



## Teachers' Talk: Expectations and Challenges in Using the Hablo App in EFL Classroom

Rahma Laila Tambunan<sup>1</sup>, Deasy Yunita Siregar<sup>2</sup>

<sup>1,2</sup>Universitas Islam Negeri Sumatera Utara

### Article Info

Received: 2026-03-27  
Revised: 2026-04-05  
Accepted: 2026-04-06

#### Keywords:

digital learning platforms,  
teacher perceptions

#### DOI:

10.24256/ideas.v14i1.9999

#### Corresponding Author:

Rahma Laila Tambunan  
[rahmalaila2016@gmail.com](mailto:rahmalaila2016@gmail.com)  
Universitas Islam Negeri  
Sumatera Utara

### Abstract

*The integration of digital technology in education has become a global phenomenon that is changing the paradigm of learning in the 21st century. In Indonesia, the adoption of mobile learning applications such as Hablo App shows an increasing trend in line with the national digital literacy agenda. Teachers, as the main implementers, face a dilemma between the transformative potential of technology and the reality of technical and pedagogical constraints in the field. This study used an exploratory qualitative case study design with a purposive sampling approach involving two teachers who had implemented the Hablo App. Data collection involved observation and interviews was administered to gather specific data about usage patterns, satisfaction levels, and technical difficulties. This study emphasizes the expectations and challenges of teachers regarding the use of the Hablo App in classroom. These findings hold significant implications for educational app developers, language educators, and policymakers aiming to optimize digital learning.*

## **1. Introduction**

The proliferation of digital platforms in educational contexts has fundamentally altered the landscape of teaching and learning in the 21st century. As educational institutions worldwide embrace technological innovation, the integration of mobile applications and digital tools has become increasingly prevalent in classroom environments (Crompton & Burke, 2018). The use of digital platforms for educational purposes has grown significantly in recent years, bringing both opportunities and challenges for teachers and students alike. Globally, digital platforms are being rapidly adopted in classrooms, with research indicating potential benefits such as improved engagement, personalized learning, and efficient administrative management (Sung et al., 2016; Scherer et al., 2019; Nikolopoulou et al., 2021).

In countries like Indonesia, integrating educational technology aligns with the national agenda of digital literacy and technological proficiency in schools. However, despite policy support, many schools face technical, logistical, and instructional challenges in effectively implementing such technologies (Tondeur et al., 2017).

In line with the development of educational technology, the concept of Mobile-Assisted Language Learning (MALL) has become an increasingly important approach in language education. MALL refers to the integration of mobile devices such as smartphones and tablets to facilitate language learning activities anytime and anywhere. Recent studies highlight that mobile learning enables flexible access to learning resources, interactive practice opportunities, and authentic language exposure beyond classroom settings (Kukulska-Hulme, 2020; Hwang & Fu, 2019; Klimova, 2021).

Through features such as interactive conversations, instant feedback, multimedia materials, and self-paced exercises, mobile applications can facilitate learner autonomy and improve communicative competence. Moreover, mobile learning environments allow students to practice listening and speaking skills in real-life contexts, thereby supporting communicative language teaching and student-centered learning approaches.

The Hablo App is a digital foreign language learning tool designed to help users practice their speaking skills through interactive conversation. The application was developed by the Hablo Language Learning Team, a digital education startup focusing on artificial intelligence-based language learning technologies. The developers designed the application to simulate real-life communication by integrating speech recognition technology and AI-based conversational responses. Unlike most traditional language learning applications that emphasize vocabulary memorization and grammar drills, Hablo focuses primarily on developing speaking fluency through dialogue-based interaction. With this approach, users can practice English more naturally, as if they were communicating with a real interlocutor.

Although educational apps like *Hablo* show potential for transforming traditional classroom practices, the effectiveness of these tools often depends on how they are integrated by teachers within specific educational settings. This research focuses on exploring teachers' expectations and challenges in using the *Hablo* App in schools, providing a nuanced understanding of its practical application in educational environments. While the *Hablo* App is positioned to address some of these challenges, its actual impact in classrooms has yet to be fully explored, particularly from the perspective of the teachers who use it daily.

