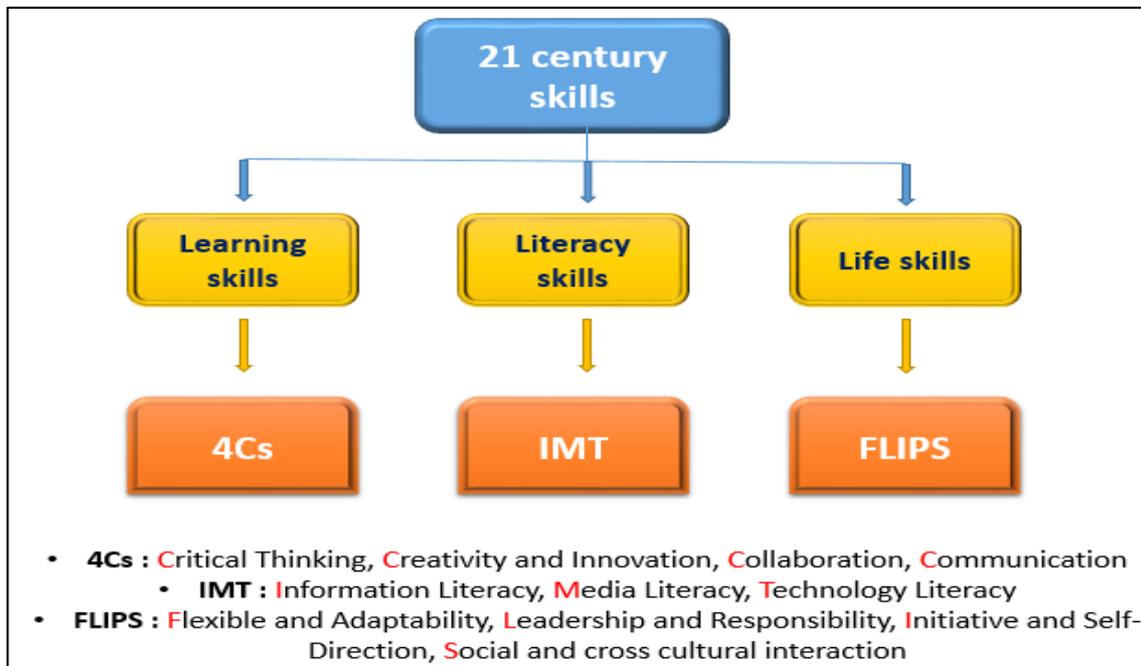
Four Principles of Digital Literacy
1. Comprehension: This relates to readers' capacity to comprehend the information included in digital media.

2. Interdependence: The modern world is a network of connections. Consuming digital media has become a regular aspect of our life. "digital interdependence" describes the relationships between various media types. It is now simpler to absorb material from many channels because of the growth of digital gadgets.

3. Social factors: In the social media sphere, several elements influence how communications are interpreted online. Understanding these social elements is essential to comprehend the popularity of particular media.

4. Curation: Digital curation is familiar to anybody who has saved a pin to a Pinterest board. Curation is finding, classifying, and archiving digital assets to facilitate future access and usage.

Source: ILCA - Inter Language & Career Academy

Fig 1: Show 21st-century skills

Literacy Gap
There is a noticeable urban-rural difference in India and a growing gender disparity in digital literacy. The capacity to use a computer and the Internet differs significantly between the male and female populations in rural and urban regions, according to data from the NSSO's 75th round nationwide survey (2017–2018). Table 1 demonstrates that just 8.5% of rural Indian women have access to the Internet, compared to 17.1% of their male counterparts. Although the gender difference is still present, metropolitan regions' percentage of users is substantially more significant.

Table 1: Share of persons able to operate computers and use the Internet in India

Ability	Rural		Urban	
	Male	Female	Male	Female
Able to operate a computer	12.6%	7%	37.5%	26.9%
Able to use the internet	17.1%	8.5%	43.5%	30.1%

Source: Ministry of Statistics and Programme Implementation 2019

The NETF, or National Educational Technology Forum, will standardize the content and pedagogy and encourage the adoption of constantly developing technologies for digital learning nationwide, one of the NEP's recommendations for utilizing digital technology for learning. The NEP's more concrete recommendations include extending current e-learning systems like DIKSHA and SWAYAM to give instructors user-friendly aids like two-way audio and video tracking students' progress. They are creating a digital library for educational content, simulations, game-based learning, augmented reality, and virtual reality. The creation of virtual laboratories, namely utilizing Diksha and Swayam, to make these programmes available to instructors and students from socioeconomically disadvantaged groups via preloaded tablets. The establishment of a new National Assessment Centre to develop and execute modern assessment frameworks.

