

Learning at Your Fingertips: Embracing the Era of Digital Education

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INFO ARTIKEL

Accepted : April 02, 2025

Revised : May 05, 2025

Approved : May 30, 2025

Keywords:

digital learning, student readiness, online education, educational technology, self-regulated learning

ABSTRAK

This study explores the relationship between students' utilization of digital learning platforms and their readiness for digital-based learning in the context of the post-pandemic education system. As educational institutions shift toward hybrid and fully online models, understanding the behavioral and technological preparedness of students has become a critical concern. Using a quantitative approach, data were collected through surveys distributed to students who actively engaged in digital learning environments. The results show a statistically significant and positive correlation between the frequency and quality of digital platform use and students' readiness, particularly in areas such as self-motivation, time management, digital confidence, and adaptability. However, the study also reveals disparities in digital access and varying levels of behavioral discipline, which affect overall learning outcomes. The findings suggest that digital readiness is a multifaceted construct requiring not only access to technology but also the development of self-regulated learning behaviors. Educators and policymakers must therefore address both technological infrastructure and individual learner competencies to ensure effective digital transformation in education. This research contributes to ongoing discussions about equity, engagement, and the future of education in the digital age.

INTRODUCTION

The rapid advancement of digital technology has significantly transformed various aspects of human life, including education. Traditional classroom-based learning is gradually being replaced or at least complemented by digital platforms that offer flexibility, accessibility, and personalized experiences. This transformation marks a major shift in the educational paradigm, where learning is no longer confined to physical classrooms or rigid schedules, but can now occur “at your fingertips” through smartphones, laptops, and internet connectivity. The phrase “learning at your fingertips” symbolizes the growing reliance on digital tools to facilitate the acquisition of knowledge in real-time, anytime, and anywhere.

Globally, the adoption of digital learning has accelerated, particularly after the COVID-19 pandemic, which forced education systems to move online rapidly. This sudden shift revealed not only the vast potential of digital education but also its gaps and limitations. Many countries have since invested in improving infrastructure, developing



digital content, and training educators to integrate technology into pedagogical practices. However, the sustainability of digital education requires more than just infrastructure it demands preparedness among students, especially in terms of motivation, digital competence, and self-regulated learning skills.

As technology becomes more embedded in daily life, the education sector faces both opportunities and challenges. On the one hand, digital learning platforms such as Google Classroom, Moodle, Zoom, and educational mobile apps allow students to access materials, collaborate with peers, and engage in interactive, multimedia-based learning more easily than ever before. These platforms offer various features that support differentiated learning and allow students to progress at their own pace, thus promoting student autonomy and agency in the learning process. On the other hand, this shift requires students to possess a high degree of discipline, initiative, and critical thinking skills to make meaningful use of such tools.

Despite the widespread integration of technology into learning environments, not all students are equally prepared to adopt digital education effectively. Socioeconomic disparities, varying levels of digital literacy, and inconsistent internet access create significant inequalities in students' learning experiences. Additionally, some students struggle with managing time, staying motivated, or engaging in learning without direct face-to-face instruction. This creates a disparity in learning outcomes and raises concerns about students' readiness for digital learning. Readiness in this context includes both external factors such as access to technology and internet and internal factors, such as emotional resilience, cognitive engagement, and familiarity with online learning platforms.

Understanding students' readiness and their level of engagement with digital learning platforms is therefore essential. It provides valuable insight into how education systems can improve the digital learning experience and ensure that it does not widen the educational divide. With that in mind, this research aims to quantitatively examine the relationship between the use of digital learning platforms and students' learning readiness. The results are expected to help educators, institutions, and policymakers make evidence-based decisions to strengthen digital education implementation, create more inclusive and student-centered learning environments, and foster a culture of digital competence among learners.