The emergence of educational applications like *Hablo* reflects a broader shift toward student-centered, technology-enhanced pedagogical approaches. These platforms promise to address traditional challenges in education, including limited engagement, communication barriers, and administrative inefficiencies (Sung et al., 2016). While extensive research exists on the general benefits of educational technology, there remains a significant gap in understanding the specific experiences of teachers using the *Hablo* App in Indonesian schools.

Most existing studies focus primarily on student outcomes and technological features rather than examining the practical challenges and expectations that teachers encounter during implementation (Nikolopoulou et al., 2021). Furthermore, limited research has explored the contextual factors that influence successful technology integration in Indonesian educational settings. Understanding these factors is crucial for developing effective implementation strategies and support systems that can maximize the potential benefits of educational applications like *Hablo*.

This study addresses these gaps by providing comprehensive insights into teachers' perspectives on the *Hablo* App, examining both their expectations and the challenges they face. The findings contribute to the growing body of literature on educational technology integration and offer practical recommendations for improving the implementation of digital learning platforms in schools. The integration of technology in educational settings has been extensively studied, with research consistently highlighting both opportunities and challenges. Davis et al. (2019) emphasize that successful technology integration requires more than simply introducing new tools; it demands fundamental changes in teaching practices, institutional culture, and support systems. Similarly,

Ertmer and Ottenbreit-Leftwich (2010) argue that teacher beliefs and attitudes play a crucial role in determining the success of technology integration initiatives. Research on mobile learning applications specifically indicates that these tools can enhance student engagement, facilitate personalized learning, and improve access to educational resources (Kaliisa & Picard, 2017). However, studies also reveal common implementation challenges, including technical difficulties, insufficient training, and resistance to change among educators (Tondeur et al., 2017).

The Technology Acceptance Model (TAM) provides a useful framework for understanding how teachers perceive and adopt new technologies. According to Venkatesh and Davis (2000), perceived usefulness and perceived ease of use are primary factors influencing technology acceptance. In educational contexts, additional factors such as institutional support, training quality, and alignment with teaching goals significantly impact teachers' willingness to adopt new technologies (Scherer et al., 2019). Recent studies on teacher perceptions of educational apps reveal mixed findings. While many educators recognize the potential benefits of digital tools, they often express concerns about implementation challenges, time constraints, and the need for ongoing support (Blackwell et al., 2020).

An empirical gap exists in understanding teachers' real-life experiences with the Hablo App, as they may encounter limitations that differ from initial expectations, such as insufficient technical support, user interface difficulties, or mismatched functionalities with local teaching needs. Additionally, a theoretical gap is evident, as most studies on educational apps focus on student outcomes rather than examining how teachers navigate these tools in their workflows. While some research highlights the benefits of technology for student engagement, less is known about the institutional and personal factors that influence teachers' willingness and ability to use such tools effectively.

This study seeks to address these research gaps the use of the Hablo App in schools, by examining these elements, the study offers a novel contribution to educational technology research, specifically in how apps are perceived and utilized by teachers within Indonesian schools. The findings aim to inform future improvements to the Hablo App and guide schools in supporting effective technology integration for enhanced learning outcomes. What are the expectations and challenges of teachers regarding the use of the Hablo App in classroom settings?

## **2. Method**

This study employs a qualitative exploratory case study design to examine teachers' experiences with the Hablo App. The qualitative approach allows for in-depth exploration of teachers' perspectives, providing rich insights into their expectations, challenges, and experiences (Creswell & Creswell, 2017). The case study methodology is particularly appropriate for this research as it enables detailed investigation of a contemporary phenomenon within its real-life context (Yin, 2018). This study used an exploratory qualitative case study design with a purposive sampling approach involving two teachers who had implemented the Hablo App.

Data collection involved observation, interviews and document analysis (lesson plans). Those techniques were administered to gather specific data about usage patterns, satisfaction levels, and technical difficulties. Data analysis followed

Braun and Clarke's (2006) thematic analysis framework. Interview transcripts were coded inductively to identify recurring themes and patterns. Ethical approval was obtained from the university's research ethics committee. Informed consent was secured from all participants, and confidentiality was maintained throughout the research process. Participants were informed of their right to withdraw at any time without consequences.