Advantages of Digital Literacy
The advantages of digital technology in addressing schooling affected by the Pandemic 2019. How can universities trust digital literacy to enhance student learning outcomes during the COVID-19 Disruption? Since adopting the policy of sending students home to study due to the outbreak, universities worldwide have boosted their use of reliable distance learning options. The key to preserving and enhancing student learning outcomes during the COVID-19 disruption is digital literacy. Technology's benefits are awe-inspiring in identifying student learning issues; these benefits do not significantly influence learning strategies during a pandemic interruption if students cannot use mechanical or advanced proficiency skills. Computerized education is explicitly considered to have the ability to improve learning effectiveness; it is fundamentally ready to be a solution so that learning happens, with the assumption that it will not only occur but also act on the nature of student learning. When implementing wellness initiatives,

the public authority demands results by severely restricting personal growth on a large scale. However, the results of this test are also anticipated to be one of the reports that must be completed to fulfil some requirements to get, complete, or obtain an educational understanding at the school level. Digital literacy effectively and critically engages with digital technologies, including computers, smartphones, the Internet, and various software applications. Following are Some advantages of digital literacy given below:

1. **Access to Information:** Digital literacy enables individuals to access and navigate the vast online information. They can search for information, read articles, watch videos, and explore various educational resources. This access to information promotes lifelong learning and empowers individuals to expand their knowledge base.
2. **Communication and Collaboration:** Digital literacy facilitates effective communication and collaboration. People may communicate with others anywhere in the world through social media platforms, email, instant messaging, and video calls. It enables collaboration on projects, sharing of ideas, and networking opportunities, leading to enhanced productivity and global connections.
3. **Employment Opportunities:** In today's digital age, many jobs require digital literacy skills. A solid understanding of digital tools, software applications, and online platforms can enhance employability. Digital literacy enables individuals to adapt to changing job market demands, acquire new skills, and stay competitive.
4. **Creativity and Innovation:** Digital literacy empowers individuals to express their creativity and pursue innovative ideas. With access to various digital tools, individuals can create content, such as writing blogs, producing videos, designing graphics, and developing software. Digital literacy fosters an environment where creativity and innovation can thrive.
5. **Critical Thinking and Problem-Solving:** Digital literacy encourages essential thinking skills as individuals navigate online information. They learn to evaluate the credibility and reliability of sources, analyse data, and identify biases or misinformation. Digital literacy enables individuals to solve problems using technology by troubleshooting software issues or finding solutions through online forums and communities.
6. **Civic Engagement:** Digital literacy is vital in democratic participation and civic engagement. It enables individuals to stay informed about current events, participate in online discussions, and engage with political and social issues. Through digital platforms, people can voice their opinions, support causes, and contribute to positive change.
7. **Efficiency and Organization:** Digital literacy helps individuals streamline their personal and professional lives. They can manage their schedules, create to-do lists, store and organize files digitally, and utilize productivity tools like project management software or cloud storage. These digital skills enhance efficiency, time management, and organization.
8. **Access to Services:** Digital literacy provides access to various online services, such as e-commerce, banking, healthcare, and government services. People can shop online, conduct financial transactions, access medical information, and interact with government agencies conveniently. This accessibility improves convenience and simplifies daily tasks.

Conclusion
NEP 2020 in India has emphasized the importance of digital literacy skills in education. It recognizes that digital literacy is not just a technical skill but a critical component of 21st-century learning. A significant step in educating students about the benefits and difficulties of the digital world is integration of digital literacy skills into the National Education Policy 2020 framework. By recognizing the transformative potential of technology in education, the NEP 2020 emphasizes the development of digital literacy as a fundamental skill for learners of all ages. Digital literacy skills align with the NEP 2020's vision of developing holistic and well-rounded individuals. By leveraging technology, students can explore diverse sources of knowledge, collaborate with peers, and engage in experiential learning. Digital literacy also facilitates the acquisition of 21st-century skills such as communication, creativity, critical thinking, and collaboration, essential for success in an increasingly digital and interconnected world. Integrating digital literacy skills in education supports the policy's objectives of promoting equity and inclusion. The NEP 2020 aspires to guarantee that all students, regardless of socioeconomic background, have equal opportunities to attend high-quality education by bridging the digital divide. Digital literacy empowers students to leverage digital tools and resources, irrespective of their geographical location or economic circumstances, thus fostering inclusivity and reducing educational disparities. Digital literacy skills have a transformative impact on education, aligning with the vision of the NEP 2020. By nurturing digital literacy, the policy recognizes the need to equip learners with the skills necessary to thrive in a technology-driven society.

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