

Blended Learning in Higher Education: Lecturers' Perceptions of Its Impact on Student Learning. A Case of the Midlands State University.

Mrs Morelate Kupfuwa¹, Mr Collade Ngoni Murungu², Ms Marjory Nyazema³

Midlands State University: Department of Accounting Science, Harare, Zimbabwe.

DOI: <https://doi.org/10.47772/IJRISS.2026.1026EDU0080>

Received: 02 February 2026; Accepted: 08 February 2026; Published: 16 February 2026

ABSTRACT

Blended learning has gained prominence in higher education over the past two decades, driven by rapid technological advancements and increasing demand for flexible, student-centred learning environments. This study examined lecturers' perceptions of blended learning as a pedagogical approach for enhancing student learning at Midlands State University, Zimbabwe. Guided by an interpretivist paradigm, the study adopted a qualitative phenomenological design to explore lecturers' lived experiences with blended teaching practices. Data were generated through semi-structured interviews with purposively selected lecturers who had experience implementing blended learning. Interviews were conducted using face-to-face interactions, telephone calls, and WhatsApp platforms. The data were analysed thematically following the procedures proposed by Braun and Clarke (2006). The findings indicate that lecturers generally perceive blended learning as beneficial in supporting student learning through enhanced flexibility, improved access to learning resources, and opportunities for personalised instruction and skills development. Lecturers also acknowledged increased student engagement and learner autonomy associated with blended learning approaches. However, these positive perceptions were tempered by significant challenges, including unstable internet connectivity, limited access to digital tools, and increased lecturer workload. The study concludes that while blended learning holds considerable pedagogical value, its effectiveness is highly dependent on institutional conditions, lecturers' digital competence, and sustained pedagogical support. The study recommends that universities invest in robust technological infrastructure, provide continuous professional development for lecturers, and introduce institutional support mechanisms such as teaching assistants to manage workload demands. Future research is encouraged to adopt mixed-methods approaches and include perspectives from ICT support staff across multiple universities to enhance contextual understanding of blended learning implementation in Zimbabwe.

INTRODUCTION

Blended learning has emerged as a prominent pedagogical approach in higher education over the past two decades, driven largely by rapid technological advancements and the growing demand for flexible and student centred learning environments (Garrison & Kanuka, 2004; Graham et al., 2013). Broadly defined, blended learning combines traditional face-to-face instruction with online and digital learning components in a structured manner to enhance the teaching and learning process (Utami, 2018). This instructional model is widely acknowledged for its potential to improve student engagement, promote active learning, and accommodate diverse learning styles through the integration of technology-mediated instruction.

Globally, the adoption of blended learning has been particularly pronounced in developed countries, where higher education institutions have increasingly embedded digital platforms into mainstream teaching practices. Empirical evidence from the United States, Canada, the United Kingdom, and Australia suggests that blended learning is perceived by educators as an effective approach for enhancing student learning outcomes, flexibility, and access to learning resources (Garrison & Kanuka, 2004; Vaughan, 2013; Cleveland-Innes & Garrison, 2013). Studies conducted in these contexts consistently report positive lecturer perceptions regarding the influence of blended learning on student engagement, motivation, and academic performance. For instance,

surveys conducted in the United States and the United Kingdom indicate that a substantial proportion of lecturers view blended learning as a viable and effective instructional strategy for improving student learning experiences.

Despite this growing body of literature, the adoption and implementation of blended learning in developing countries, particularly in sub-Saharan Africa, has been comparatively slow and uneven. Challenges such as limited technological infrastructure, inadequate internet connectivity, insufficient institutional support, and varying levels of digital literacy among lecturers and students have constrained the effective use of blended learning in many African higher education institutions (Means et al., 2013; Murphy et al., 2014). Nevertheless, recent developments, including the disruptions caused by the COVID-19 pandemic, have accelerated the uptake of technology-enhanced learning across the region, prompting universities to reconsider traditional modes of instruction.

