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The Role of E-Learning Platforms in Transforming Teaching and Learning Practices

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Abstract

This study explores the role of e-learning platforms in transforming teaching and learning practices in higher education. Using a qualitative case study approach, data were collected through in-depth interviews, classroom observations, and document analysis involving lecturers and students from three Indonesian universities. The findings reveal four major themes: transformation of lecturers' roles, enhancement of student autonomy, dynamics of digital interaction, and challenges of access and digital literacy. E-learning has shifted lecturers from knowledge transmitters to facilitators, encouraged students' self-directed learning, and created new spaces for synchronous and asynchronous interaction. However, the study also highlights persistent barriers, such as limited technological infrastructure, uneven digital literacy, and difficulties in maintaining learning motivation. These findings suggest that the transformative potential of e-learning is not merely technological but deeply pedagogical and contextual. Therefore, successful integration of e-learning requires institutional support, equitable digital access, and thoughtful instructional design to ensure meaningful engagement and sustainable learning outcomes. This research contributes to ongoing debates on digital pedagogy by showing that e-learning is both an opportunity for innovation and a challenge of digital equity in contemporary education.

INTRODUCTION

The integration of digital technology into education has become one of the most significant transformations of the twenty-first century. E-learning platforms, broadly defined as digital environments that facilitate instruction and interaction, have increasingly redefined how teaching and learning are organized. They encompass a wide range of tools, including learning management systems (LMS), video conferencing software, online discussion forums, and interactive multimedia resources. Unlike conventional classroom approaches that depend heavily on face-to-face interaction, e-learning platforms provide a more flexible and accessible mode of instruction. This shift is not merely technological, but pedagogical, as it alters how teachers deliver knowledge and how learners engage with content (Ally, 2009).

Globally, the growth of e-learning has been accelerated by multiple factors, most notably the COVID-19 pandemic, which forced educational institutions to adopt remote learning on an unprecedented scale (Ssemugenyi & Nuru Seje, 2021; Elumalai et al., 2021; Edem Adzovie et al., 2022). What was once considered an optional or supplementary mode of education suddenly became the primary means of knowledge delivery for millions of learners worldwide. This shift highlighted both the potential and the limitations of e-learning platforms. On one hand, they enabled continuity of education during a crisis, ensuring that learning could occur regardless of geographical location. On the other hand, the transition exposed challenges such as uneven access to technology, disparities in digital literacy, and difficulties in maintaining student engagement (Dhawan, 2020; Liu, 2021). The experience underscored the need for a deeper examination of how e-learning platforms transform not only the delivery of content but also the broader practices of teaching and learning.

The rise of e-learning also reflects broader socio-economic and cultural changes. The demands of the knowledge economy require individuals to engage in lifelong learning, where flexibility and adaptability are essential (Olushola et al., 2025). E-learning platforms respond to these needs by allowing learners to personalize their educational journeys, choosing the pace, timing, and sometimes even the content of their study. This personalization fosters autonomy, an essential skill in contemporary society, but also redefines the role of the teacher. Instead of acting as the sole authority of knowledge, teachers become facilitators, guides, and co-learners in the digital classroom. The shift from teacher-centered to learner-centered pedagogy represents one of the most profound changes in education today (Garrison & Vaughan, 2008; Allayarova, 2025).

From a pedagogical perspective, e-learning introduces opportunities for deeper engagement (Theelen & van Breukelen, 2022; Benabbes et al., 2023). Interactive multimedia, gamification, adaptive assessments, and collaborative online forums allow students to participate actively in constructing their own knowledge. Research suggests that students are more motivated when they engage with content through multiple modalities, such as video, discussion, and practice-based simulations (Means et al., 2014). Moreover, e-learning platforms create opportunities for peer-to-peer collaboration that transcend physical boundaries. Online forums, group projects, and social learning communities allow learners from diverse backgrounds to exchange perspectives, enriching the educational experience. In this way, e-learning platforms not only transmit information but also cultivate skills such as critical thinking, digital literacy, and intercultural communication (Marwa et al., 2025).

