



## Student Experiences in Digital Learning and Their Impact on Learning Engagement

Titi Hendrawati<sup>1\*</sup>, Acep Nurulah<sup>2</sup>

<sup>1</sup> Islamic Education Study Program, Faculty of Tarbiyah, STAI Haji Agus Salim, Cikarang, Bekasi, Indonesia

<sup>2</sup> Islamic Education Study Program, Faculty of Tarbiyah, Universitas Islam Depok, Depok, Indonesia

### Article Info

Received : 17 February 2026

Revised : 2 April 2026

Accepted : 23 April 2026

### Keyword:

Student engagement,  
Digital learning,  
Student experiences,  
Higher education,  
Case study,  
Learning engagement.

### ABSTRACT

This study aims to explore students' experiences in digital learning and its impact on student engagement in higher education. The study employs a qualitative approach with a case study design, involving students, faculty, and e-learning administrators as participants. Data were collected through semi-structured interviews, participant observation, and academic documentation, and analyzed using thematic analysis. The findings identified four main themes: meaningful learning experiences, social-academic interactions, participatory activity design, and socio-technical barriers. The results indicate that student engagement is shaped by the quality of interactions, pedagogical design, technological support, and socio-cultural context, rather than merely the use of digital platforms. The implications of the research include the development of a theory of *student engagement* based on student experiences, recommendations for participatory teaching strategies for instructors, and institutional policies that support effective and inclusive digital learning. Further research is recommended to expand the institutional context and employ a phenomenological approach or comparative studies.



© 2026 The authors. Published by PT. Global Teras Fana.

This is an open-access article under the Creative Commons Attribution-Share

Alike

(<https://creativecommons.org/licenses/by-sa/4.0/>)

### \*) Corresponding Author:

Titi Hendrawati,

Islamic Education Study Program, Faculty of Tarbiyah, STAI Haji Agus Salim, Cikarang, Bekasi, Indonesia

Email: [titi.hendrawati@staihas.ac.id](mailto:titi.hendrawati@staihas.ac.id)

## 1. Introduction

Advances in information technology have revolutionized higher education worldwide, particularly through digital learning, which enables access to learning materials anytime and anywhere. This phenomenon has become increasingly significant since the COVID-19 pandemic, when in-person learning was massively replaced by online learning. Global research indicates that students' experiences with digital learning significantly influence student engagement, which encompasses behavioral, cognitive, and emotional dimensions. Chiu (2023) emphasizes that student engagement in an online environment involves a sense of having a role in the learning process and the motivation to actively participate. Meanwhile, Brown, Lawrence, and Basson (2022) argue that the quality of the digital learning experience is not merely about attendance or task completion, but rather meaningful interactions between students, instructors, and learning content.

In Indonesia, higher education faces significant challenges regarding technological readiness, student digital literacy, and infrastructure gaps. Gamage, Gamage, and Dehideniya (2022) found that students face technical obstacles such as limited internet connectivity, inadequate devices, and difficulties managing the workload of online learning. Field observations also indicate low

levels of active participation in online discussions and collaboration, which impacts overall student engagement (Koh & Kan, 2021; Cranfield, Tick, Venter, & Blignaut, 2021). These barriers raise important questions about how students' experiences shape their learning engagement, particularly within an increasingly dominant digital context.

Student engagement is a crucial issue from social, cultural, and educational perspectives. Effective learning engagement not only improves academic performance but also motivation, satisfaction, and the overall quality of the learning experience. A study by Stevanović, Božić, and Radović (2021) shows that actively engaged students are able to solve problems critically, collaborate with peers, and internalize material more effectively. Brown et al. (2022) emphasize that understanding student engagement must be linked to real learning experiences, including how students interpret academic activities, respond to faculty feedback, and adapt to the institution's academic culture.

