

Digital literacy and Career Readiness: A Critical Perspective on Employability in Digital Era

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ABSTRACT

The transformation of global labor markets driven by rapid digitalization has significantly altered the competencies required for employability. Digital literacy has emerged as a core component of career readiness, yet its role remains contested within critical scholarship. This paper examines the relationship between digital literacy and employability through a critical lens, emphasizing structural inequalities, skill mismatches, and institutional limitations. Using a qualitative review of contemporary literature and policy frameworks, the study reveals that digital literacy enhances employment prospects, it simultaneously reproduces socio-economic disparities due to unequal access and differentiated competencies. The findings suggest that employability cannot be understood solely as an individual attribute but must be contextualized within broader socio-economic and institutional structures. The paper concludes by proposing an inclusive and critical framework for integrating digital literacy into education systems aligned with labor market realities.

Keywords: Digital literacy, Employability, Career readiness, Digital divide, Higher education and Skills mismatch

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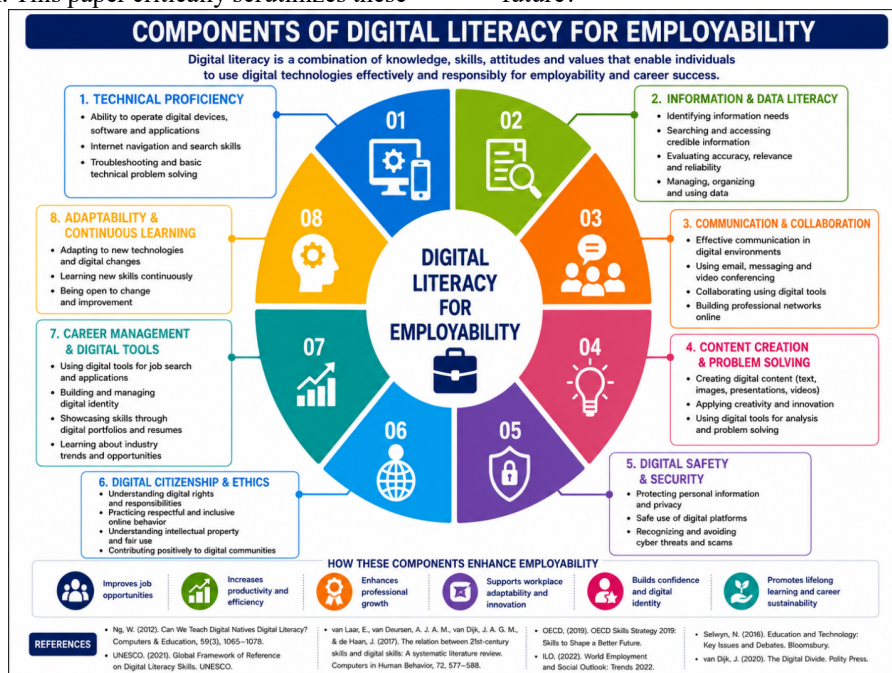
INTRODUCTION

As we live in the 21st century that known as the digital world because the digital revolution affects the nature of work, redefining the knowledge and skills required for career success in present and future jobs. The excessive incorporation of digital devices and technologies such as Artificial Intelligence, Machine Learning and Virtual Learning in all sectors has led to the emergence of new forms of employment while simultaneously rendering conventional skills obsolete. In this context, Digital literacy catches more attention

and become a fundamental prerequisite for career readiness and employability (World Economic Forum, 2023). Digital Literacy is not only limited to basic technological proficiency but also it encompasses critical thinking, evaluating information, communication, and ethical engagement in digital environment (Ng, 2012). Consequently, higher education institutions are under growing pressure to enable students with digital competencies to meet evolving labor market demands. In spite of that the dominant discourse often assumes a direct and linear relationship between digital literacy and

employability. This assumption neglects the structural inequalities, digital divide, digital inequality and digital inclusion. This paper critically scrutinizes these

assumptions and argues that is digital literacy essential precursor for guarantee employability in present or future?