Zimbabwe presents a distinctive context in this regard. Higher education institutions in the country have increasingly been encouraged to integrate information and communication technologies into teaching and learning as part of broader educational reforms. However, the implementation of blended learning in Zimbabwean universities remains at an early stage, characterised by disparities in access to digital resources, limited professional training opportunities for lecturers, and varying institutional readiness. Within this context, lecturers occupy a critical position as the primary agents responsible for the design, delivery, and evaluation of blended learning initiatives. Their perceptions of blended learning, particularly regarding its influence on student learning, are therefore central to understanding the effectiveness and sustainability of this pedagogical approach.

Student learning is a complex and multifaceted process shaped by cognitive, motivational, social, and emotional factors (Mayer, 2008; Pintrich, 2003). Theoretical perspectives emphasise that meaningful learning occurs when students are actively engaged, motivated, and supported through appropriate instructional strategies and feedback mechanisms (Deci & Ryan, 2000; Hattie & Timperley, 2007). Blended learning environments have the potential to support these processes by fostering interaction, providing timely feedback, and encouraging learner autonomy. However, the extent to which these potential benefits are realised is largely influenced by lecturers' attitudes, beliefs, and pedagogical competencies in utilising blended learning effectively.

While extensive research has examined lecturers' perceptions of blended learning and its influence on student learning in developed countries, there remains a notable gap in the literature concerning such perceptions within developing country contexts, including Zimbabwe. Existing studies in sub-Saharan Africa are limited in scope and often focus on institutional readiness or technological constraints, with less emphasis on lecturers' perceptions of how blended learning affects student learning outcomes. This gap is significant, as lecturers' perceptions and acceptance of blended learning play a decisive role in shaping instructional practices and student learning experiences.

Against this background, the objective of the study seeks to • investigate lecturers' perceptions on blended learning as a pedagogical approach for enhancing student learning at Midlands State University.

By exploring lecturers' views on the effectiveness, benefits, and challenges associated with blended learning, the study aims to contribute context-specific insights to the growing discourse on technology-enhanced teaching and learning in higher education. The authors' expectation are that the findings will inform institutional policy formulation, professional development initiatives, and strategic planning aimed at strengthening the effective integration of blended learning within Zimbabwean higher education institutions.

LITERATURE REVIEW

Blended Learning and Lecturers' Perceptions in Higher Education

Blended learning is widely conceptualised as an instructional approach that purposefully integrates face-to-face teaching with online learning activities to enhance the teaching and learning process (Garrison & Kanuka, 2004; Graham et al., 2013). In higher education, blended learning is increasingly viewed not merely as a m

pedagogical innovation, but as a pedagogical transformation that redefines the roles of lecturers and students in knowledge construction (Garrison & Vaughan, 2008). By using learning management systems, multimedia resources, and online communication tools, blended learning enables lecturers to design learning experiences that promote flexibility, interaction, and learner autonomy.

Theoretical perspectives underpinning blended learning emphasize active student engagement and meaningful interaction. Constructivist learning theory suggests that learners actively construct knowledge through interaction with content, peers, and instructors, a process well supported in blended learning environments (Piaget, 1970; Vygotsky, 1978). Similarly, the Community of Inquiry framework highlights the importance of teaching presence, social presence, and cognitive presence in fostering effective learning experiences in technology-mediated environments (Garrison et al., 2000). Within this framework, lecturers play a central role in facilitating interaction, guiding inquiry, and sustaining student engagement.

Lecturers' perceptions of blended learning are further influenced by factors associated with technology acceptance. The Technology Acceptance Model posits that perceived usefulness, ease of use, and institutional support significantly shape lecturers' willingness to adopt blended learning practices (Davis, 1989; Venkatesh & Davis, 2000). Empirical studies indicate that lecturers who perceive blended learning as pedagogically valuable and manageable are more likely to integrate technology effectively into their teaching (Scherer et al., 2019). Conversely, negative perceptions often stem from concerns related to increased workload, insufficient training, and limited technical support.

Empirical evidence from higher education contexts suggests that lecturers generally acknowledge the potential of blended learning to enhance flexibility, access to learning resources, and student engagement (Vaughan et al., 2013; Bernard et al., 2014). However, lecturers' perceptions remain mixed, with some expressing scepticism regarding its effectiveness due to contextual and institutional constraints. These divergent views highlight the centrality of lecturers' beliefs and experiences in shaping the implementation and outcomes of blended learning initiatives.