Nevertheless, the transformative potential of e-learning must be assessed critically. While these platforms can democratize education by reaching larger and more diverse audiences, they can also reproduce existing inequalities (D'Agustino, 2024; Prabhakar et al., 2025). The digital divide remains a pressing issue: students from low-income households or rural areas often lack reliable internet access or appropriate devices, limiting their ability to participate fully in online learning (Selwyn, 2016). Furthermore, even when access is available, disparities in digital literacy may create barriers to effective engagement. Teachers themselves may face challenges in adapting to new pedagogical demands, as many were trained in traditional methods and may lack the skills or confidence to fully leverage e-learning technologies. These challenges remind us that technology alone does not guarantee transformation; it must be accompanied by thoughtful pedagogical strategies and institutional support.

The question of effectiveness also looms large. Although numerous studies highlight the benefits of online and blended learning, such as increased flexibility and

comparable or even improved learning outcomes relative to traditional methods, effectiveness often depends on contextual factors. These include the quality of instructional design, the extent of learner support, and the ability of institutions to foster meaningful interaction (Means et al., 2014). Simply transferring traditional lectures to an online format without adaptation often leads to disengagement and poor outcomes. Thus, the transformation promised by e-learning is contingent on rethinking teaching practices rather than simply digitizing existing models.

In higher education, the role of e-learning platforms is particularly salient. Universities are increasingly adopting hybrid or blended models, combining online and face-to-face instruction to maximize flexibility and engagement. This model allows institutions to expand access to education, attract international students, and innovate in course delivery. Yet, it also challenges traditional notions of the university as a physical community (Salta et al., 2022; Chițiba, 2012). The classroom is no longer bound by walls but extends into virtual spaces, where identity, participation, and authority are negotiated differently. This has implications not only for pedagogy but also for institutional identity and academic culture (Garrison & Vaughan, 2008).

In the Indonesian context, the adoption of e-learning has mirrored global trends, but with unique challenges and opportunities. The government's commitment to digital education, reflected in policies promoting ICT integration in schools and universities, has accelerated the uptake of online platforms (Conrads et al., 2017). However, uneven infrastructure across regions, combined with socio-economic disparities, means that the benefits of e-learning are not distributed equally. Studies suggest that while urban schools and universities are able to integrate e-learning relatively effectively, rural areas often struggle with connectivity and resource limitations (Suhartono, 2021). This duality highlights the importance of considering local context in assessing the transformative role of e-learning.

Therefore, the significance of studying the role of e-learning platforms lies not only in documenting technological adoption but also in analyzing how such tools reshape the very practices of teaching and learning. E-learning challenges educators to rethink pedagogy, redefines the relationship between teachers and students, and raises new questions about equity, access, and educational outcomes. It represents both an opportunity and a challenge: an opportunity to expand access, personalize learning, and cultivate twenty-first-century skills, and a challenge in terms of ensuring inclusivity, maintaining engagement, and sustaining educational quality.

METHODS

This research adopted a qualitative approach with a case study design, which was considered the most suitable method for exploring the complex realities of e-learning implementation in higher education. A qualitative design allows the researcher to capture the richness of experiences, perceptions, and practices that cannot be adequately explained through numerical data alone. By focusing on a case study, the research is able to situate the inquiry within specific institutional and cultural contexts, thereby highlighting how the introduction of e-learning platforms influences teaching and learning practices in real-life settings. This approach also makes it possible to examine the ways in which institutional policies, technological infrastructures, and social interactions shape the adoption and use of digital learning tools, offering a more comprehensive understanding than broader quantitative surveys.

Furthermore, the case study design enables an in-depth exploration of how lecturers and students negotiate their roles and identities in the digital environment. For lecturers, the transition to e-learning requires adjustments in pedagogical strategies, assessment methods, and professional roles, while for students it necessitates new skills in self-regulation, digital literacy, and independent learning. These shifts are

not merely technical but also social and cultural, as participants reinterpret their responsibilities and expectations within an evolving educational landscape. Through detailed, context-sensitive narratives, this study provides insights into the challenges and opportunities of e-learning, contributing both to theoretical discussions on digital pedagogy and to practical recommendations for creating inclusive and responsive online education systems.