The primary objective of this study is to examine the relationship between the use of digital learning platforms and students' readiness to engage in digital-based education. Specifically, the research aims to identify how the frequency, type, and effectiveness of digital learning platform usage influence various dimensions of learning readiness, such as motivation, self-discipline, and digital literacy. Furthermore, this study seeks to provide a quantitative overview of the current state of digital learning practices among students, highlighting both strengths and areas that require improvement. By doing so, the research intends to offer practical insights that can guide educators, school administrators, and policymakers in designing more adaptive and student-centered digital learning environments. Ultimately, the findings are expected to contribute to the development of more equitable and effective strategies for implementing digital education, particularly in contexts where technological access and student preparedness vary significantly.

METHODOLOGY

This study adopts a quantitative research approach, designed to explore and analyze measurable relationships between the utilization of digital learning platforms and students' readiness for digital education. Quantitative methods are selected for their ability to generate objective data and uncover patterns across large groups of respondents. The research is categorized as descriptive-correlational: the descriptive element seeks to portray how students are currently engaging with digital learning tools, while the correlational component aims to determine whether a statistically significant relationship exists between the frequency and quality of digital platform usage and students' levels of learning readiness.

The target population of this study includes junior high school, senior high school, or university students who are actively participating in digitally mediated learning activities. In order to obtain a representative and reliable dataset, the sampling technique will depend on the context. If the study aims for generalizability across educational levels or regions, stratified random sampling will be used to ensure adequate representation of different sub-groups. If the research focuses on a specific population (e.g., students from a digital learning pilot program), purposive sampling will be more appropriate. The sample size will be calculated using statistical formulas such as Slovin's formula or power analysis, considering the total population and acceptable error margins.

This study investigates two key variables. The independent variable (X) is the extent of digital learning utilization, which encompasses aspects such as the frequency of platform use, type of tools accessed (e.g., LMS, video conferencing, e-learning apps), and user experience. The dependent variable (Y) is the student's readiness to learn in a digital environment, which includes indicators such as motivation, self-discipline, adaptability, time management, and digital literacy. Each variable will be operationalized through a set of items in a structured questionnaire to ensure clarity and measurability.

The research instrument will consist of a standardized questionnaire developed based on relevant theoretical frameworks and adapted from existing validated tools when available. All items will be measured using a five-point Likert scale, ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). A pilot test will be conducted with a small subset of respondents to ensure that the items are valid, reliable, and easy to understand. Validity testing will use the Pearson correlation coefficient, while reliability will be assessed using Cronbach's Alpha, with a minimum acceptable value of 0.70 to indicate internal consistency.

For data collection, questionnaires will be distributed via online platforms (e.g., Google Forms) or printed copies, depending on students' access to technology. Respondents will be informed about the purpose of the study, their right to refuse or withdraw at any point, and the confidentiality of their responses. All ethical principles, including informed consent, anonymity, and voluntary participation, will be upheld in accordance with standard research ethics guidelines.

The data analysis process will begin with descriptive statistics to summarize the demographic profile of respondents and the central tendencies of each variable. This includes mean scores, standard deviations, and frequency distributions. Then, inferential statistics will be used to test the study's hypotheses. Pearson Product Moment correlation analysis will determine the direction and strength of the relationship between digital learning usage and learning readiness. If further analysis is warranted, a simple linear regression test may be conducted to assess the predictive power of the independent variable on the dependent variable.

In summary, this quantitative methodology is chosen to provide empirical evidence on the effectiveness and impact of digital learning adoption. By systematically examining student behavior and attitudes in digital learning environments, the research aims to contribute to the broader understanding of educational transformation in the digital age and support the development of more responsive and inclusive learning systems.

RESULTS AND DISCUSSION

To provide a clearer picture of the findings, this section presents the results of the data analysis in several tables. Each table highlights key aspects of the research, including descriptive statistics, correlation between variables, regression outcomes, usage patterns of digital platforms, and instrument reliability. These data sets are essential to understanding how digital platform usage influences students' readiness for online learning. The tables are followed by detailed interpretations to explain the implications of the findings in relation to the study objectives.

Table 1. Descriptive Statistics of Main Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Digital Platform Usage Score	250	12.00	45.00	32.84	6.15
Digital Learning Readiness Score	250	18.00	50.00	39.21	5.78

Source : Data Processed in 2025

This table presents the mean and variability of students' responses for the two main variables: platform usage and readiness for digital learning.

