DIGITAL LITERACY IN HIGHER EDUCATION IN MANDYA CITY, KARNATAKA: CHALLENGES AND OPPORTUNITIES

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ABSTRACT:

Digital literacy has become an essential skill in higher education, shaping how students and educators' access, interpret, and utilize knowledge in an increasingly technology-driven environment. In Mandya City, Karnataka, the integration of digital tools in colleges and universities presents both opportunities and challenges. On the one hand, the adoption of e-learning platforms, online resources, and digital communication fosters interactive teaching, enhances student engagement, and expands access to global knowledge. It also provides opportunities for skill development that are crucial for employability in a digital economy. On the other side, the region faces barriers such as uneven access to technology, insufficient digital infrastructure, limited training for faculty, and socio-economic disparities among students.The present study adopts a descriptive research design to analyse the challenges and opportunities of digital literacy in higher education institutions of Mandya. Both primary and secondary data are utilized. Primary data is collected through structured questionnaires and interviews with a sample of 100 respondents, including students and faculty across selected colleges. A stratified random sampling technique is employed to ensure balanced representation across different institutions and respondent categories. Secondary data is drawn from academic publications, Government reports, and institutional records. Data is analysed using descriptive statistics and thematic analysis.This study provides insights for policy interventions and sustainable educational practices aimed at strengthening digital literacy in Mandya higher education sector.

Keywords: Digital Literacy, Higher Education, Challenges, Opportunities, and Socio-economic.

INTRODUCTION

Digital literacy has emerged as a critical skill in the 21st century, shaping the way individuals learn, communicate, and participate in a knowledge-driven society. In higher education, the integration of digital tools and platforms has transformed teaching, learning, and research practices, making digital literacy not only desirable but essential. In the Indian context, national initiatives such as Digital India and the National Education Policy (NEP) 2020 have emphasized the need for technology-enabled education, particularly in bridging the digital divide between urban and rural regions.

Mandya, a semi-urban district in Karnataka, presents a unique context for examining digital literacy in higher education. While the district is home to several colleges and universities, infrastructural disparities, socio-economic conditions, and varying levels of exposure to technology continue to influence digital readiness among students and faculty. The COVID-

19 pandemic further highlighted these gaps, as the shift to online learning exposed challenges in access, connectivity, and digital competency.

This study explores the challenges and opportunities associated with digital literacy in Mandya's higher education sector. By analyzing institutional support, student preparedness, and faculty engagement, the research seeks to identify strategies that can enhance digital literacy and contribute to inclusive and effective learning environments.

DIGITAL LITERACY IN HIGHER EDUCATION IN INDIA:

Digital literacy refers to the ability to access, evaluate, create, and communicate information using digital technologies effectively and responsibly. In higher education, it goes beyond basic computer skills to include critical thinking, information management, online collaboration, and ethical use of technology. It has become an essential competency for students and educators, influencing academic success, employability, and lifelong learning. Globally, universities are embedding digital literacy into curricula to prepare graduates for knowledge economies where technological proficiency is indispensable.

In India, the promotion of digital literacy has gained momentum through initiatives such as Digital India,and SWAYAM, which emphasize integrating ICT into teaching and learning. Programs like the National Digital Literacy Mission (NDLM) and Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) aim to expand basic digital skills, while platforms such as SWAYAM Prabha, e-PG Pathshala, and the National Digital Library of India (NDLI) provide accessible learning resources. Despite these efforts, regional disparities remain: urban institutions benefit from stronger infrastructure, while rural and semi-urban colleges struggle with limited connectivity, affordability, and faculty training. Nevertheless, policy support, technological expansion, and growing student engagement present opportunities to make digital literacy a core pillar of higher education across India.

IMPORTANCE OF DIGITAL LITERACY:

1. **Improved Academic Performance:** Digital literacy enhances students' academic success by enabling efficient use of e-resources such as e-books, online journals, and MOOCs. Studies show that students with strong digital skills perform nearly 20% better in assessments (AICTE, 2023), proving its direct impact on academic achievement.

2. **Enhanced Employability:**In a technology-driven job market, digital skills bridge the gap between education and industry. According to NASSCOM (2022), 90% of future jobs will require basic digital skills, making digital literacy essential for career readiness and adaptability.