Source: Image developed with AI based on Ng (2012), UNESCO (2021), Van Laar et al. (2017), OECD (2019), ILO (2022), Selwyn (2016), and van Dijk (2020).

Conceptualizing Digital Literacy

The construct of digital literacy gains a radical transformation in 2026. Digital Literacy has emerged as a multidimensional construct that deals with the critical evaluation of AI-generated content and it requires AI Fluency- an ability to interact with large language model responsibly and ethically whereas in previous context as mentioned in Ng (2012), digital literacy includes the ability to use digital tools, critically evaluate information, and engage responsibly in digital environments. Similarly, UNESCO (2021) defines digital literacy as a combination of skills, knowledge, and attitudes required for effective participation in digital societies. As contemporary technologies continue to evolve, the expectations placed on digital users especially youth have expanded beyond basic device operation. Modern definitions revised with the technological involvement and understanding the mechanism of algorithmic bias, importance of source verification, preserving privacy in interconnected data ecosystem and responsible technology use. These interconnected dimensions reflect the complexity of participating meaningful in digital societies and economies. As we move further in this decade, the gap between those who leverage with this technology and those who can't will define the future of the global workforce. One of the most influential models for conceptualizing digital

competence is the European Commission's DigComp 2.2 Framework, which organizes digital literacy into five major competence domains:

1. Information and Data literacy
2. Communication and Collaboration
3. Digital content creation
4. Safety
5. Problem solving

Career Readiness in the Digital Era

Career readiness refers to the preparedness of individuals to enter and succeed in the workforce. In the digital era, this concept has expanded to include digital competencies alongside traditional employability skills such as communication, collaboration, and problem-solving (Jackson, 2016). Career readiness is defined as the combination of skills, attitude, knowledge and level of understanding that enables employees to actively participate in the job market and contribute towards goals. Pham Thi To Loan (2023) Graduate work readiness is defined as the set of skills, knowledge, attitude, and level of understanding that enables employees to actively participate in the job market and contribute towards corporate goals (Caballero & Walker, 2010). People who are able to meet job requirements can successfully satisfy the necessary criteria at work (Harvey, 2001). Professional knowledge, communication skills, ability

to use technology, problem-solving skills, teamwork skills, ability to learn, and understanding of the world of work, etc. are required attributes of candidates in today's workplace. Work readiness is also considered an important predictor of students' employability (Bridgstock, Goldsmith, Rodgers, & Hearn, 2016) and students' possibility to succeed at work (Caballero et al., 2011).

Digital Literacy and Employability Nexus

Increasing digital world impacted the global economy and substantially change the expectations of labor market and Digital competence is an essential requirement across all sectors of the world. Institutions/Organizations requires employee who possess a broad spectrum of digital skills, ranging from basic software productivity to advanced competency in data analytics, cloud computing, artificial intelligence, generative AI, cybersecurity expert and digitally collaborate with technologies. As stated in the Organization for Economic Co-operation and Development (OECD) document digital literacy has become a fundamental employability skill rather than an optional qualification. Simultaneously, many advanced economies continue to experience the lack of professionals with specialized digital expertise, particularly in AI, Software engineering, data science and cybersecurity. This shortage constricts the organizational innovation and productivity while slowing the adoption of emerging technologies. Consequently, individuals with strong digital competencies tend to experience greater employment opportunities, enhanced career advancement, improved job stability, and higher or easy earnings than those with moderate digital skills and competency. Empirical evidence consistently demonstrates a positive relationship between digital proficiency and favorable labor market outcomes, including faster transition into employment after graduation and increased income potential. Institutions of developing countries deals with same challenges, although these are often intensified by contextual factors such as limited infrastructure and unequal access to technology. In Ghana, employer surveys and national assessments have identified a persistent mismatch between industry expectations and graduates' digital competencies and skills. Majority of graduates have less practical expertise in essential areas such as digital communication, coding, cybersecurity, data analysis, and emerging technologies, reducing workplace productivity and innovation. For improving these deficiencies, the Ghanaian government, in partnership with private-sector organizations, has introduced a range of digital upskilling initiatives aimed at strengthening workforce readiness. These programs emphasize the

