

Technological Access, Learning Engagement, and Digital Distraction Among Nursing Students: A Predictive Study

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Abstract

The integration of digital technology in nursing education has transformed learning environments, influencing both student engagement and potential distractions. This study examined the relationship between technological access, learning engagement, and digital distraction among nursing students. A descriptive–correlational–predictive design was employed, involving 103 Level 3 and Level 4 nursing students enrolled during the Academic Year 2025–2026. Data were collected using a structured questionnaire and analyzed using descriptive statistics, Pearson correlation, and regression analysis. Results revealed that students demonstrated high levels of technological access and learning engagement, alongside moderate levels of digital distraction. Significant relationships were found between technological access and learning engagement ($r = 0.370$, $p < .001$), technological access and digital distraction ($r = 0.338$, $p < .001$), and learning engagement and digital distraction ($r = 0.617$, $p < .001$). Regression analysis showed that technological

access and learning engagement significantly predicted digital distraction ($R^2 = 0.395$, $p < .001$). These findings highlight the dual role of technology in enhancing learning while contributing to distraction. The study proposes an enhancement program framework to promote responsible technology use and optimize student engagement in nursing education.

Keywords: *technological access; learning engagement; digital distraction; nursing students; nursing education*

Main text

1. Introduction

Digital technology has become a central component of higher education, particularly in nursing, where students rely on digital tools for academic and clinical preparation. Technological access—including devices, internet connectivity, and online resources—facilitates flexible and student-centered learning (Dhawan, 2020; Garrison & Vaughan, 2018). However, increased exposure to digital platforms has also led to concerns regarding digital distraction, defined as the diversion of attention to non-academic activities such as social media and multitasking (Rosen et al., 2013).

Learning engagement, encompassing behavioral, emotional, and cognitive dimensions, plays a crucial role in academic success and professional competence among nursing students (Xu, 2023; Joshi et al., 2022). While technological access can enhance engagement, it may simultaneously increase opportunities for distraction (Abdelaliem et al., 2022). Despite existing studies examining these variables independently, limited research has explored their combined relationships in nursing education. This study addresses this gap by investigating the relationship and predictive effects among technological access, learning engagement, and digital distraction.

2. Methods

This study utilized a descriptive–correlational–predictive research design. Participants included Level 3 and Level 4 nursing students enrolled during the Academic Year 2025–2026 who voluntarily completed an online survey. A structured questionnaire was used to measure technological access (device availability, internet stability, and access to online academic resources), learning engagement (behavioral, emotional, and cognitive), and digital distraction (social media use, multitasking, and environmental distractions).

Data were analyzed using frequency, percentage, mean, and standard deviation to describe variables, while Pearson Product-Moment Correlation and regression analysis were used to

determine relationships and predictive effects. Ethical considerations were observed, including voluntary participation and confidentiality of responses.

3. Results

The findings indicated that nursing students reported high levels of technological access and learning engagement, alongside moderate levels of digital distraction. These results align with previous studies emphasizing the role of digital tools in modern education (Oducado & Soriano, 2021).

The relationships among technological access, learning engagement, and digital distraction were examined using Pearson correlation analysis.

Table 1. Pearson Correlation Analysis Between Technological Access, Learning Engagement, and Digital Distraction

Variables Compared	r	p value	Significance	Decision
Technological Access & Learning Engagement	0.370	< .001	Significant	Reject H ₀
Technological Access & Digital Distraction	0.338	< .001	Significant	Reject H ₀
Learning Engagement & Digital Distraction	0.617	< .001	Significant	Reject H ₀

Note: $p < .05$ indicates statistical significance.

As shown in Table 1 ($n = 103$), technological access was moderately correlated with learning engagement ($r = 0.370$, $p < .001$), indicating that increased access to technological resources is associated with higher levels of student engagement. Technological access was also moderately correlated with digital distraction ($r = 0.338$, $p < .001$), suggesting that greater access to technology may increase exposure to distracting digital activities.

Learning engagement demonstrated a strong positive correlation with digital distraction ($r = 0.617$, $p < .001$), indicating that even highly engaged students may experience distraction due to frequent interaction with digital platforms.

The predictive effect of technological access and learning engagement on digital distraction was examined using linear regression analysis.

Table 2. Linear Regression Analysis Predicting Digital Distraction

Predictor Variables	R ²	p value	Significance	Decision
Technological Access & Learning Engagement	0.395	< .001	Significant	Reject H ₀

Note: Model significant at $p < .05$.

As presented in Table 2, the regression model was statistically significant ($R^2 = 0.395$, $p < .001$), indicating that technological access and learning engagement jointly explained 39.5% of the variance in digital distraction. These findings suggest that while technological

access and engagement support learning, they also contribute to increased susceptibility to digital distraction when not properly managed.

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4. Discussion

The results support previous research indicating that technology enhances student engagement by providing access to flexible learning resources and interactive platforms (Garrison & Vaughan, 2018; Padilha et al., 2019). At the same time, increased access to digital devices exposes students to distractions that may negatively affect concentration and academic performance (Junco, 2012; Abdelaliem et al., 2022).

The findings highlight the importance of balancing technological integration with strategies to minimize distraction. In nursing education, where sustained attention and critical thinking are essential, unmanaged digital use may hinder competence development. These results align with the Technology Acceptance Model, which explains how perceived usefulness and accessibility influence technology use, and Benner's theory, emphasizing the importance of structured engagement in skill development.

The strong association between learning engagement and digital distraction suggests that increased interaction with digital platforms, even for academic purposes, may inadvertently heighten exposure to non-academic interruptions.

5. Conclusion

Technological access, learning engagement, and digital distraction are significantly interconnected among nursing students. While technology enhances academic engagement, it also introduces challenges related to distraction. The study underscores the need for structured interventions and policies promoting responsible technology use. An enhancement program framework is recommended to optimize engagement and minimize digital distractions in nursing education.

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References (APA 7th Edition)

- Abdelallem, S. M., Alghamdi, A. A., & Althobaiti, M. (2022). The impact of smartphone use on academic performance and distraction among nursing students. *Nurse Education Today*, 108, 105–112.
- Adnan, M., & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. *Journal of Pedagogical Sociology and Psychology*, 2(1), 45–51.
- Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open*, 1, 100011.
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22.
- Garrison, D. R., & Vaughan, N. D. (2018). *Blended learning in higher education: Framework, principles, and guidelines*. Routledge.
- Joshi, A., Vinay, M., & Bhaskar, P. (2022). Impact of student engagement on learning outcomes. *Education and Information Technologies*, 27, 123–145.
- Junco, R. (2012). In-class multitasking and academic performance. *Computers in Human Behavior*, 28(6), 2236–2243.
- Oducado, R. M. F., & Estoque, H. (2021). Online learning in nursing education during the pandemic. *International Journal of Nursing Sciences*, 8(3), 234–240.
- Oducado, R. M. F., & Soriano, G. P. (2021). Technological readiness and engagement among nursing students. *Philippine Journal of Nursing*, 91(2), 45–52.
- Padilha, J. M., Machado, P. P., Ribeiro, A., Ramos, J., & Costa, P. (2019). Clinical virtual simulation in nursing education. *Nurse Education Today*, 73, 69–74.
- Rosen, L. D., Lim, A. F., Carrier, L. M., & Cheever, N. A. (2013). An empirical examination of the educational impact of text message-induced task switching. *Computers in Human Behavior*, 29(3), 948–958.
- Xu, J. (2023). Student engagement in higher education: A meta-analysis. *Educational Psychology Review*, 35, 1–28.