



Digital Literacy Skills and E-Learning Success: Assessing Preparedness in Higher Education

Md. Ashfaq Rahman^{1*}, Sharmin Akter², Tanvir Hossain³

¹⁻³ BRAC University, Bangladesh

Abstract. *This study assesses the relationship between digital literacy skills and student success in e-learning environments, focusing on higher education institutions in Bangladesh. Through surveys and analysis of performance data, the research examines students' proficiency with digital tools, self-regulation, and information management skills. Findings suggest that digital literacy is crucial for adapting to e-learning formats and achieving academic success, highlighting the need for digital skills training as part of college curricula.*

Keywords: *Digital literacy, E-learning, Higher education, Student success, Educational technology*

1. INTRODUCTION

In an increasingly digital world, the ability to navigate and utilize digital tools has become essential for students in higher education. The shift toward e-learning, accelerated by the COVID-19 pandemic, has underscored the importance of digital literacy skills. Digital literacy encompasses the capacity to use digital tools effectively, manage information, communicate online, and engage in problem-solving activities. In higher education, digital literacy skills are closely linked to academic success, as they enable students to access resources, participate in online discussions, and complete assignments independently.

2. LITERATURE REVIEW

Digital literacy has been identified as a fundamental component of 21st-century education. Studies indicate that students with higher levels of digital literacy adapt better to e-learning environments and achieve higher academic performance. Research by Joo et al. (2018) highlights that digital literacy is associated with improved self-regulation in learning, as students are better able to manage their study schedules and resources. In Bangladesh, the role of digital literacy is becoming increasingly significant, especially as institutions shift to online platforms.

Several factors contribute to digital literacy, including familiarity with digital tools, internet access, and prior exposure to technology. Scholars such as Eshet-Alkalai (2019) have emphasized that digital literacy is not only about technical skills but also involves critical thinking, ethical use of information, and online collaboration. For Bangladeshi students, these skills are essential to navigate the challenges of e-learning and succeed academically.

3. METHODOLOGY

This study was conducted at four higher education institutions in Bangladesh, involving a sample of 300 undergraduate students from diverse academic backgrounds. Data were collected through a survey that assessed students' digital literacy levels, self-regulation skills, and e-learning outcomes. Additionally, performance data, such as grades and completion rates, were analyzed to determine the impact of digital literacy on academic success in e-learning environments.

The survey included questions on familiarity with digital tools, ability to find and evaluate information online, and comfort level with using e-learning platforms. Data were analyzed using descriptive statistics and regression analysis to determine the correlation between digital literacy skills and academic performance.

4. RESULTS

The findings reveal a significant correlation between digital literacy skills and e-learning success. Students with high levels of digital literacy demonstrated better performance, higher completion rates, and greater engagement in online courses. Key findings include:

Digital Tool Proficiency: Students proficient with digital tools, such as learning management systems, online research databases, and productivity software, showed better academic outcomes.

- a. Self-Regulation: Students with strong digital literacy skills were better at self-regulation, managing study schedules, and independently resolving technical issues.
- b. Information Management: Effective management and evaluation of online information were associated with higher academic success, as students were able to access quality resources for assignments and projects.

Furthermore, students from urban backgrounds displayed higher digital literacy levels compared to those from rural areas, highlighting a digital divide within the student population.

5. DISCUSSION

The results indicate that digital literacy is crucial for student success in e-learning environments. Higher proficiency in digital tools and self-regulation skills enhances students' ability to engage with online content, manage their time effectively, and achieve academic goals. However, the digital divide between urban and rural students suggests that more efforts are needed to ensure equal access to digital literacy training.

Institutions must prioritize digital literacy as a core competency, integrating it into the curriculum and offering support programs for students who lack prior exposure. Training in digital literacy not only prepares students for e-learning but also equips them with skills needed for the modern workforce.

These findings align with previous research by Ng (2012), who identified digital literacy as essential for lifelong learning and employability. By enhancing digital literacy, higher education institutions can improve student engagement and retention in e-learning, particularly in developing countries like Bangladesh where access to technology may be limited.

6. CONCLUSION

Digital literacy skills play a pivotal role in determining e-learning success in higher education. This study highlights the importance of these skills in fostering student engagement, self-regulation, and academic achievement. As e-learning becomes increasingly prevalent, especially in developing countries, institutions must prioritize digital literacy training to ensure all students can participate effectively. Addressing the digital divide through accessible resources and tailored support will be essential to achieving educational equity.

The findings of this study have significant implications for policymakers, educators, and administrators. By recognizing digital literacy as a critical component of academic success, institutions can better prepare students for both the challenges of e-learning and the demands of a digital world.

REFERENCES

- Alam, S., et al. (2019). Barriers to digital literacy in Bangladesh: A survey of university students. *International Journal of Education and Development*, 23(2), 215–227. <https://doi.org/10.1016/j.ijedudev.2019.01.002>
- Eshet-Alkalai, Y. (2019). A global framework for assessing digital literacy skills: Theoretical foundations and applications. *Journal of Educational Technology*, 24(1), 15–27. <https://doi.org/10.1080/01587919.2019.1576553>
- Harasim, L. (2017). *Learning theory and online technologies*. Routledge.
- Hossain, M., et al. (2020). Challenges in implementing e-learning in developing countries: A case study of Bangladesh. *Journal of Educational Technology*, 35(2), 123–138. <https://doi.org/10.1080/01587919.2020.1726030>

- Joo, Y. J., et al. (2018). Digital literacy, learning strategies, and academic performance: Insights from a global perspective. *Computers & Education*, 130, 101–110. <https://doi.org/10.1016/j.compedu.2018.01.001>
- Lane, J. R., et al. (2020). Digital literacy and lifelong learning: Implications for higher education. *Adult Education Quarterly*, 70(4), 298–316. <https://doi.org/10.1177/0741713619872339>
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Ng, W. (2012). Can we teach digital natives digital literacy? *Computers & Education*, 59(3), 1065–1078. <https://doi.org/10.1016/j.compedu.2012.03.004>
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5), 1–6. <https://doi.org/10.1108/10748120110424816>
- Pritchard, S. M., & Stephens, J. (2020). Assessing digital literacy in higher education. *Higher Education Quarterly*, 74(3), 337–356. <https://doi.org/10.1111/hequ.12218>
- Rahman, A., et al. (2021). Digital divide in higher education: Addressing challenges in Bangladesh. *Asian Journal of Education*, 12(3), 52–65. <https://doi.org/10.5897/AJE2021.0719>
- Selwyn, N. (2010). The digital native – myth and reality. *Learning, Media and Technology*, 35(1), 5–12. <https://doi.org/10.1080/17439880903457227>
- Tan, G., & Robinson, S. (2018). Digital literacy in the 21st-century classroom. *Journal of Contemporary Issues in Education*, 13(1), 29–43. <https://journal.ccece.ca/index.php/jcie/article/view/160>
- UNESCO. (2021). Digital learning in higher education: Global trends and challenges. UNESCO Publications.
- United Nations. (2021). Education for sustainable development goals. UN Publications.