Research Location and Participants

The research was conducted at three universities in Indonesia that have formally integrated e-learning into their academic activities. The locations were selected considering the diversity of institutions, both public and private, as well as the variety of e-learning platforms used, such as Moodle, Google Classroom, Zoom, and Microsoft Teams. Participants consisted of lecturers and students who were active e-learning users. Participant selection was carried out using a purposive sampling technique, with the following criteria: (1) lecturers who had taught at least two semesters using e-learning, and (2) students who had taken at least three e-learning-based courses. The target number of participants was approximately 20 people, consisting of 10 lecturers and 10 students, to obtain rich and diverse data.

Data collection

Data were collected through three main techniques. First, in-depth semi-structured interviews, which allowed researchers to explore participants' experiences regarding how they use e-learning, the challenges they face, and their views on changing teaching and learning practices. Second, participant observation, which involved attending specific online classes to record lecturer-student interactions, platform usage patterns, and learning dynamics. Third, document analysis, including syllabi, digital learning materials, and activity logs in the LMS, was conducted to gain a more comprehensive picture of the integration of e-learning into academic activities.

Data Analysis

Data were analyzed using thematic analysis techniques (Braun & Clarke, 2006). The analysis process involved six stages: (1) familiarization with the data through repeated reading of interview transcripts and observation notes, (2) initial coding based on relevant topics, (3) identification of key themes such as the transformation of lecturer roles, student learning independence, and digital interactions, (4) reviewing themes to ensure consistency, (5) naming and defining themes, and (6) developing a research narrative. The analysis was conducted iteratively, with researchers continuously interpreting the data until a deep understanding of the phenomenon under study was achieved.

To ensure data validity, this study employed a triangulation strategy of sources and methods. Source triangulation was conducted by comparing the perspectives of lecturers and students, while method triangulation was conducted by combining interviews, observations, and document analysis. Furthermore, member checking was conducted by asking participants to review the interview summary to ensure the accuracy of the researcher's interpretation. An audit trail was also developed to maintain transparency in the research process, from data collection to analysis.

RESULTS AND DISCUSSION

Based on the analysis of interviews, classroom observations, and learning documents, this study identified four interrelated themes that illustrate how e-learning platforms are reshaping teaching and learning practices. The first theme concerns the transformation of the lecturer’s role, highlighting a gradual shift from knowledge transmitter to facilitator of learning. The second theme relates to student learning independence, which shows both the potential of e-learning to foster

autonomy and the challenges of maintaining self-regulation in flexible learning environments. The third theme emphasizes the dynamics of digital interactions, revealing how online platforms simultaneously expand opportunities for participation and create new forms of disengagement. Finally, the fourth theme addresses persistent challenges of digital access and literacy, showing how uneven infrastructure and varying levels of digital competence continue to shape the inclusivity of online education.

Together, these themes provide a nuanced picture of the ambivalent role of e-learning in higher education. On one hand, digital platforms open possibilities for innovation in pedagogy, more flexible learning trajectories, and wider participation. On the other hand, they expose systemic gaps, such as limited digital pedagogy training for lecturers, uneven self-regulation among students, and persistent inequalities in access and literacy. The findings suggest that e-learning cannot be understood merely as a technological adoption but must be seen as a social and pedagogical transformation, contingent on institutional support, instructional design, and broader issues of digital equity.

Transformation of the Role of Lecturers

Most lecturers stated that e-learning has transformed their role from being a lecturer to a learning facilitator. They no longer simply deliver one-way lectures but must design interactive activities such as discussion forums, online quizzes, and project-based assignments. Observations of online classes also show that lecturers are making greater use of features like breakout rooms and polls to encourage student participation.

> *"I used to give lectures more often, but now with e-learning, I have to create discussion forums. I feel more like a facilitator than an information provider."(Lecturer A)*
>
> *"The problem is, I'm not used to technology. So sometimes I just upload PPTs without much interaction. Honestly, I'm still adapting."(Lecturer B)*

These findings lend support to Garrison and Vaughan's (2008) framework, which emphasizes the shift from teacher-centered to learner-centered pedagogy in digitally mediated environments. The evidence that some lecturers are beginning to act more as facilitators illustrates this pedagogical transition. However, the persistence of traditional practices, such as merely uploading lecture slides without meaningful interaction, reveals that the shift is far from complete. This gap underscores the complexity of digital transformation, which requires not only new tools but also new mindsets and pedagogical competencies. Without adequate preparation, lecturers risk replicating traditional approaches in digital spaces, thereby limiting the potential of e-learning to foster active, collaborative learning.