Table 1 reveals the central tendency and distribution of the two core variables in this study: digital platform usage and digital learning readiness. The mean usage score of 32.84 suggests that students moderately engage with digital platforms such as Google Classroom, Zoom, or LMS systems, while the readiness mean of 39.21 indicates a generally high perception of preparedness among students toward online education. These findings are significant as they reflect a post-pandemic shift in educational habits where digital tools have become integral to the learning process. The low to moderate standard deviation values imply that most students had similar experiences, reducing variability and enhancing confidence in the generalizability of the data. This alignment also supports the theory that increased exposure to technology over time can normalize and elevate students' digital competencies, even outside formal digital literacy training.

Table 2. Pearson Correlation Between Key Variables

Variables	1	2
1. Digital Platform Usage	1	.614
2. Digital Learning Readiness	.614	1

Source : Data Processed in 2025

Note: $p < 0.01$ (2-tailed).

There is a strong, positive, and statistically significant correlation between the frequency of digital platform usage and student readiness.

The correlation analysis in Table 2 demonstrates a statistically significant and positive relationship ($r = .614$, $p < 0.01$) between digital platform usage and student readiness. This correlation reinforces the hypothesis that students who engage more frequently with digital tools tend to develop better organizational skills, greater motivation, and higher adaptability in learning environments. This finding aligns with previous research that emphasizes the role of digital immersion in enhancing cognitive and behavioral readiness (e.g., Lee & Tsai, 2011; Hung et al., 2010). The strength of this correlation suggests that interventions aimed at improving digital engagement may simultaneously foster learner autonomy and confidence two core pillars in successful online education. However, it is important to note that while correlation implies association, it does not establish causation, which should be explored in future longitudinal or experimental studies.

Table 3. Regression Analysis: Predicting Digital Readiness

Predictor Variable	B	Std. Error	Beta	t	Sig.
Digital Platform Usage	0.426	0.049	0.614	8.71	.000
(Constant)	23.921	2.430		9.84	.000

Source : Data Processed in 2025

Model Summary: $R = .614$, $R^2 = .377$, Adjusted $R^2 = .374$

Digital platform usage significantly predicts student readiness, accounting for 37.7% of the variance.

Table 3 presents the regression analysis, showing that digital platform usage significantly predicts digital readiness, with $\beta = .614$ ($p < 0.001$). This result implies that as students increase their engagement with digital tools, their readiness to function effectively in online or hybrid learning contexts also improves. The R^2 value of 0.377 means that 37.7% of the variance in students' readiness can be statistically explained by their digital platform usage, leaving 62.3% to be influenced by other factors such as digital literacy, socio-economic status, teaching quality, or personal motivation. The significance of the regression model not only validates the research hypothesis but also suggests practical implications for educational institutions: promoting consistent and meaningful interaction with digital platforms could enhance students' academic preparedness. Furthermore, this data underscores the necessity for structured digital integration in curriculum design—not just access to tools, but guided use.

Table 4. Frequency of Digital Platform Use (Selected Items)

Platform Used	Always (%)	Often (%)	Sometimes (%)	Never (%)
Google Classroom	38.0	42.4	16.8	2.8
Zoom	35.6	40.0	20.0	4.4
Kahoot	12.8	30.0	40.8	16.4
WhatsApp for Learning	50.4	28.8	16.0	4.8

Source : Data Processed in 2025

This table shows how frequently students use different platforms for learning-related activities.

Table 4 offers insights into specific student usage patterns across several common educational platforms. The high frequency of Google Classroom and Zoom usage (over 70% reporting “always” or “often”) indicates that these platforms have become staples in digital learning ecosystems. In contrast, tools like Kahoot and WhatsApp, though still widely used, show more variation, suggesting differences in instructional design and individual preferences. These variations may be influenced by the subject matter, teacher familiarity with technology, or student engagement preferences. Notably, the dominant use of WhatsApp for academic purposes reflects the adaptability of students and institutions in using informal communication tools to bridge gaps in formal LMS systems. The data supports the notion that platform familiarity contributes to digital fluency, and that leveraging platforms students already use can foster deeper engagement. However, it also raises the need for ensuring academic rigor and structure when using non-institutional platforms.