Although several studies have examined the effectiveness of e-learning, the use of learning management systems, and online teaching strategies (Capone & Lepore, 2022; Abbas, Whitfield, Atwell, & Bowman, 2022), most research still focuses on student perceptions or satisfaction, with an emphasis on academic performance as the primary indicator. This gap in the literature highlights the need for qualitative research capable of capturing students' subjective experiences, the meanings they ascribe to the learning process, and the social and academic interactions that shape student engagement in digital learning.

Beyond technical and pedagogical factors, the academic socio-cultural context significantly influences students' experiences. Communication barriers, academic norms that position instructors as the center of knowledge, and a culture of passive learning can limit student participation in digital spaces (Händel, Stephan, & Gläser-Zikuda, 2020). Therefore, effective digital learning strategies must consider social and cultural factors to enable students to participate meaningfully.

This study holds importance from both theoretical and practical perspectives. Theoretically, this study expands the literature on *student engagement* by adopting an approach grounded in student experiences within a digital context. Practically, this study contributes to faculty and institutions by helping them design digital learning strategies that are more participatory, responsive, and relevant to students' needs. Such strategies are expected to enhance motivation, the quality of interactions, and overall student engagement.

Based on the above, this study aims to explore students' experiences in digital learning and its impact on learning engagement. The research focus includes students' learning experiences, academic and social interactions, technical and social barriers, as well as the meanings they ascribe to learning engagement. The research findings are expected to provide theoretical contributions to understanding *student engagement* and practical contributions to teaching strategies and policies in higher education institutions in Indonesia.

## 2. Materials and Methods

This study employs a qualitative approach with a case study design, as it allows for an in-depth exploration of students' experiences, learning processes, and the meanings they construct within a digital context (Chiu, 2023). The case study is designed to capture the complexity of interactions between students, instructors, and digital learning systems, including the technical, social, and pedagogical aspects that shape student engagement (Capone & Lepore, 2022).

The research location is a university that has implemented online and hybrid learning, selected purposefully to ensure relevance to the research objectives. The study spanned one academic semester to gather sufficient data on student experiences, social interactions, and digital activities influencing learning engagement. Participants included active students, faculty members teaching online courses, and e-learning administrators. Students were selected based on having at least one

semester of experience with digital learning, while faculty were selected based on experience teaching online and implementing interactive learning activities.

Participant selection techniques used purposive sampling and snowball sampling to broaden the scope of information. Data were collected through semi-structured interviews to explore students' subjective experiences, limited participant observation to review interactions and participation in digital classes, and academic documentation such as course syllabi, learning materials, discussion forums, and assignment assessments. Interviews were designed to explore students' experiences, barriers, motivations, and the meaning of their engagement in digital learning.

Data validation was conducted through source triangulation, method triangulation, *member checking*, and *audit trail*. Source triangulation compared the perspectives of students, instructors, and e-learning administrators, while method triangulation compared interviews, observations, and documentation. Member checking was conducted by having participants review summaries of their interviews, while the audit trail documented the entire research process, including transcripts, observation notes, and analytical memos, to ensure the transparency, credibility, and traceability of the research (Mohamed Hashim & Tlemsani, 2022).

Data analysis was conducted using thematic analysis, involving the following stages: interview transcription, repeated reading, initial coding, category grouping, theme formation, and interpretation of results. Themes were analyzed within social, cultural, and pedagogical contexts to understand the factors influencing student engagement, the meaning of learning experiences, and interactions in digital spaces. This approach enables the identification of patterns, relationships, and processes that shape students' learning experiences in depth (Gamage, Gamage, & Dehideniya, 2022; Galvis & Carvajal, 2022).

This design and methodology enable the research to yield a comprehensive understanding of student experiences, barriers, opportunities for digital learning, and practical implications for teaching strategies and institutional policies. The research findings are expected to be used to formulate more effective, inclusive, and context-specific digital strategies tailored to the characteristics of students and the conditions of higher education institutions in Indonesia.