development of competencies in coding, cybersecurity awareness, digital communication, data analytics, and digital entrepreneurship to better align graduate capabilities with evolving labor market needs. Overall, existing evidence indicates that digital skills represent a strategic form of human capital that enhances individual employability while strengthening national competitiveness, technological innovation, and sustainable economic growth in an increasingly digital global economy. Majority of the studies highlight a positive correlation between digital skills and employment outcomes. For instance, Van Laar et al. (2020) argue that digital competencies or skills significantly enhance employability in knowledge-based economies. However, this relationship is mediated by contextual factors such as socio-economic background and access to digital education.

The Digital Divide and Inequality

Van Dijk (2020) emphasized that incongruity in access to technology and digital skills contribute to widening socio-economic inequalities. People from marginalized communities often lack the necessary resources to develop advanced digital competencies. The digital divide and inequality remain a critical barrier to equitable access to digital literacy.

Skill Mismatch in Labor Markets

Despite the increasing focus on digital skills, a mismatch persists between the skills or competencies provided by higher educational institutions and those required by employers (ILO, 2022). This gap invites scrutiny about the effectiveness of present education systems in preparing students for the workforce in digital world.

Critical Perspectives on Employability

The employability discourse broadly emphasizes that individuals must develop specific skills and attributes to secure and maintain employment. However, scholars argue this focus unfairly puts the onus on individuals while overlooking bigger structural factors. Brown, Hesketh, and Williams (2003) highlight that labor market conditions, economic policies, and broader social issues significantly influence employment opportunities. This perspective challenges the common belief that acquiring skills alone guarantees a job. It points out that even well-qualified individuals may struggle in poor economic conditions or rigid labor markets. By shifting attention to these systemic factors, scholars encourage a more balanced understanding of employment challenges. Overall, this critique invites policymakers, educators, and employers to consider both personal development and the wider economic context. Recognizing structural barriers can lead to fairer approaches that

support not just skill-building but also address labor market inequalities.

Role of Higher Education Institutions

Higher education institutions play a significant role in fostering digital literacy. However, many struggle to integrate rapidly evolving technologies into curricula effectively (Selwyn, 2016). This struggle often results in a gap between the skills taught and those needed in the workforce. Digital literacy emerged not only as practical necessity but as a pillar of educational resilience, enable institutions to respond rapidly in crises condition or maintain the academic continuity. It reconceptualized as condition for institutional and pedagogical sustainability in an increasingly technology dependent future and institutional strategies and pedagogical innovations are central to embedding digital literacy. Consequently, it is essential for these institutions to collaborate with industry partners to ensure that graduates are well-prepared to meet the demands of a technology-driven

economy and institutions have adopted comprehensive digital training programs and framework such as TPACK, disciplinary and pedagogical knowledge aligning with digital world enhance the effectiveness of teaching and learning.

Policy and Institutional Frameworks

Policies and institutional frameworks designed by government significantly influence digital literacy development. While many countries have introduced digital education initiatives, their implementation often lacks coherence and inclusivity (OECD, 2021). The implementation of policies should be digitally inclusive within institution.

Although existing studies acknowledge the importance of digital literacy, there is limited critical analysis of its role in reinforcing inequalities and its alignment with labor market realities, particularly in developing contexts.