The uneven adaptation among lecturers points to a deeper structural issue: the critical role of both individual readiness and institutional support in enabling genuine pedagogical change. Limited exposure to digital pedagogy training leaves some lecturers ill-equipped to design interactive online learning experiences, while insufficient institutional incentives or resources exacerbate the problem. Thus, the transformation of the lecturer's role cannot be assumed to occur automatically with the introduction of technology; it must be cultivated through targeted professional development, supportive policies, and a culture that values innovation in teaching. Without these enabling conditions, e-learning risks becoming a superficial extension of traditional teaching rather than a catalyst for pedagogical renewal.

Student Learning Independence

Students stated that e-learning gave them the freedom to manage their study time, access materials at any time, and review content as needed. Some even stated that this flexibility gave them greater responsibility for their own learning. However, others reported difficulty maintaining discipline and motivation due to the lack of direct supervision.

> *"I like e-learning because I can access the material anytime. If something isn't clear, I can just rewatch the video recording."(Student A)*
>
> *"The problem is, being too flexible often leads to procrastination. Without a strict deadline, my motivation quickly fades."(Student B)*

This phenomenon highlights the tension between the promise of self-directed learning, as outlined by Knowles (1975), and the practical challenges of student self-regulation in digital environments. On one hand, e-learning offers learners greater flexibility and autonomy, enabling them to revisit materials at their own pace and take ownership of their learning process. On the other hand, the absence of structured guidance often exposes students to procrastination, distraction, and declining motivation. This contradiction reveals that autonomy, while beneficial, is not inherently sufficient to ensure effective learning outcomes in virtual settings. Rather, it must be scaffolded through pedagogical strategies that balance freedom with accountability.

The findings therefore point to the critical importance of supportive mechanisms in sustaining student engagement. Regular feedback from instructors, digital monitoring tools, and peer interaction can provide the external structure needed to reinforce learners' intrinsic motivation. Without these strategies, e-learning risks widening disparities between highly self-regulated learners, who thrive in flexible environments, and those who struggle with time management or self-discipline. Thus, the success of e-learning in promoting self-directed learning is contingent not only on technological access but also on deliberate instructional design that integrates feedback loops and motivational supports.

Dynamics of Digital Interaction

Observations show that interactions between lecturers and students in online classes tend to be shorter than in face-to-face classes. Online discussions are often dominated by a few active students, while others remain passive, merely present nominally without making significant contributions. However, asynchronous discussion forums allow students who are typically quiet in traditional classes to express their opinions more boldly.

> *"In face-to-face classes, I rarely speak, but in online discussion forums, I'm more confident in writing my opinions." (Student C)*
>
> *"Interactions on Zoom are shorter, and many students remain silent. But in asynchronous forums, participation is actually much greater." (Lecturer C)*

The current results point to the ambivalent nature of e-learning: it expands participation possibilities and provides other sources of expression, but at the same time, it raises the threat of the creation of invisible learners who check out unobtrusively. Based on transactional-distance theory by Moore (2013), the effectiveness of online learning directly depends on the quality and the frequency of contact. In cases where synchronous communication is short or shallow, learners can step back to passive positions even in cases where they have a technological presence. On the other hand, richer interaction can be driven by asynchronous platforms, although this needs to be carefully designed with a conversation and cooperation in mind. This ambivalence shows that the digital platforms themselves

will not guarantee participation; the orchestration of the interaction by the pedagogue will determine whether learners will be engaged or sidelined.

As a result, the outcomes necessitate a conscious rethinking of the pedagogical approach in the online learning setting. The psychological and cognitive distance between learners and instructors can be alleviated using scaffolding practices, including: guiding questions, facilitated discussion prompts, and tiered tasks. Similarly, collaborative activities, such as group projects, peer-reviews, and co-constructed knowledge activities, can support accountability and inclusivity. Without such plans, e-based learning might continue to follow inequitable participation patterns, whereby more confident or digitally competent students might be favored at the expense of others. In line with this, fair participation in online learning requires more than just access to technology; careful design of instruction must be performed to positively impact transactional distance and ensure interaction.