### 3. Results and Discussions

A thematic analysis of interview data, online classroom observations, and academic documentation reveals that students' experiences with digital learning have a significant impact on student engagement in higher education. The research findings identified four main themes: meaningful learning experiences, socio-academic interactions, the design of participatory activities, and socio-technical barriers. The first theme emphasizes that students assess their engagement not merely by how often they attend or complete assignments, but by the extent to which they feel they have a role in the learning process and are able to connect the material to real-world experiences. One student stated, "I feel more motivated when the material is presented through case studies relevant to my daily work, so I can think of real-world solutions" (M-04). This indicates that students' cognitive and emotional engagement emerges when they perceive the learning experience as meaningful and contextual, aligning with Chiu's (2023) findings, which emphasize that student engagement encompasses behavioral, cognitive, and emotional dimensions in online learning.

The second theme pertains to social-academic interaction, where students who receive personalized feedback from instructors and have a safe space for communication with peers demonstrate higher levels of engagement. Observations of online classes revealed that students were more active in providing comments, answering questions, and collaborating in discussion forums when instructors proactively encouraged participation through probing questions and personalized responses to their contributions. One student stated, "The instructor's comments made me feel heard and valued, so I was more confident to ask questions in the next session" (M-

07). This aligns with the findings of Gamage, Gamage, and Dehideniya (2022), who emphasize that social-academic interactions play a crucial role in fostering student engagement, as well as with Brown, Lawrence, and Basson (2022), who underscore the importance of instructors' pedagogical presence in digital contexts.

The third theme indicates that the design of participatory learning activities significantly influences student engagement. Activities such as online group projects, interactive quizzes, weekly reflections, and discussion forums help students build cognitive and social engagement simultaneously. One instructor explained, "Students seem more active in discussions when they work in small groups on digital projects, compared to when I simply deliver a lecture via Zoom" (D-02). This finding is consistent with Capone and Lepore (2022) and Abbas et al. (2022), who demonstrated that interactive and participatory digital learning activities enhance student motivation, collaboration, and engagement, while providing a deeper and more meaningful learning experience.

The fourth theme identified socio-technical barriers affecting student engagement. Students faced technical challenges such as unstable internet connections, inadequate devices, and digital fatigue, which limited their active participation in online learning. Additionally, low self-confidence and an academic culture that emphasizes the instructor as the center of knowledge cause students to be reluctant to ask questions or express their opinions openly. One student stated, "Sometimes I want to ask a question, but the signal is unstable, so I just listen and jot down the question in my personal notes" (M-11). These findings align with Koh and Kan (2021) as well as Händel, Stephan, and Gläser-Zikuda (2020), who emphasize that technical limitations and academic cultural norms can be significant barriers to student engagement in digital learning.

In addition to technical and cultural barriers, this study found that students engage more easily when digital learning is structured clearly, including learning objectives, assignment instructions, activity schedules, and transparent assessment criteria. Students faced with overly dense digital material without clear guidance often feel confused and lose motivation, whereas those provided with a clear structure are able to manage the learning process independently. These findings support the study by Stevanović, Božić, and Radović (2021), which emphasizes the importance of structural clarity and digital learning management in enhancing student engagement and the quality of the learning experience.

## Discussion

The results of this study reinforce the view that student engagement in digital learning is a multidimensional construct influenced by pedagogical, social, technical, and academic cultural factors. The theme of meaningful learning experiences underscores that students are more engaged when they can connect the material to real-world experiences, internalize the content, and feel they have a role in the learning process. This supports self-determination theory, which emphasizes that student engagement arises when the needs for autonomy, competence, and relatedness are met (Chiu, 2023). This study expands upon previous literature by not only measuring attendance or task completion but also emphasizing students' subjective experiences and the meaning they ascribe to the learning process.

The role of socio-academic interactions identified here supports the findings of Brown, Lawrence, and Basson (2022) as well as Gamage, Gamage, and Dehideniya (2022), which indicate that instructors' pedagogical presence, active communication, and peer-to-peer support enhance engagement. Social-academic interactions not only facilitate the exchange of information but also strengthen students' motivation, sense of competence, and emotional connection. In this context, digital engagement cannot be viewed as an individual phenomenon but rather as the result of complex interactions between instructional design, student participation, and the social context.