Literature Review

Table 1: Analytical Review of Literature on Digital Literacy and Employability

Author(s) & Year	Focus Area	Methodology	Key Findings	Critical Insight
Van Laar et al. (2018)	21st-century digital skills	Systematic review	Identifies core digital competencies including technical, information, and communication skills	Lacks focus on socio-economic inequalities influencing skill acquisition
UNESCO (2020)	Global digital literacy	Framework development	Defines digital literacy as combination of skills, knowledge, and attitudes	Limited contextual adaptation for developing nations
Ng (2020)	Digital literacy in education	Conceptual analysis	Expands digital literacy to cognitive and socio-emotional domains	Lacks empirical validation in diverse contexts
Van Laar et al. (2020)	Digital skills & employability	Quantitative analysis	Strong correlation between digital skills and employability	Ignores unequal access to skill development opportunities
ILO (2021)	Skill mismatch	Global employment data	Identifies mismatch between education and labor market needs	Limited focus on curriculum reform mechanisms
OECD (2021)	Digital economy skills	Policy report	Highlights gaps in digital readiness across countries	Underestimates socio-cultural barriers
Selwyn (2021)	Critical digital literacy	Theoretical critique	Advocates for ethical and critical engagement with technology	Lacks empirical integration into policy frameworks
UNESCO (2021)	Digital literacy framework	Global policy framework	Emphasizes inclusive digital education	Implementation challenges remain unaddressed
Jackson (2022)	Career readiness	Mixed-method study	Connect employability with digital and soft skills integration	Overlooks labor market structural constraints

ILO (2022)	Employment trends	Statistical analysis	Confirms persistent skill mismatch globally	Does not explore role of higher education deeply
OECD (2023)	Skills outlook	Comparative analysis	Reports increasing demand for advanced digital competencies	Inequality dimension insufficiently explored
World Economic Forum (2023)	Future of jobs	Global survey	44% of workers' skills expected to change within 5 years	Focuses on reskilling without addressing access issues
UNESCO (2023)	Digital citizenship	Policy framework	Introduces ethical and responsible digital engagement	Limited integration into formal curricula
OECD (2024)	Digital economy outlook	Data-driven report	Highlights shortage of advanced digital skills globally	Structural inequalities still underexplored
ILO (2024)	Youth employment	Global report	High youth unemployment despite qualifications	Points to systemic mismatch in education systems
Bhandari, Jain, & Sahu (2021)	Functional digital skills and employability among Indian secondary school students	Empirical quantitative study using nationally representative survey data	Functional digital skills significantly improve students' employability readiness. Socio-economic status, gender, and access to computers influence skill acquisition.	Highlights substantial urban-rural and socio-economic inequalities, suggesting that infrastructure alone is insufficient without quality digital skill development.
Varghese & Arya (2023)	Digital literacy skills among prospective teachers	Quantitative survey research	Prospective teachers demonstrated moderate to high digital literacy, with ICT competency supporting effective technology-enabled teaching.	Suggests the need to strengthen AI literacy, digital ethics, and advanced pedagogical competencies aligned with NEP 2020
C. Melvin Jebaraj (2025)	Digital literacy among college students in Tamil Nadu	Cross-sectional survey (150 undergraduate and postgraduate students) with descriptive and inferential statistics	Students showed reasonable competence in information literacy, digital safety, communication, and online learning; disparities existed between urban and rural learners	Limited geographical scope reduces generalizability to the broader Indian higher education context.
World Economic Forum (2025)	Skills transformation	Forecast analysis	Emphasizes AI-related and critical thinking skills	Reinforces individual responsibility narrative
Krishnan (2026)	AI literacy, ethical AI pedagogy, and educational equity in Indian higher education	Three-year mixed-methods, quasi-experimental longitudinal study across 12 higher education institutions	Ethical AI pedagogy significantly improved AI literacy, ethical awareness, creativity, and collaboration while supporting equitable learning outcomes.	Demonstrates the growing importance of integrating AI literacy with digital literacy, although implementation remains constrained by infrastructure gaps in rural institutions.