Blended Learning and Its Influence on Student Learning

A substantial body of literature has examined the influence of blended learning on student learning outcomes. Research suggests that blended learning can enhance student engagement, motivation, and academic performance by providing multiple avenues for interaction with learning content and opportunities for feedback (Means et al., 2013; Bernard et al., 2014). The integration of online and face-to-face activities allows students to revisit learning materials, engage in collaborative discussions, and apply knowledge in varied contexts, thereby supporting deeper learning. Blended learning has also been associated with the development of learner autonomy and self-regulated learning skills, as students are required to manage their time and take greater responsibility for their learning (Garrison & Vaughan, 2008). However, the literature cautions that these benefits are contingent upon effective instructional design and facilitation by lecturers. Poorly designed blended courses may lead to student disengagement, confusion, and uneven learning outcomes (Gikandi et al., 2011).

Despite evidence of positive learning outcomes, several challenges continue to influence the effectiveness of blended learning, particularly in developing country contexts. Technological limitations, unreliable internet connectivity, and unequal access to digital resources can constrain students' participation in online components of blended learning (Warschauer & Matuchniak, 2010). From lecturers' perspectives, these challenges often undermine confidence in blended learning and shape perceptions of its impact on student learning. Moreover, inadequate professional development and limited institutional support have been identified as critical barriers to the effective use of blended learning. Lecturers who lack training in instructional design and digital pedagogy may struggle to align online and face-to-face components coherently, reducing the potential impact on student learning outcomes (Picciano, 2017; Graham, 2019). Empirical studies conducted in African higher education institutions suggest that while lecturers recognise the potential of blended learning, contextual constraints significantly influence their perceptions and practices (Kamau et al., 2018).

Overall, the literature indicates that blended learning has the potential to positively influence student learning; however, its effectiveness is strongly mediated by lecturers' perceptions, pedagogical competence, and

institutional support structures. There remains limited empirical evidence examining lecturers' perceptions of blended learning and its influence on student learning within Zimbabwean higher education institutions. This study, therefore, seeks to address this gap by exploring lecturers' perceptions of blended learning and its impact on student learning at Midlands State University.

METHODOLOGY

This study adopted a qualitative research approach within an interpretivist paradigm to explore lecturers' perceptions of blended learning and its influence on student learning at Midlands State University. An interpretivist stance was considered appropriate as the study sought to understand lecturers' subjective meanings, experiences, and interpretations of blended learning within their specific institutional context. A phenomenological research design was employed to capture lecturers' lived experiences of blended learning practices and how these experiences shaped their perceptions of student learning.

The study population comprised lecturers at Midlands State University with at least one year of experience in implementing blended learning. Purposive sampling was used to select ten lecturers from different faculties who were actively involved in blended teaching. This sampling strategy enabled the identification of information rich participants capable of providing in-depth insights into the phenomenon under investigation. While the sample size was relatively small and drawn from a single institution, it was considered appropriate for a phenomenological qualitative study, where depth of understanding rather than statistical generalisation is the primary objective. The study therefore aims for analytical rather than statistical transferability, allowing readers to assess the applicability of the findings to similar higher education contexts.

Data were generated through semi-structured interviews, which allowed participants to articulate their experiences, perceptions, and reflections on blended learning in their own words. Interviews lasted between 30 and 45 minutes and were conducted through face-to-face meetings, voice calls, and WhatsApp platforms, depending on participants' availability and preference. The use of multiple modes of interview facilitated participation while maintaining consistency in the interview protocol. Data collection continued until thematic saturation was reached, as no new substantive themes emerged in the final interviews.

Data were analysed using thematic analysis following the six-phase procedure outlined by Braun and Clarke (2006). Interview recordings were transcribed verbatim and repeatedly read to ensure familiarisation with the data. Initial codes were generated inductively and subsequently grouped into broader themes reflecting lecturers' perceptions of blended learning, its impact on student learning, and implementation challenges. Themes were reviewed, refined, and defined to ensure internal coherence and alignment with the study objectives.