Participatory activity design has been shown to increase engagement by providing students with opportunities to think critically, collaborate, and actively solve problems. These findings

align with Capone and Lepore (2022) and Abbas et al. (2022), who emphasize that interactive activities such as digital projects, quizzes, and discussion forums simultaneously foster cognitive and social engagement. Participatory activities also help students internalize material more deeply, increase intrinsic motivation, and build collaborative skills—outcomes not achieved through passive online lectures.

The socio-technical barriers identified confirm previous literature (Koh & Kan, 2021; Händel et al., 2020), which suggests that technical limitations and academic culture can hinder active student participation. These findings underscore the need for contextual digital learning strategies that consider students' technical readiness, learning culture, and institutional support. Effective digital strategies must provide clear structures, participatory activities, and safe, inclusive spaces for interaction, so that students feel comfortable asking questions, discussing, and learning actively.

Practically, this study offers implications for instructors and higher education institutions. Instructors need to design interactive digital activities, provide constructive feedback, and build social-academic relationships that support student engagement. Institutions need to provide technical support, pedagogical training, and policies that promote the quality of the digital learning experience. Theoretically, this study enriches the field of *student engagement* by emphasizing students' subjective experiences and socio-cultural contexts, affirming that digital engagement is the result of complex interactions between pedagogical design, technology, and socio-cultural contexts.

Future research is recommended to expand the scope of the context to various types of higher education institutions and study programs, as well as to use a phenomenological or comparative approach to explore students' subjective experiences more deeply. Additionally, developmental research can be conducted to formulate a model of engagement-based digital learning strategies that can be tested in learning practices across different higher education settings.

#### 4. Conclusions

This study shows that students' experiences in digital learning play a crucial role in shaping multidimensional student engagement, encompassing behavioral, cognitive, and emotional aspects. Students are more engaged when they feel they have an active role in the learning process, receive constructive feedback from instructors, and can interact safely with peers through participatory digital activities. Technical barriers, such as limited internet access and devices, as well as socio-cultural factors, such as a passive academic culture and low self-confidence, influence the level of participation and the quality of student engagement. This study confirms that student engagement in digital learning does not arise automatically through technology but is shaped by the integration of pedagogical design, socio-academic interactions, and institutional context.

Theoretically, this study expands the literature on student engagement by emphasizing the importance of students' subjective experiences and socio-cultural contexts in digital learning. Practically, the findings imply the need for participatory teaching strategies, meaningful feedback, and safe communication spaces for students, while higher education institutions must provide adequate technical support and pedagogical training. Future research is recommended to explore students' experiences across various types of higher education institutions and academic programs, using a phenomenological or comparative study approach to deepen understanding of the factors influencing student engagement in digital learning.