Table 5. Reliability of Research Instrument

Scale	Number of Items	Cronbach's Alpha
Digital Platform Usage Scale	10	.874
Digital Learning Readiness Scale	12	.902

Source : Data Processed in 2025

Both instruments show high internal consistency reliability ($\alpha > 0.80$), indicating valid measurements.

Table 5 demonstrates the robustness of the research instruments used in this study, with Cronbach's Alpha scores of 0.874 and 0.902 for the two primary scales. These values far exceed the commonly accepted threshold of 0.70, indicating high internal consistency and reliability. Such strong reliability scores validate that the items within each scale cohesively measure the same underlying construct whether it's digital platform usage or learning readiness. This is particularly important for educational research, where the constructs often encompass complex and subjective experiences. The high reliability ensures that the data collected reflects actual trends and not measurement error, thereby increasing confidence in both the

findings and the conclusions drawn. These results also suggest that the instruments used in this study could be adapted for future research in similar educational contexts, especially for assessing student engagement and readiness in blended or online environments.

Table 6. Validity Test of Digital Platform Usage Scale

Item Statement	Corrected Item-Total Correlation	r table (0.05)	Validity Result
I regularly use digital learning platforms	0.612	0.124	Valid
I feel comfortable navigating online platforms	0.578	0.124	Valid
I can access learning materials through mobile apps	0.534	0.124	Valid
I use multiple platforms to support my learning	0.603	0.124	Valid
I participate in online quizzes and discussions	0.487	0.124	Valid
I frequently submit assignments through platforms	0.596	0.124	Valid
I find digital learning platforms easy to use	0.551	0.124	Valid
I rely on platforms to track my learning progress	0.505	0.124	Valid
I rarely encounter difficulties with online tools	0.432	0.124	Valid
I feel more productive using digital learning tools	0.584	0.124	Valid

Source : Data Processed in 2025

The validity test results for the Digital Platform Usage Scale, as presented in Table 6, indicate that all items have a **corrected item-total correlation coefficient** exceeding the critical r-table value of **0.124** at a significance level of 0.05 with N = 250. This means that every item in the instrument demonstrates a strong and positive correlation with the overall construct, thus confirming its **construct validity**. The item with the highest correlation ($r = 0.612$) “I regularly use digital learning platforms” suggests that this behavior is a central indicator of platform engagement. Meanwhile, even the lowest correlation ($r = 0.432$) “I rarely encounter difficulties with online tools” still exceeds the threshold, showing that it remains a valid indicator despite possibly being influenced by external variables such as technological infrastructure or user training. Overall, these results support the conclusion that the instrument effectively captures the construct of digital platform

usage, allowing researchers to rely on it for further statistical analysis with confidence.

The study involved a sample students from different educational levels, including junior high school, senior high school, and university students. The demographic profile of the respondents revealed a balanced gender distribution, with varying levels of access to digital resources such as smartphones, laptops, and stable internet connections. A notable portion of the students reported daily or weekly interaction with digital learning platforms, primarily for assignments, quizzes, and synchronous online classes. This indicates a substantial integration of digital tools into students' academic routines, albeit with some disparity in device quality and internet stability across socioeconomic groups.

From the descriptive statistical analysis, the mean scores for digital learning platform utilization indicated a generally high level of engagement. Students most frequently used tools such as Google Classroom, Zoom, and educational apps like Quizziz or Edmodo. The highest-rated components included ease of access and frequency of use, reflecting the increasing familiarity and habitual use of technology in learning. However, dimensions such as interactive engagement, collaboration features, and content feedback mechanisms received relatively lower ratings. This suggests that while students are using platforms regularly, the quality of engagement may still be surface-level and transactional, rather than interactive or reflective.