To enhance the trustworthiness of the study, several strategies were employed. Credibility was strengthened through prolonged engagement with the data, triangulation of interview responses across participants, and the use of verbatim quotations to support interpretations. Dependability was enhanced by maintaining a clear audit trail documenting data collection procedures, coding decisions, and theme development. Reflexivity was addressed through continuous self-reflection by the researcher, acknowledging positionality as an academic within the higher education sector and taking deliberate steps to minimise personal bias during data interpretation. While the findings are context-specific, thick description is provided to support transferability to similar higher education settings where blended learning is being implemented.

RESULTS AND DISCUSSION

This section presents and critically discusses findings on lecturers' perceptions of blended learning and its influence on student learning at Midlands State University. Data generated through semi-structured interviews were analyzed thematically. The discussion interrogates both convergent and divergent lecturer perceptions, highlighting contextual tensions that shape blended learning implementation in a Zimbabwean higher education context.

Lecturers' Perceptions of Blended Learning

Lecturers largely perceived blended learning as enhancing flexibility and accessibility, particularly by enabling students to engage with learning activities beyond the physical classroom. Participants noted that students could learn from home, workplaces, or other locations, which was viewed as accommodating diverse schedules and learning paces. This flexibility was further perceived to support personalised teaching through the integration of online and face-to-face instructional strategies. While these findings align with dominant narratives in blended learning research (Bonk & Graham, 2012; Tomlinson, 2001), lecturers' accounts suggest that flexibility is not inherently pedagogical but becomes meaningful only when intentionally structured by the lecturer.

In terms of engagement, lecturers reported that interactive online discussions and digital tools broadened participation, particularly among students who were less vocal in traditional classroom settings. This finding resonates with the Community of Inquiry framework, which emphasises the role of social and cognitive presence in promoting engagement (Garrison & Kanuka, 2004). However, lecturers also highlighted an important contradiction: increased participation was uneven and often limited to a subset of digitally confident students. Several participants expressed concern that some students remained passive in online environments, raising questions about equity and inclusivity within blended learning spaces.

These contrasting perceptions point to a critical insight: blended learning does not automatically enhance engagement for all learners. Instead, it may reproduce existing inequalities related to digital access, confidence, and self-regulation. This finding complicates the predominantly positive portrayal of blended learning in the literature and underscores the need for context-sensitive pedagogical design that actively supports disengaged learners.

Perceived Impact of Blended Learning on Student Learning

Lecturers perceived blended learning as positively influencing student learning outcomes, particularly academic understanding, skills development, and learner autonomy. Participants attributed improved comprehension of course content to the use of interactive learning modules, continuous assessment, and timely feedback. While these perceptions align with evidence that active and blended learning approaches enhance achievement (Freeman et al., 2014; Hattie, 2009), lecturers were cautious in attributing improved performance solely to blended learning. Some participants noted that student success was strongly mediated by motivation, access to technology, and prior learning habits.

Beyond academic performance, lecturers emphasised the development of critical thinking, communication, and collaboration skills, particularly through project-based and collaborative online activities. These findings are consistent with constructivist perspectives that conceptualise learning as an active and socially mediated process (Vygotsky, 1978; Kuhn, 1999). However, lecturers also acknowledged that such skills development was uneven, with some students struggling to engage meaningfully in collaborative tasks without close guidance.

Lecturers further highlighted improved access to learning resources as a key benefit of blended learning, enabling students to engage with materials beyond scheduled class time. While this accessibility was perceived to foster learner autonomy, some lecturers questioned whether all students possessed the self-regulatory skills required to benefit from such flexibility. This tension suggests that learner autonomy in blended environments cannot be assumed and may require explicit scaffolding, particularly in contexts where students are transitioning from highly structured learning environments.

Challenges and Strategies in Implementing Blended Learning

Despite recognising its pedagogical potential, lecturers identified several challenges that constrained effective blended learning implementation. Technological limitations, including unstable internet connectivity and limited access to digital tools, emerged as persistent barriers. These challenges are consistent with studies

conducted in resource-constrained contexts (Barbour & Reeves, 2009), but lecturers' accounts illustrate how infrastructural shortcomings directly shape pedagogical choices and limit innovation.