Pandey & Chadha (2026)	Digital literacy, entrepreneurship, and employability in higher education	Survey of 412 university students analysed using PLS-SEM	Digital literacy positively influences entrepreneurial growth through self-efficacy, financial resilience, and risk-taking propensity	-
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The reviewed literature clearly demonstrates the paradigm shift in the conceptualization of digital literacy—from basic technical skills (Van Laar et al., 2018) to a more comprehensive framework incorporating cognitive, ethical, and socio-emotional dimensions (UNESCO, 2021; Selwyn, 2021). While several studies establish a positive relationship between digital literacy and employability (Van Laar et al., 2020; OECD, 2024), this correlation is not linear and is significantly mediated by contextual and structural factors. A recurring limitation across studies is the insufficient attention to inequalities in access and opportunity. Although the digital divide has been widely acknowledged (Van Dijk, 2020), policy and empirical research often fail to adequately address how socio-economic disparities shape digital skill acquisition and employment outcomes. Furthermore, the persistence of skill mismatch (ILO, 2022; OECD, 2024) highlights systematic gaps between labor market demands and higher education systems. Critically, the literature reveals a dominant neoliberal orientation that individualizes employability, emphasizing personal responsibility for skill development while overlooking structural constraints (Brown et al., 2003; Tomlinson, 2017). Emerging research increasingly calls for a shift toward critical digital literacy, integrating digital citizenship, ethical awareness, and critical engagement with technology (UNESCO, 2023).

Research Question

- How do digital literacy skills impact employability among graduates in various sectors?
- What role does digital literacy play in shaping the future of graduates in the digital era?

Methodology

This study adopts a qualitative research design based on a critical review of literature. Data were exacted from peer-reviewed journal articles, institutional publications in academic databases and government policy reports. A thematic analysis approach was employed to identify key patterns, contradictions, and gaps in the literature (Braun & Clarke, 2006).

Findings and Discussion

Digital Literacy as a Necessary but Insufficient Condition

The findings indicates that digital literacy is an essential for employability but does not guarantee employment. Employers increasingly seek a combination of digital, cognitive, and social skills (Van Laar et al., 2020). Digital literacy enhances employability in the present scenario because it is the time of digitalization in every phase of life. Employability is described as “the combination of factors and processes which enable people to progress towards or get into employment, to stay in employment, and to move on in the workplace” as cited in (Vrana, R. 2016). According to the document Digital competence and employability (2015) most of the world population between 16 to 74 ages showed that 47 % of the population have either "low" or "no" digital skills which make them not considered to be functional in a digital society. One’s employability can be influenced by several factors such as his or her ICT knowledge, skills, and attitudes, level of formal education, social networks, a region or community’s economic viability, gender, social class, caste, stereotypes, learning styles, and labor market dynamics. An Australian document (Board of Studies New South Wales) showed that Employability Skills in Information and Digital Technology (2012) in which they enumerated eight skills that would improve employability: planning, organizing, self-management, problem-solving, communication, teamwork, learning, and technology, initiative and enterprise. JISC (2014) showed that digital literacy includes seven elements that assist in improving employability: ICT literacy, media literacy, information literacy, learning skills, communications and collaboration, career and identity management as well as digital scholarship. Data of National Employability Report for Engineering Graduates (2012) showed that in India only 17% of the total engineering talent produced with appropriate skills demands of the IT industry. All these skills should be developed in our learners at the school and college level for their future jobs. Bano & Vasantha (2019) stated employability skills are becoming more vital in recent time Universities also provide employability skill programs for college graduates which includes the development of soft skills as well as technical skills and knowledge. Morrison (2016) Digital skills are a crucial role in the academic life of educators. Some of the skills include uploading the articles, managing emails or the paper for plagiarism checkers,

using a learning management system, etc. and most demanding need for educators to learn how to attach with the best of digital technology, develop the learning outcome to the students, and to manage their efficient and effective teaching practice

Structural Inequalities and Access

There is still a significant gap between access of people to information technology especially among developing countries due to poor infrastructure, high cost of internet services along with lack of knowledge about it. Such inequalities severely limit people's ability to acquire and use digital skills, thus perpetuating existing social and economic disparities. (Van Dijk, 2020). The digital divide is no longer limited to physical access to devices and internet connectivity (first-level divide), but increasingly reflects differences in skills, usage patterns, and outcomes (second- and third-level divides) (Van Deursen & Van Dijk, 2019). In other context, marginalized groups such as rural peoples, females and poor people have access to limited opportunities for interaction with information technology systems. (UNESCO, 2021). Barriers may also be due to poor infrastructure; absence of relevant information on-line for local people; limited access to education and skills development programs. Thus, people with higher social status have more access to technology for learning and job-seeking than those who are disadvantaged (OECD, 2021). From a critical perspective, this inequality is an obstacle to employment despite being well-educated individuals due their lack thereof. However, this is more about integrating skills for digital literacy with social-economic policies and regulations respectively. Without addressing structural constraints, efforts to improve digital literacy may perpetuate rather than alleviate existing inequalities (Selwyn, 2016).