3. **Access to Online Resources:** Students with digital literacy can access global learning platforms like SWAYAM, Coursera, and NDL, enabling flexible and self-paced learning. In Karnataka, over 2.5 lakh students enrolled in SWAYAM during 2022–23, showcasing the growing digital learning trend.

4. **Research and Innovation:** Digital tools such as SPSS, R, and Google Scholar promote research efficiency and innovation. The UGC reports that 70% of Ph.D. scholars rely on digital platforms, leading to a significant rise in research output and interdisciplinary collaboration.

5. **Digital Governance and Administration**: Digital literacy ensures smooth participation in online academic administration—admissions, exams, and fee

payments—through platforms like Seva Sindhu and NAD. It enhances transparency and operational efficiency in higher education governance.

6. **Bridging the Digital Divide:**Digital literacy reduces the gap between rural and urban learners. While only 35% of rural students possess adequate digital skills (AISHE 2022), initiatives like Digital India and PMGDISHA aim to empower rural youth and promote inclusivity.

7. **Critical Thinking and Online Safety:**It helps students identify misinformation and maintain cybersecurity. A UNESCO (2021) report noted that 60% of students lack cyber safety awareness—digital literacy reduces such risks and fosters responsible online behavior.

8. **Global Collaboration:** Through digital platforms, students can participate in virtual exchanges and international collaborations. During COVID-19, Karnataka universities engaged 50,000+ students in global virtual programs, strengthening global exposure.

9. **Support for Lifelong Learning:** Digital literacy promotes continuous skill development via platforms like NPTEL and LinkedIn Learning. Over 3 million Indians have pursued online certifications, emphasizing the growing culture of lifelong learning.

10. **Inclusive and Accessible Education:** It ensures accessibility for differently-abled learners through assistive technologies like screen readers and captioning tools. As per UGC guidelines (2022), inclusive digital education fosters equity and equal opportunities for all students.

REVIEW OF LITERATURE:

Shopova (2014) emphasized that improving digital literacy and ICT skills is crucial for academic performance and competitiveness in the labour market. Many students, however, lack the necessary skills to utilize digital tools for problem-solving and scientific tasks effectively.

Murray & Pérez (2014) underscored the need for comprehensive strategies in higher education to equip graduates with critical technology competencies. Their assessment revealed that many college seniors struggle with digital literacy, suggesting the integration of digital literacy into institutional curricula and standardized entrance evaluations.

Santos & Serpa (2017) recognized digital literacy as a key competency in higher education, emphasizing diagnostic evaluation to identify students' varying digital skills and the importance of structured strategies to develop critical thinking, problem-solving, and information literacy.

Kaeophanuek et al. (2018) found students proficient in evaluating, sharing, and responsibly using information online, though their skills in defining keywords and selecting appropriate data for problem-solving were intermediate. Awareness of copyright and Creative Commons usage also required improvement.

Techataweewan&Prasertsin (2018) identified four key factors of digital literacy: operation, thinking, collaboration, and awareness skills. They emphasized that effective digital literacy requires a dynamic interplay of mindset, behavior, and skills, which collectively transform students' learning and engagement with technology.

OBJECTIVES OF THE STUDY

1. To evaluate the existing level of digital literacy among students in higher education institutions of Mandya City.

2. To assess the digital literacy skills and competencies of faculty members in Mandya City's higher education institutions.

3. To examine the availability and accessibility of digital infrastructure and resources in colleges and universities.

4. To identify the major challenges and barriers faced by students and educators in adopting digital technologies for academic purposes.

5. To explore institutional initiatives and Government programs promoting digital literacy in higher education.

6. To suggest effective strategies and policy recommendations to strengthen digital literacy and promote digital inclusion in Mandya higher education system.

STATEMENT OF THE PROBLEM:

Despite national initiatives promoting digital literacy, higher education institutions in semi-urban regions like Mandya, Karnataka, face challenges such as inadequate infrastructure, limited faculty training, and socio-economic barriers. These gaps hinder equitable access to digital resources, affecting students' academic performance, employability, and readiness for a technology-driven global economy.