Increased workload was another recurring concern. Lecturers reported that preparing materials for both online and face-to-face delivery, monitoring engagement, and providing feedback significantly increased their workload. This finding reinforces earlier research (Allen & Seaman, 2013; Dziuban et al., 2018) but also highlights a critical institutional issue: blended learning is often introduced without a corresponding adjustment to workload models or staffing structures.

In response to these constraints, lecturers adopted adaptive strategies such as using interactive tools to sustain engagement, participating in professional development initiatives, and sharing resources with colleagues. While these strategies reflect individual resilience and pedagogical commitment, lecturers emphasised that sustainable blended learning requires institutional support, including reliable infrastructure, technical assistance, and curriculum alignment. This finding positions blended learning not merely as a pedagogical innovation but as an institutional transformation challenge.

Table 1 provides a summary of key themes and illustrative lecturer responses that informed the analysis and discussion of findings.

Table 1: Summary of Lecturers' Responses on Blended Learning and Student Learning		
Theme	Key Issues Identified	Illustrative Lecturer Responses
Perceptions of Blended Learning	Flexibility and accessibility	"Blended learning allows students to engage with learning activities from different locations and at their own pace."
	Personalised teaching	"The combination of online and face-to-face sessions makes it easier to address individual student needs."
Student Engagement	Interactive activities and participation	"Online discussions and interactive tools increased student participation compared to traditional lectures."
Impact on Academic Performance	Improved understanding and assessment outcomes	"Students demonstrated better understanding of course content, reflected in improved assessment results."
Skills Development	Critical thinking and communication	"Project-based activities helped students develop stronger critical thinking and communication skills."
Access to Resources	Availability of learning materials	"Students can access learning materials anytime, which supports independent learning."
Technological Challenges	Internet connectivity and digital tools	"Unstable internet connectivity disrupted lessons and affected online activities."
Lecturer Workload	Content preparation and monitoring	"Preparing materials for both online and face-to-face teaching increases workload."

Optimisation Strategies	Interactive tools and professional development	“Quizzes, polls, and training workshops improved engagement and teaching effectiveness.”
-------------------------	--	--

Source Authors' compilation

Synthesis of Findings

Overall, the findings indicate that lecturers at Midlands State University perceive blended learning as pedagogically valuable but contextually constrained. While flexibility, accessibility, and opportunities for engagement and skills development were widely acknowledged, these benefits were uneven and mediated by technological, institutional, and learner-related factors.

The study contributes to blended learning research in African higher education by moving beyond celebratory accounts to foreground tensions, contradictions, and contextual constraints. It demonstrates that the effectiveness of blended learning depends not only on technology availability but also on lecturers' pedagogical agency, institutional support structures, and students' readiness for self-directed learning. By highlighting these dynamics, the study adds nuanced empirical insight into how blended learning is experienced and negotiated within a resource-constrained university context.

CONCLUSION AND IMPLICATIONS

This study examined lecturers' perceptions of blended learning and its influence on student learning at Midlands State University. The findings indicate that lecturers generally perceive blended learning as a valuable and effective pedagogical approach with the potential to enhance student engagement, academic performance, and the development of essential skills such as critical thinking, communication, and collaboration. These perceptions are largely shaped by the flexibility, accessibility, and opportunities for personalised learning afforded by blended learning environments.

However, the study also demonstrates that the effectiveness of blended learning is not solely dependent on the availability of digital technologies. Lecturers' pedagogical competence, institutional support, and strategic implementation practices play a critical role. Contextual challenges related to technological infrastructure, increased workload, assessment practices, and digital competence were found to support both lecturers' experiences and their perceptions of blended learning. These findings reinforce existing literature indicating that blended learning yields positive outcomes only when underpinned by intentional pedagogical design, ongoing professional development, and supportive institutional structures (Garrison & Vaughan, 2008; Graham, 2013; Vaughan et al., 2013).

Implications for Practice

The findings suggest that higher education institutions should prioritise sustained professional development programmes to enhance lecturers' digital pedagogical skills. Training initiatives should move beyond technical proficiency and focus on instructional design, online engagement strategies, and assessment practices suited to blended learning environments. Additionally, universities should invest in reliable technological infrastructure and provide ongoing technical support to ensure the smooth delivery of blended courses.