Skill Mismatch and Curriculum Gaps

The persistent and growing gap between education levels and job needs is still prevalent today especially with technological advancements happening at an accelerated pace. There is still a problem with skills mismatches which are structural issues for developed countries and developing nations. According to the OECD (2024), there are still major skill gaps for workers with digital and ICT-related qualifications despite high levels of unemployment which is an irony of having too many job vacancies but not enough people filling them. Educational institutions frequently do not align their programs with labor market requirements; this results in students being ill-prepared for employment (ILO, 2022). It is an imbalance of skills developed through schooling with those needed for employment purposes. Empirical

data further demonstrate the scale of this mismatch. For instance, approximately 67% of individuals in the European Union reported the need for additional digital skills training in 2023, indicating that existing education and training systems are insufficient in equipping learners with relevant competencies. According to global statistics there are many youths who are not employed even though they have degrees because there is an issue with education vs employment needs. The problem also exists within developing countries where it has been estimated that as many as two-thirds of youth are working for jobs which do not align with their education levels whereas there is an apparent shortage on both sides (employers). From the perspective of the International Labour Organization, skill mismatch is defined as the discrepancy between the skills possessed by individuals and those required in the labor market, necessitating continuous upskilling and reskilling to facilitate effective labor market transitions. The rise of emerging technologies such as artificial intelligence and automation has intensified this gap, as demand shifts toward higher-order cognitive, digitalization and cross-disciplinary abilities which are not covered by current education systems.

Critically, this mismatch is not merely a technical issue but reflects deeper systemic and institutional limitations. Many higher education institutions continue to rely on static curricula that struggle to keep pace with rapidly evolving industry needs. This lag contributes to graduate under preparedness and reinforces the need for stronger alignment between academia and industry. Without structural reforms such as curriculum redesign, experiential learning integration, and industry partnerships education systems risk perpetuating a cycle where qualifications do not translate into meaningful employment outcomes.

Individualization of Employability

Contemporary employability discourse on job market development focuses more upon people's ability to get employed rather than their qualifications like knowledge acquisition, flexibility with changeable circumstances along with continuous education. This individualization shifts attention away from structural and systemic determinants of employment, including labor market conditions, economic cycles, and institutional inequalities (Brown, et.al. 2003). Thus, unemployment and underemployment tend to be described by individuals' inadequacies instead of societal limitations.

Recent scholars support this argument through showing that policies and education programs focus on "skills for employability" rather than addressing labor market needs like job availability, quality of work, and

wages (Tomlinson, 2017). This phenomenon is also heightened due to digitalization of economy where people have got required skills for adapting with changing labor market conditions caused by technological advancements and gig economy (World Economic Forum, 2023). However, these expectations are not equally distributed and disproportionately affect people from disadvantaged backgrounds who may not have access to resources needed for ongoing upskilling (OECD, 2024). Moreover, there is an emphasis on personal responsibility which is consistent with neoliberalism's approach to education where it is seen as a means of producing "marketable" students by commodifying their abilities and reducing its scope beyond this goal (Holmes, 2013). It may also obscure problems like job polarization, unemployment insecurity, and regional imbalances of economic growth. For example, even highly skilled graduates may experience underemployment in contexts where job creation does not keep pace with the supply of qualified labor (ILO, 2024).

The individualization of employability is an abstraction from which it follows that there are limitations to our ability to understand employment results holistically enough. This requires moving towards better-balanced models which include personal skills and structural factors. Understanding employability to be an interpersonal relationship influenced by people's relationships with organizations and employment market would offer better basis towards policies and reforms of education system.