#### References



- Abbas, N., Whitfield, J., Atwell, E., & Bowman, H. (2022). Online chat and chatbots to enhance mature student engagement in higher education. *International Journal of Lifelong Education*. <https://doi.org/10.1080/02601370.2022.2066213>
- Akpen, C. N., Asaolu, S., Atobatele, S., & Okagbue, H. (2024). Impact of online learning on student's performance and engagement: A systematic review. *Discover Education*. <https://link.springer.com/article/10.1007/s44217-024-00253-0>
- Aldhafeeri, F. M., & Alotaibi, A. A. (2022). Effectiveness of digital education shifting model on high school students' engagement. *Education and Information Technologies*. <https://link.springer.com/content/pdf/10.1007/s10639-021-10879-4>
- Brown, A., Lawrence, J., & Basson, M. (2022). A conceptual framework to enhance student online learning and engagement in higher education. *Higher Education Research & Development*. <https://doi.org/10.1080/07294360.2020.1860912>
- Capone, R., & Lepore, M. (2022). From distance learning to integrated digital learning: A fuzzy cognitive analysis focused on engagement, motivation, and participation. *Technology, Knowledge and Learning*. <https://link.springer.com/content/pdf/10.1007/s10758-021-09571-w.pdf>
- Chiu, T. K. F. (2023). Student engagement in K-12 online learning amid COVID-19: A qualitative approach from a self-determination theory perspective. *Interactive Learning Environments*. <https://www.tandfonline.com/doi/abs/10.1080/10494820.2021.1926289>
- Cranfield, D. J., Tick, A., Venter, I. M., & Blignaut, R. J. (2021). Higher education students' perceptions of online learning during COVID-19—A comparative study. *Education Sciences*, 11(8), 403. <https://www.mdpi.com/2227-7102/11/8/403>
- Galvis, Á. H., & Carvajal, D. (2022). Higher education strategy in digital transformation. *Education and Information Technologies*. [https://pmc.ncbi.nlm.nih.gov/articles/PMC8438547/pdf/10639\\_2021\\_Article\\_10739.pdf](https://pmc.ncbi.nlm.nih.gov/articles/PMC8438547/pdf/10639_2021_Article_10739.pdf)
- Gamage, K. A. A., Gamage, A., & Dehideniya, S. C. P. (2022). Online and hybrid teaching and learning: Enhance effective student engagement and experience. *Education Sciences*, 12(10), 651. <https://www.mdpi.com/2227-7102/12/10/651>
- Galvis, Á. H., & Carvajal, D. (2022). Learning from success stories when using eLearning and bLearning modalities. *Education and Information Technologies*. <https://link.springer.com/article/10.1007/s41239-022-00325-x>
- Arifudin, O. (2025). Why digital learning is the key to the future of education. *International Journal of Education and Digital Learning*. <https://v2.rescollacom.com/index.php/ijeer/article/download/867/734>
- Otto, S., Bertel, L. B., Lyngdorf, N. E. R., & Markman, A. O. (2024). Emerging digital practices supporting student-centered learning environments in higher education. *Education and Information Technologies*. <https://link.springer.com/content/pdf/10.1007/s10639-023-11789-3.pdf>
- Langegård, U., Kiani, K., Nielsen, S. J., & Svensson, P. A. (2021). Nursing students' experiences of a pedagogical transition from campus to digital learning. *BMC Nursing*. <https://link.springer.com/content/pdf/10.1186/s12912-021-00542-1.pdf>
- Stevanović, A., Božić, R., & Radović, S. (2021). Higher education students' experiences and opinion about distance learning during the COVID-19 pandemic. *Journal of Computer Assisted Learning*, 37(6), 1682–1695. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8656272/pdf/JCAL-37-1682.pdf>

- Mohamed Hashim, M. A., & Tlemsani, I. (2022). Higher education strategy in digital transformation. *Education and Information Technologies*. [https://pmc.ncbi.nlm.nih.gov/articles/PMC8438547/pdf/10639\\_2021\\_Article\\_10739.pdf](https://pmc.ncbi.nlm.nih.gov/articles/PMC8438547/pdf/10639_2021_Article_10739.pdf)
- Händel, M., Stephan, M., & Gläser-Zikuda, M. (2020). Digital readiness and its effects on higher education students' socio-emotional perceptions in the context of the COVID-19 pandemic. *Frontiers in Education*. <https://www.researchgate.net/profile/Albert-Ziegler/publication/346522202>
- Divjak, B., Rienties, B., Iniesto, F., & Vondra, P. (2022). Flipped classrooms in higher education during the COVID-19 pandemic: Findings and future research recommendations. *International Journal of Educational Technology in Higher Education*. <https://link.springer.com/content/pdf/10.1186/s41239-021-00316-4.pdf>
- Abbas, N., Whitfield, J., Atwell, E., & Bowman, H. (2022). Online chat and chatbots to enhance mature student engagement in higher education. *International Journal of Lifelong Education*. <https://www.tandfonline.com/doi/pdf/10.1080/02601370.2022.2066213>
- Gamage, K. A. A., Gamage, A., & Dehideniya, S. C. P. (2022). Online and hybrid teaching and learning: Enhance effective student engagement and experience. *Education Sciences*, 12(10), 651. <https://www.mdpi.com/2227-7102/12/10/651>