Policy and Institutional Implications

At an institutional and policy level, the study underscores the need for clear blended learning policies that align curriculum design, assessment strategies, and workload allocation with blended teaching demands. Institutional support structures, including teaching assistants, instructional designers, and resource-sharing platforms, are critical in reducing lecturer workload and sustaining blended learning initiatives.

Theoretical Implications

The study contributes to blended learning scholarship by reinforcing constructivist and Community of Inquiry perspectives, highlighting the central role of lecturers' perceptions in mediating the relationship between blended learning and student learning outcomes, particularly within developing country contexts.

Limitations and Future Research

This study was limited to a single university and a small qualitative sample size, which may restrict the generalisability of the findings. Future research could adopt mixed methods approaches, include multiple institutions, or explore students' perspectives to provide a more comprehensive understanding of blended learning effectiveness in higher education. In conclusion, while blended learning holds significant promise for enhancing student learning, its success depends on lecturers' pedagogical readiness, institutional commitment, and context-sensitive implementation strategies. Addressing these factors is essential for the sustainable integration of blended learning in higher education institutions.

REFERENCES

1. Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.
2. Brackett, M. A., Rivers, S. E., & Salovey, P. (2011). Emotional intelligence: Implications for personal, social, academic, and workplace success. *Social and Personality Psychology Compass*, 5(1), 88–103.
3. Cleveland-Innes, M., & Garrison, D. R. (2013). *An introduction to distance education: Understanding teaching and learning in a new era*. New York: Routledge.
4. Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self determination of behavior. *Psychological Inquiry*, 11(4), 227–268.
5. Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7(2), 95–105.
6. Graham, C. R., Woodfield, W., & Harrison, J. B. (2013). A framework for institutional adoption and implementation of blended learning in higher education. *The Internet and Higher Education*, 18, 4–14.
7. Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112.
8. Mayer, R. E. (2008). *Learning and instruction* (2nd ed.). Upper Saddle River, NJ: Pearson.
9. Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2013). *The effectiveness of online and blended learning: A meta-analysis of the empirical literature*. New York: Teachers College Press.
10. Murphy, R., Snow, E., Mislevy, J., Gallagher, L., Krumm, A., & Wei, X. (2014). *Blended learning report*. New York: Michael & Susan Dell Foundation.
11. Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, 95(4), 667–686.
12. Utami, I. G. A. L. P. (2018). The effect of blended learning model on students' learning outcomes. *Journal of Education and Practice*, 9(22), 1–6.
13. Vaughan, N. (2013). Student engagement and blended learning: Making the assessment connection. *Education Sciences*, 3(2), 247–264.
14. Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
15. Bernard, R. M., Borokhovski, E., Schmid, R. F., Tamim, R. M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education. *Educational Research Review*, 12, 1–14.
16. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
17. Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7(2), 95–105.

18. Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education*. San Francisco: JosseyBass.
19. Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment. *The Internet and Higher Education*, 2(2–3), 87–105.
20. Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). Online formative assessment in higher education. *Computers & Education*, 57(4), 2333–2351.
21. Graham, C. R. (2019). Current research in blended learning. *British Journal of Educational Technology*, 50(1), 5–15.
22. Kamau, J., Njenga, A., & Wambui, T. (2018). Lecturers' perceptions of blended learning in African universities. *International Journal of Educational Technology*, 5(2), 45–58.
23. Means, B., Toyama, Y., Murphy, R., & Bakia, M. (2013). The effectiveness of online and blended learning. *Teachers College Record*, 115(3), 1–47.
24. Picciano, A. G. (2017). Theories and frameworks for online education. *Online Learning Journal*, 21(3), 166–190.
25. Scherer, R., Teo, T., & Müller, M. (2019). Factors influencing teachers' adoption of digital technology. *Educational Research Review*, 28, 100293.
26. Vaughan, N., Cleveland-Innes, M., & Garrison, D. R. (2013). *Teaching in blended learning environments*. Athabasca University Press.
27. Warschauer, M., & Matuchniak, T. (2010). New technology and digital worlds. *Review of Research in Education*, 34(1), 179–225.