Need for Critical Digital Literacy

The growing pervasiveness of digital technologies in education, employment, and everyday life has made it increasingly insufficient to conceptualize digital literacy solely as functional or technical competence. The traditional approach of teaching digital literacy focuses mainly on technical abilities like program usage; internet navigation and management of computers/tablets/mobiles. These skills are still important but not enough to address issues related with society, ethics and politics of online activities today (Selwyn, 2016).

Digital literacy is more than just knowing how computers work; it's about evaluating news sources critically; recognizing biases within algorithms; identifying fake news online; being ethical while surfing social media sites. It is also part of digital citizenship that means being an active member on social media sites; knowing about personal information safety like cyberbullying and hacking (UNESCO, 2023). With AI becoming more prevalent; social media platforms and algorithms are changing lives significantly then people should be able enough

that they can utilize these technologies critically.

Recent evidence highlights the urgency of this shift. The OECD (2024) states that although there is an increase of digital tools usage among people and businesses; however, most students and employees still have low skills for evaluating information critically such as detecting fake news; judging sources' reliability; knowing about data ethics. Similarly, UNESCO (2023) states that digital education programs should focus on ethics and critical thinking skills so people can be prepared to participate effectively within a digitally-mediated society.

Within employability discourse, the lack of critical digital skills is an important factor that separates people's ability to be employable from their adaptability as workers on an evolving economy today. Employers are looking for students that can work well within an ambiguous technological environment; collaborate effectively on social media; address ethical issues related to artificial intelligence and big data (World Economic Forum, 2025). It means to be prepared for work today isn't just having internet skills and computer literacy; it's about knowing how technologies affect societies politically.

From a critical perspective, it is an issue with critical digital literacy as well because it undermines instrumentalism by reducing education to just job training. Rather than that, this is about making technology an essential part of democracy; social integration; and knowledge-based society. Ethical awareness and critical thinking should be integrated with technology education; otherwise, we will have students that are competent technologically yet ignorant about its implications on society as a whole.

Conclusion

Digital literacy plays a crucial role in shaping career readiness in the digital era. Nevertheless, it has an effect to employment through social stratification; organizational constraints; labor market conditions. Skill based solutions alone cannot solve this problem either a more critical yet inclusive approach should also be adopted for ensuring equal access of people with disabilities towards e-learning facilities along with job opportunities.

Declaration

Competing Interests

The authors declare no competing interest.

References

1. Bhandari, B., Jain, C., & Sahu, A. K. (2021). *Are secondary schools imparting digital skills? An empirical assessment. Margin: The Journal of Applied Economic Research*,