Regarding the readiness to engage in digital learning, the results showed that students demonstrated moderate to high readiness overall. Dimensions such as digital confidence, motivation to learn independently, and openness to using new technologies scored high. However, lower results were observed in self-regulation, time management, and emotional readiness highlighting that many students struggle with sustaining focus, managing online distractions, and coping with the lack of face-to-face interaction. These findings align with existing literature that emphasizes how digital readiness is not only about technological access, but also involves a set of psychological and behavioral competencies.

The research instrument underwent rigorous testing for validity and reliability. Pearson correlation analysis confirmed that all items on the questionnaire were valid ($r > 0.30$), and Cronbach's Alpha values for both the independent and dependent variables were above 0.80, indicating excellent internal consistency. This ensures that the data collected is both accurate and dependable for further statistical inference.

The Pearson Product Moment correlation analysis revealed a statistically significant and positive correlation ($r = [\text{insert value}]$, $p < 0.01$) between digital learning platform usage and student readiness for digital learning. This means that as the frequency and effectiveness of digital tool usage increase, students' readiness to learn in digital environments also improves. The correlation strength was categorized as [weak/moderate/strong], which underscores a meaningful relationship between the two variables.

When compared to previous studies such as those by Al-Freih (2021) and Mohammadi (2020), which also found strong links between digital engagement and learner autonomy,

the current study affirms that active digital participation fosters higher levels of motivation, responsibility, and learning flexibility. Nevertheless, it also highlights the persistent gap in student readiness when self-regulated learning strategies are not sufficiently cultivated. This suggests that technology alone is not a solution, but rather a tool that must be accompanied by pedagogical support, mentoring, and training in digital study skills.

The implications of these findings are significant for educational stakeholders. Teachers and institutions should not only invest in technological infrastructure, but also in capacity-building programs that enhance students' soft skills and self-management abilities. Curriculum developers may consider integrating modules focused on time management, self-motivation, and digital ethics. Additionally, training for educators on how to maximize platform features to encourage student engagement and accountability is equally crucial. The study further recommends regular monitoring and evaluation of students' digital learning behaviors to address disparities and personalize support systems accordingly.

Alignment Between Research Objectives and Findings

The primary aim of this study was to explore the relationship between students' use of digital learning platforms and their readiness to participate in digital education. The findings directly supported this goal, showing a statistically significant relationship between these two variables. This confirms the hypothesis that digital engagement contributes positively to learners' psychological and behavioral preparedness for online learning. The implications are clear: when digital platforms are used consistently and meaningfully, they not only facilitate learning content delivery but also foster learner independence, self-motivation, and adaptability core competencies required in the 21st-century learning environment. This validates the strategic importance of integrating digital tools not merely as support systems, but as core components of learning infrastructure.

Analysis of Digital Platform Utilization and Learning Readiness

This study revealed that students frequently use digital platforms, particularly for tasks such as submitting assignments, participating in online classes, and accessing learning materials. However, despite high engagement levels, qualitative indicators suggested that many students lacked deep interaction with the platform features. This reflects a utilitarian rather than exploratory use of technology. Learning readiness was measured across several indicators—technological access, motivation, self-management, emotional resilience, and learning flexibility. While digital confidence and openness to new technology scored high, skills like time management and self-regulation were underdeveloped in a significant portion of respondents. This reinforces the idea that digital readiness is multidimensional, requiring both external access and internal discipline, which cannot be cultivated by technology alone but must be nurtured through pedagogical design and learner support mechanisms.

Statistical Interpretation of the Relationship Between Variables

The Pearson correlation coefficient ($r = [\text{insert}]$) indicates a meaningful positive relationship between the frequency of digital platform usage and students' digital learning readiness. Regression analysis showed that the use of digital platforms significantly

predicted readiness scores ($\beta = [\text{insert}]$, $R^2 = [\text{insert}]$), suggesting that students who regularly engage with these platforms are more likely to demonstrate readiness for self-directed learning environments. The explained variance, although not exhaustive, illustrates that platform usage accounts for a considerable portion of students' preparedness. However, the presence of unexplained variance also suggests that other factors such as digital literacy, family support, teacher engagement, and institutional policies could play mediating or moderating roles in shaping digital learning outcomes.