SCOPE AND SIGNIFICANCE OF THE STUDY:

The study focuses on digital literacy among students and faculty in Mandya city higher education institutions. It examines challenges, access, and ICT usage, while highlighting opportunities to enhance skills. Findings aim to guide policymakers and educators in promoting inclusive, technology-driven learning aligned with Digital India.

Methodology:

The study employed a descriptive research design, using structured questionnaires to collect data from 80 students and 20 faculty members in higher education institutions of Mandya City. Both primary and secondary data were analysed through percentage analysis to assess digital literacy levels, challenges, and opportunities.

Research Gap:

Despite extensive global research on digital literacy, limited studies focus on rural and semi-urban higher education institutions in Karnataka, particularly Mandya City. There is a lack of empirical evidence on digital literacy challenges, infrastructure gaps, and effective strategies to enhance digital competence among students and faculty.

Result and Data Analysis

TABLE - 1		
Digital Literacy Levels among Students and Faculty		
Level of Digital Literacy	**Students (n=80)**	**Faculty (n=20)**
Basic (Email, Social Media, MS Office)	50%	30%
Moderate (Online Learning Tools, LMS, Cloud	7.50%	45%

Storage)		
Advanced (Data Analysis, Digital Content Creation, Research Tools)	12.50%	25%

The majority of students (50%) possess only basic digital literacy, indicating dependence on social and entertainment platforms. Faculty show slightly higher moderate-level proficiency (45%), but advanced skills remain low across both groups. This highlights the need for structured training to enhance academic and research-oriented digital skills.

TABLE - 2		
Challenges Faced in Adopting Digital Technology		
Challenges	**Students (%)**	**Faculty (%)**
Poor Internet Connectivity	45%	40%
Lack of Training Programs	30%	50%
Limited Access to Digital Devices	35%	20%
Resistance to Change / Lack of Confidence	20%	35%
High Cost of Digital Tools	25%	15%

Internet connectivity (45% students, 40% faculty) is the most common challenge. Faculty face greater difficulty due to lack of structured training programs (50%) and resistance to adopting new methods (35%). Students, on the other hand, struggle with device accessibility (35%) and affordability (25%).

TABLE - 3		
Usage of ICT Tools for Academic Purposes		
ICT Tools Used	**Students (%)**	**Faculty (%)**
Smartphones (WhatsApp, Google Classroom, Zoom)	70%	50%
Computers/Laptops	40%	60%
Learning Management Systems (Moodle, Canvas, etc.)	25%	40%
E-Libraries & Online Journals	30%	55%
Data Analysis & Research Software	15%	20%

Students rely heavily on smartphones (70%), while faculty are comparatively better users of computers/laptops (60%) and e-libraries (55%). Both groups show minimal use of advanced tools such as data analysis and research software, reflecting a gap in academic digital application.

TABLE - 4		
Perception of Digital Literacy Importance		
Response	**Students (%)**	**Faculty (%)**
Highly Important	60%	70%
Moderately Important	30%	25%
Not Important	10%	5%

Both students (60%) and faculty (70%) acknowledge that digital literacy is highly important for academic and professional success. This positive perception indicates readiness to adopt digital technologies if proper support and training are provided.

FINDINGS:

1. Digital Literacy Levels among students, 50% have only basic skills, with limited academic application. Faculty members show slightly higher moderate-level proficiency (45%), but advanced skills are still low (25%).

2. The most common issue is poor internet connectivity (45% students, 40% faculty). Faculty particularly face lack of training programs (50%) and resistance to new methods (35%). Students struggle with device accessibility (35%) and affordability (25%).

3. ICT usage,students rely mainly on smartphones (70%) for learning, while faculty prefer computers/laptops (60%) and e-libraries (55%). Both groups rarely use research software or advanced tools.

4. Perception of importance,A majority of both students (60%) and faculty (70%) consider digital literacy highly important. Only a very small proportion believe it is not important.

SUGGESTIONS:

1. Digital Literacy Training Programs – Conduct workshops, certificate courses, and skill-building activities focusing on advanced ICT tools.

2. Strengthen Infrastructure – Ensure affordable devices, high-speed internet, and smart classrooms across urban and rural institutions.