- 15(1), 73–100.
<https://doi.org/10.1177/0973801020976607>
2. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.<https://doi.org/10.1191/1478088706qp0630a>
3. Brown, P., Hesketh, A., & Williams, S. (2003). Employability in a knowledge-driven economy. *Journal of Education and Work*, 16(2), 107–126.
<https://doi.org/10.1080/13639080305562>
4. Holmes, L. (2013). Competing perspectives on graduate employability. *Studies in Higher Education*.
<https://doi.org/10.1080/03075079.2011.587140>
5. ILO. (2021). *World employment and social outlook: Trends 2021*. International Labour Organization.
<https://www.ilo.org/global/research/global-reports/weso/>
6. ILO. (2022). *World employment and social outlook: Trends 2022*. International Labour Organization.
<https://www.ilo.org/global/research/global-reports/weso/>
7. ILO. (2024). *Global employment trends for youth 2024*. International Labour Organization.
<https://www.ilo.org/global/research/global-reports/global-employment-trends-for-youth/>
8. Jackson, D. (2022). Employability skill development in work-integrated learning: Barriers and best practices. *Studies in Higher Education*, 47(10), 2019–2035.
<https://doi.org/10.1080/03075079.2021.1877815>
9. Jebaraj, C. M. (2026). *Digital literacy skills among college students in Tamil Nadu: A micro-level analysis*. *International Journal of Information Studies*, 18(1), 36–43.
<https://doi.org/10.6025/ijis/2026/18/1/36-43>
10. Krishnan, S. (2026). *Longitudinal effects of ethical AI pedagogy on AI literacy, moral competence, and educational equity in Indian higher education: A three-year mixed-methods study with implications for academic libraries (NEP 2020 alignment)*. *Information Services & Use*. Advance online publication.
<https://doi.org/10.1177/18758789261452185>
11. Ng, W. (2020). *New digital technology in education: Conceptualizing professional learning for educators* (2nd ed.). Springer.
<https://doi.org/10.1007/978-3-030-30774-2>
12. OECD. (2019). *OECD skills outlook 2019: Thriving in a digital world*. OECD Publishing.
<https://doi.org/10.1787/df80bc12-en>
13. OECD. (2021). *The digital transformation of SMEs*. OECD Publishing.
<https://doi.org/10.1787/bdb9256a-en>
14. OECD. (2023). *OECD skills outlook 2023: Skills for a resilient green and digital transition*. OECD Publishing.
<https://doi.org/10.1787/27452c9d-en>
15. OECD. (2024). *OECD digital economy outlook 2024 (Volume 1): Embracing the technology frontier*. OECD Publishing.
<https://doi.org/10.1787/a1689dc5-en>
16. Pandey, A., & Chadha, P. (2026). *Enhancing entrepreneurial growth through digital literacy and financial resilience: Evidence from Indian higher education*. *Industry and Higher Education*. Advance online publication.
<https://doi.org/10.1177/09504222261443595>
17. Selwyn, N. (2021). *Education and technology: Key issues and debates* (3rd ed.). Bloomsbury Academic.
18. Tomlinson, M. (2017). Forms of graduate capital and employability. *Education + Training*.
19. World Economic Forum. (2023). *Future of Jobs Report*. <https://doi.org/10.1108/et-05-2016-0090>
20. UNESCO. (2020). *Global framework of reference on digital literacy skills for indicator 4.4.2*. UNESCO Institute for Statistics. <https://uis.unesco.org/>
21. UNESCO. (2021). *Recommendation on the ethics of artificial intelligence*. UNESCO.
<https://unesdoc.unesco.org/>
22. UNESCO. (2023). *Global education monitoring report 2023: Technology in education—A tool on whose terms?* UNESCO.
<https://gem-report-2023.unesco.org/>
23. Van Deursen, A. J. A. M., & van Dijk, J. A. G. M. (2019). The first-level digital divide shifts from inequalities in physical access to inequalities in material access. *New Media & Society*, 21(2), 354–375.
<https://doi.org/10.1177/1461444818797082>
24. Van Laar, E., Van Deursen, A. J. A. M., Van Dijk, J. A. G. M., & De Haan, J. (2018). The relation between 21st-century skills and digital skills: A systematic literature review.

- Computers in Human Behavior*, 72, 577–588.
<https://doi.org/10.1016/j.chb.2017.03.010>
25. Van Laar, E., Van Deursen, A. J. A. M., Van Dijk, J. A. G. M., & De Haan, J. (2020). Determinants of 21st-century digital skills: A large-scale survey among working professionals. *Computers in Human Behavior*, 100, 93–104.
<https://doi.org/10.1016/j.chb.2019.06.017>
26. Varghese, J., & Arya, A. K. (2024). *Exploring 21st century digital literacy skills among the prospective teachers for holistic learning*. *Indian Journal of Educational Technology*, 6(2), 282–291.
<https://journals.ncert.gov.in/IJET/article/view/448>
27. World Economic Forum. (2023). *The future of jobs report 2023*. World Economic Forum.
<https://www.weforum.org/reports/the-future-of-jobs-report-2023>
28. World Economic Forum. (2025). *The future of jobs report 2025*. World Economic Forum.
<https://www.weforum.org/reports/the-future-of-jobs-report-2025>