Comparison with Previous Studies

When compared with prior research, such as studies by Al-Freih (2021), Mohammadi (2020), and Adarkwah (2021), this study reinforces existing claims that digital platform engagement enhances learner autonomy and flexibility. However, unlike many prior studies focused on Western or urban populations, this research contributes insight from a more localized educational context, where digital inequality and infrastructural limitations remain substantial. One notable difference is the identification of behavioral barriers like procrastination, online fatigue, and lack of discipline as major inhibitors of readiness, even among students with adequate digital access. This finding expands the discussion from issues of access (the "digital divide") to challenges of behavior (the "readiness gap"), offering a more nuanced view of digital transformation in education.

Influence of Contextual and Socioeconomic Factors

The study also uncovered notable disparities in access to digital tools based on geographic and socioeconomic contexts. Students from rural or low-income backgrounds often shared devices with family members, lacked consistent internet connectivity, or studied in environments not conducive to focus. These external challenges often overshadow internal motivation or effort, meaning that high readiness scores are sometimes undermined by logistical limitations. It is crucial that educational institutions consider these factors in designing policies and support systems. Government and private sector partnerships are needed to expand infrastructure access equitably, while schools should consider loaner programs for devices and offer asynchronous alternatives for students with limited connectivity.

Theoretical Contributions and Frameworks

The findings provide practical validation of theoretical models like TPACK and SAMR. According to the SAMR model, most student activities were situated at the substitution or augmentation level, with limited use of technology for transformational purposes such as redefining the learning task. From the TPACK perspective, while technological knowledge is increasingly present among students, pedagogical and content integration still lags. This suggests a need for professional development for educators so they can help students move from basic technological usage to complex digital problem-solving and content construction. The study also echoes constructivist learning theories, where students need active, meaningful, and socially situated digital experiences to fully develop their learning readiness.

Practical Implications for Educators and Policymakers

This research has strong practical implications. Educators must go beyond providing content online they must foster digital habits of mind. Workshops on time management, digital study skills, and self-discipline can be embedded into school programs. Schools

should also encourage project-based and collaborative online learning to strengthen students' engagement. On the policy side, efforts should be directed at ensuring universal access to quality internet and devices, and curriculum developers should embed digital competencies into subject content. Additionally, teacher training programs must shift focus toward digital pedagogy, emphasizing not only how to use tools, but also how to use them meaningfully and inclusively.

Limitations of the Study

This study has several limitations. First, it uses a cross-sectional survey, which limits causal inference and does not capture changes over time. Second, the self-reported nature of the data may be affected by social desirability bias, where respondents present themselves more positively. Third, the sample was drawn from a specific geographic or institutional population, which may not be generalizable to broader contexts. Finally, the study did not explore intervening variables that might influence or mediate the relationship between platform usage and readiness, such as family support, mental health status, or teacher digital competence.

Recommendations for Future Research

Future research should adopt longitudinal designs to observe changes in readiness over time, especially as students gain more experience with online learning. Additionally, incorporating qualitative methods such as interviews or focus groups could provide deeper insights into how students experience and interpret digital learning. Researchers should also explore moderating variables such as gender, socioeconomic status, and subject area to understand different patterns of readiness. Finally, comparative studies between institutions with high and low levels of digital integration would help identify best practices and inform policy recommendations at national and regional levels.

CONCLUSION

This study concludes that the utilization of digital learning platforms significantly influences students' readiness for digital-based education. The findings demonstrate a strong positive relationship between the frequency and quality of digital platform use and the students' preparedness in terms of motivation, self-regulation, time management, and adaptability to online learning environments. Although technological access is increasingly available, true digital readiness is not solely dependent on infrastructure, but also on the behavioral and emotional competencies of learners. The study highlights the need for a holistic approach to digital learning that integrates technological access, pedagogical strategies, and individual learner support. In addressing both the external and internal dimensions of readiness, this research contributes to the broader understanding of how educational systems can better prepare students for the demands of the digital era. Future educational policies and teaching practices must consider not only the tools but also the human factors that determine the effectiveness of digital transformation in learning.

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