3. Curriculum Integration – Include digital literacy modules and ICT-based assignments in higher education curricula.

4. Faculty Development – Organize mandatory digital skill enhancement programs and peer-learning sessions for teachers.

5. Promote E-Learning Culture – Encourage the use of e-libraries, online journals, research databases, and learning management systems.

6. Inclusive Measures – Provide subsidies or financial aid for students from rural/low-income backgrounds to access digital devices.

7. Public–Private Partnerships – Collaborate with tech companies to set up digital labs, training hubs, and community learning centres.

CONCLUSION:

The study reveals that digital literacy in Mandya higher education institutions is developing but uneven. Students and faculty demonstrate basic to moderate proficiency, while advanced academic and research-oriented skills remain underutilized. Poor connectivity, inadequate infrastructure, and lack of structured training programs are the key barriers.

However, the positive attitude of both students and faculty toward digital literacy provides a strong foundation for progress. With targeted interventions—such as curriculum integration, infrastructure development, and continuous training—digital skills can be significantly enhanced.By addressing these challenges, institutions in Mandya can bridge the digital divide, improve teaching-learning outcomes, and align with the goals of Digital India. This will create an inclusive, technology-driven, and future-ready education system, empowering both students and educators to thrive in the digital era.

REFERENCES

1. A, S., & Sinha, P. (2021). Digital literacy and reading habits of the Central University of Tamil Nadu students: A survey study. Library Philosophy and Practice (e-journal), 1–19.

2. Angga, T. R., Cahyanto, B., &Sholihah, F. P. (2020). The portraits of digital literacy awareness amid Covid-19 pandemic. 433–437.

3. B, C. B., & Kabir, S. H. (2018). Digital literacy among research scholars of social science and arts faculties in University of Kerala: A comparative study. Kelpro Bulletin, 22(1), 59–70.

4. Choudhary, H., & Bansal, N. (2023). Emerging themes in digital literacy research: Trends and future directions. 1–19.

5. Esh, M., & Ghosh, S. (n.d.). Are they really aware? A digital venture for addressing "digital literacy" among the P.G. students at the University of North Bengal. 234–244.

6. Fulgence, K. (2020). Developing digital fluency among teacher educators: Evidence from Tanzanian Schools of Education. International Journal of Education and Development using Information and Communication Technology, 16(2), 158–175.

7. Hiremath, S. S., &Bankapur, V. M. (2019). Awareness and proficiency in digital literacy skills among librarians of first grade degree colleges of Bagalkot District with respect to age group. International Journal of Librarianship and Administration, 10(1), 11–18.

8. Murray, M. C., & Pérez, J. (2014). Unraveling the digital literacy paradox: How higher education fails at the fourth literacy. Issues in Informing Science and Information Technology, 11, 85–100.

9. Pawar, M. A. (2021). Role of digital literacy among teachers and students in 21st century India. Educational Resurgence Journal, 3(6), 93–101.

10. Peng, D., & Yu, Z. (2022). A literature review of digital literacy over two decades. Hindawi Education Research International, 22, 1–8.

11. Reddy, P., Chaudhary, K., & Hussein, S. (2023). A digital literacy model to narrow the digital literacy skills gap. Heliyon, 9(4), 1–15.

12. Santos, A. I., & Serpa, S. (2017). The importance of promoting digital literacy in higher education. International Journal of Social Science Studies, 5(6), 90–93.

13. Shopova, T. (2014). Digital literacy of students and its improvement at the university. ERIES Journal, 7(2), 26–32.

14. Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research: Systematic review of concept use. Cogent Education, 5(1), 1–21.

15. Techataweewan, W., &Prasertsin, U. (2018). Development of digital literacy indicators for Thai undergraduate students using mixed method research. Kasetsart Journal of Social Sciences, 39(2), 215–221.

16. Vaskov, M., Isakov, A., Bilovus, V., Bulavkin, A., & Mikhaylenko, N. (2021). Digital literacy of modern higher education teachers. E3S Conferences, 273, 12035, 1–7.

17. Vidya, G. P., Godwin, R., Peranginangin, Y. A., Wisudha, A., & Desson, S. (2023). The road to developing students' digital fluency: The role of personality traits. E3S Web of Conferences, 388, 04048, 1–5.