Challenges of Digital Access and Literacy

Several participants, particularly students from areas with limited internet infrastructure, reported frequently experiencing difficulties attending online classes due to unstable connections. Furthermore, although most students were accustomed to using technology, some still experienced confusion when using certain features, such as uploading assignments to the LMS or using online collaboration tools.

> *"I often miss class because the internet at home is unstable. Sometimes I have to find Wi-Fi in cafes."(Student D)*

> "*I can use Zoom, but when I'm asked to upload assignments to an LMS, I sometimes get confused. I need more guidance."* (*Student E)*

This disparity in access highlights the persistence of the digital divide, which, as Selwyn (2016) argues, extends beyond the mere availability of devices and internet connections to encompass the skills and literacies required for effective use. While some students benefit from stable connectivity and strong digital competencies, others are disadvantaged by unreliable infrastructure and limited familiarity with digital platforms. This imbalance reveals that the transformation promised by e-learning is not universally accessible, and the rhetoric of democratized education through technology often masks uneven realities. Instead of functioning as a leveling force, e-learning can inadvertently reproduce or even exacerbate existing inequalities if these structural and skill-based gaps remain unaddressed.

These findings point to the urgent need for holistic strategies that combine infrastructure development with comprehensive digital literacy initiatives. Investment in affordable and reliable internet access must be accompanied by training programs that build user confidence and competence across diverse learner populations. Moreover, institutions should adopt inclusive design principles, ensuring that e-learning platforms are accessible to those with varying levels of technical proficiency. Without such interventions, the benefits of digital learning will continue to be concentrated among privileged groups, leaving vulnerable learners further behind. Ultimately, the successful implementation of e-learning requires not only technological advancement but also deliberate policies that prioritize equity and capacity-building at every level of the education system.

Table 1. Respondent Quotes and Interpretations on E-Learning

Theme	Respondent Quotes	Critical Interpretation
Transformation of the Role of Lecturers	Lecturer A: *"I used to lecture more often, but now with e-learning I have to create discussion forums. I feel more like a facilitator."* Lecturer B: *"Sometimes I just upload a PPT without any interaction because I'm not used to technology."*	The role of the lecturer is shifting to facilitator (Garrison & Vaughan, 2008), but there are still limitations to digital pedagogy.
Student Learning Independence	Student A: *"I like e-learning because I can access the material anytime and repeat the videos."* Student B: *"Because it is flexible, I often procrastinate and lose motivation quickly."*	E-learning encourages *self-directed learning* (Knowles, 1975), but also poses *self-regulation challenges* .
Dynamics of Digital Interaction	Student C: *"In online forums, I feel more confident in expressing my opinions."* Lecturer C: *"Interactions on Zoom are shorter, but asynchronous forums are actually more lively."*	*transactional distance* theory (Moore, 2013), synchronous interactions are shallow but asynchronous interactions increase participation.
Digital Access & Literacy Challenges	Student D: *"I often miss class because the internet is unstable."* Student E: *"I am still confused about uploading assignments to the LMS."*	There is still *a digital divide* (Selwyn, 2016), both in terms of infrastructure and user digital literacy.

Discussion

This study demonstrates that online learning tools are not just a technical media but also agents of pedagogical change. The reversal of the role of lecturers as providers of information to facilitators is consistent with the constructivist learning theory, where knowledge is built by interaction and active learning (Cooperstein & Kocevar-Weidinger, 2004; Niederriter et al., 2020; Kudryashova et al., 2015). The quotes of the instructors on their changing roles in facilitating discussion forums highlight that the success of e-learning depends on the skills of educators in developing activities that help students to be active. However, the opposition witnessed in some lecturers with lower levels of digital pedagogical skills depicts that change cannot be instigated by adoption of technology but by institutional support in the form of training and capacity-building programs.

To learners, e-learning increases the field of self-guided learning, which offers inclusive learning flexibility in access to instructional materials and the possibility to rewrite the materials as many times as they need to do. This is in line with the theory of andragogy proposed by Knowles (1975), that emphasizes on the importance of autonomy in adult learning. Nonetheless, the testimonies of students unable to maintain the motivation demonstrate the paradox of the freedom of choice with the danger of the failure of self-regulation. In turn, scaffolded pedagogical strategies, including regular feedback and deadlines, need to be empowered alongside e-learning in order to allow students maintain learning discipline in a very flexible setting.

Digital interactions show a two-fold pattern, with synchronous interactions being more superficial, and asynchronous interactions providing the possibility of wider

involvement, especially among the students who tend to remain passive in the face-to-face context. Such observation supports the theory of transactional distance provided by Moore (2013) according to which the effectiveness of online learning is strongly conditioned by the intensity of the strategically planned interaction. However, the aspect of the phenomenon of invisible learners emphasizes the fact that the virtual presence cannot be used to determine the participation but the quality of contributions to discussions. Based on this, teachers need to come up with more genuine participation evaluation methods that are not pegged solely on attendance.

Lastly, the internet access problems and the lack of digital literacy indicate that the digital divide is here to stay (Selwyn, 2016; Choi & DiNitto, 2013; Van Dijk, 2020). The disparities in infrastructure between regions and personal capabilities of using the features of LMS imply that the advantages of e-learning are unevenly spread. It means that the process of redefining learning with the help of technology cannot be isolated of the local socio-economic and cultural environment. That is, e-learning is not merely a pedagogic challenge, but also a challenge of social justice (digital equity). Thus, equitable access and enhancement of the digital skills should be taken seriously in the context of education policy because moving learning online should not expand the current disparities.

CONCLUSION

This research confirms that e-learning platforms play a significant role in transforming teaching and learning practices, particularly through shifting the role of lecturers to facilitators, increasing student learning autonomy, and creating new interactive spaces, both synchronous and asynchronous. However, this transformation is not yet fully equitable, hampered by limited infrastructure, low digital literacy, and the challenge of maintaining learning motivation. Therefore, e-learning must be viewed not merely as a technological innovation, but as a complex and contextual pedagogical process that demands institutional support, educational policies oriented toward digital equity, and learning designs that maintain engagement and quality interactions.

REFERENCES

Allayarova, S. U. (2025). Transformation In 21st Century Education: Digital Pedagogy And Learner-Centered Teaching Trends. *International Journal Of Social Science & Interdisciplinary Research ISSN: 2277-3630 Impact factor: 8.036*, *14*(06), 132-146.

Ally, M. (2009). *Mobile learning: Transforming the delivery of education and training*. Athabasca University Press.

Benabbes, K., Housni, K., Hmedna, B., Zellou, A., & El Mezouary, A. (2023). A new hybrid approach to detect and track learner's engagement in e-learning. *IEEE access*, *11*, 70912-70929. https://doi.org/10.1109/ACCESS.2023.3293827

Chițiba, C. A. (2012). Lifelong learning challenges and opportunities for traditional universities. *Procedia-social and behavioral sciences*, *46*, 1943-1947. https://doi.org/10.1016/j.sbspro.2012.05.408

Choi, N. G., & DiNitto, D. M. (2013). The digital divide among low-income homebound older adults: Internet use patterns, eHealth literacy, and attitudes toward computer/Internet use. *Journal of medical Internet research*, *15*(5), e93. https://doi.org/10.2196/jmir.2645

Conrads, J., Rasmussen, M., Winters, N., Geniets, A., & Langer, L. (2017). *Digital education policies in Europe and beyond: Key design principles for more effective policies*. Publications office of the European union.

Cooperstein, S. E., & Kocevar-Weidinger, E. (2004). Beyond active learning: A constructivist approach to learning. *Reference services review*, *32*(2), 141-148. https://doi.org/10.1108/00907320410537658?urlappend=%3Futm_source%3Dresearchgate

D'Agustino, S. (2024). Social Reproduction and Equity Challenges in Learning Management Systems (LMS) Within Online Education. In *Digital Literacy at the Intersection of Equity, Inclusion, and Technology* (pp. 20-48). IGI Global. https://doi.org/10.4018/979-8-3693-2591-9.ch002

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22.

Edem Adzovie, D., & Jibril, A. B. (2022). Assessment of the effects of Covid-19 pandemic on the prospects of e-learning in higher learning institutions: The mediating role of academic innovativeness and technological growth. *Cogent Education*, *9*(1), 2041222. https://doi.org/10.1080/2331186X.2022.2041222

Elumalai, K. V., Sankar, J. P., Kalaichelvi, R., John, J. A., Menon, N., Alqahtani, M. S. M., & Abumelha, M. A. (2021). Factors affecting the quality of e-learning during the COVID-19 pandemic from the perspective of higher education students. *COVID-19 and education: Learning and teaching in a pandemic-constrained environment*, *189*(3), 169. https://doi.org/10.28945/4628

Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. Jossey-Bass.

Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. Jossey-Bass.

Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Association Press.

Kudryashova, A., Gorbatova, T., Rybushkina, S., & Ivanova, E. (2015). Teacher's roles to facilitate active learning. *Mediterranean Journal of Social Sciences*, *7*(1), 460-466. https://doi.org/10.5901/mjss.2016.v7n1p460

Liu, J. (2021). Bridging digital divide amidst educational change for socially inclusive learning during the COVID-19 pandemic. *Sage Open*, *11*(4), 21582440211060810. https://doi.org/10.1177/21582440211060810

Marwa, M., Muliardi, M., Awal, R., & Irawan, H. (2025). Integrating Intercultural Digital Literacy in EFL Classrooms: Strategies for Enhancing Students' Intercultural Competence in the Digital Era. *AL-ISHLAH: Jurnal Pendidikan*, *17*(1), 1668-1683. https://doi.org/10.35445/alishlah.v17i1.6920

Means, B., Toyama, Y., Murphy, R., & Baki, M. (2014). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teachers College Record*, 115(3), 1–47.

Moore, M. G. (2013). *The theory of transactional distance*. In *Handbook of distance education* (pp. 66–85). Routledge.

Niederriter, J., Hovland, C., Hazelett, S., Whitford, M., Drost, J., Brown, D., ... & Ahmed, R. (2020). Using the constructivist/active learning theoretical framework to develop and test a simulation-based interprofessional geriatric training curriculum. *Journal of Interprofessional Education & Practice*, *19*, 100322. https://doi.org/10.1016/j.xjep.2020.100322

Olushola, A. P. O. A. P., Monday, N. A. M. N. A., & Taiwo, A. B. T. A. B. (2025). LIFELONG LEARNING IN ECONOMICS: A COMPREHENSIVE REVIEW. *Internation Journal of Economics Education Research (IJEER)*, *8*(1), 40-49.

Prabhakar, A. J., Selvakumar, P., Anute, N., Prasanna, V. L., Manjunath, T. C., & Ragupathi, T. (2025). Digitalisation, Multicultural Education, and Literature. In *Exploring Multicultural Dimensions of Literary, Linguistic, and Educational Frontiers* (pp. 35-62). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-8196-0.ch002

Salta, K., Paschalidou, K., Tsetseri, M., & Koulougliotis, D. (2022). Shift from a traditional to a distance learning environment during the COVID-19 pandemic: University students' engagement and interactions. *Science & Education*, *31*(1), 93-122. https://doi.org/10.1007/s11191-021-00234-x

Selwyn, N. (2016). *Education and technology: Key issues and debates*. Bloomsbury.

Ssemugenyi, F., & Nuru Seje, T. (2021). A decade of unprecedented e-learning adoption and adaptation: Covid-19 revolutionizes teaching and learning at Papua New Guinea University of Technology (PNGUoT) "Is it a wave of change or a mere change in the wave?". *Cogent Education*, *8*(1), 1989997. https://doi.org/10.1080/2331186X.2021.1989997

Suhartono, S. (2021). The challenges of e-learning in Indonesia: Digital divide and access to education. *Indonesian Journal of Education and Technology*, 5(2), 112–124.

Theelen, H., & van Breukelen, D. H. (2022). The didactic and pedagogical design of e-learning in higher education: A systematic literature review. *Journal of Computer Assisted Learning*, *38*(5), 1286-1303. https://doi.org/10.1111/jcal.12705

Van Dijk, J. (2020). *The digital divide*. John Wiley & Sons.