### 3. Result

The analysis of teacher experiences with the Hablo App reveals a multifaceted landscape where high expectations for educational transformation encounter the complex realities of classroom implementation. Through systematic examination of qualitative data, including teacher interviews and observational evidence, this study uncovers both the promising potential and persistent challenges that characterize mobile learning application adoption in Indonesian schools. The findings illuminate a critical gap between the theoretical benefits of educational technology, and the practical constraints teachers face in their daily instructional practice. The analysis revealed that both teachers entered them.

#### **The Expectation Teachers Regarding the Use of the Hablo App in Classroom**

Hablo App experience with high expectations, primarily centered around three key areas: enhanced communication, improved lesson efficiency, and increased student engagement. Teachers expressed strong expectations for improved teacher-student communication:

*"I expected the app would help me share student progress more efficiently with parents, reducing the need for formal meetings and phone calls." (Teacher 1)*

*"I imagine that the Hablo App would create a bridge between classroom learning and home study. The ability to learning dialogue or conversation." (Teacher 2)*

These expectations align with existing research on mobile learning applications, which suggests that effective communication tools can significantly enhance educational outcomes (Kukulka-Hulme & Traxler, 2019). The teachers' focus on communication reflects a broader desire for technological solutions that can bridge traditional classroom boundaries and create more connected learning environments.

Based on the document analysis of the English teachers' lesson plans, it was found that the teachers prepared their instructional planning in a structured format consisting of learning objectives, teaching materials, learning activities, teaching media, and assessment procedures. The lesson plans generally followed the standard components of classroom instruction and reflected an attempt to organize learning systematically before classroom implementation.

The learning objectives were mostly written in behavioral terms and focused on students' ability to understand and use simple English expressions in daily communication. The objectives emphasized communicative competence rather than grammatical mastery alone. This indicates that the teachers oriented their teaching toward practical language use and functional communication. The formulation of the objectives also showed alignment with the communicative approach, where students were expected to practice speaking, listening, reading, and writing in integrated activities.

Furthermore, the learning activities described in the lesson plans were divided into three stages: pre-activity, whilst-activity, and post-activity. In the pre-activity stage, teachers planned to activate students' prior knowledge through greetings, simple questions, and short discussions related to students' daily experiences. This stage functioned as a warm-up activity to build students' readiness and motivation to learn English.

During the whilst-activity stage, teachers planned interactive activities such as dialogue practice, role-play, vocabulary matching, and group discussions. These activities indicate that the teachers attempted to involve students actively in the learning process rather than relying solely on lecturing. The lesson plans demonstrate that learning was designed to be student-centered, allowing learners to practice language through interaction and collaboration.

The post-activity stage was used to reinforce understanding through reflection, feedback, and short exercises. Teachers also planned to provide reinforcement by summarizing the lesson and asking students to conclude what they had learned. This shows that teachers considered reflection as an important part of learning consolidation.

In terms of teaching media, teachers planned to use various learning supports such as textbooks, worksheets, and digital media. The presence of digital learning tools in the lesson plans suggests that teachers expected technology to support engagement and communication in learning. Previous findings also indicate that teachers believe technological tools can enhance interaction and improve student participation in classroom learning.

The assessment section of the lesson plans included both formative and summative evaluation. Teachers planned to assess students through oral performance, written exercises, and participation during classroom activities. Oral performance assessment was particularly emphasized, indicating that teachers prioritized students' speaking ability as an important indicator of English proficiency. This reflects the communicative orientation of instruction, where language use in real situations is considered more meaningful than memorization of rules.

However, the lesson plans also revealed that the assessment criteria were sometimes written in general terms and lacked detailed rubrics. As a result, the measurement of students' performance could depend heavily on the teacher's

subjective judgment. Although teachers intended to monitor students' progress continuously, the absence of clear scoring guidelines suggests that assessment implementation may vary across classes.

Overall, the observation of the lesson plans demonstrates that the teachers had pedagogical awareness in organizing learning activities and encouraging student participation. The lesson plans illustrate an effort to implement communicative and student-centered learning, integrate technology, and conduct ongoing assessment. Nevertheless, some components, particularly the specification of assessment criteria and learning indicators, still need further refinement to ensure more consistent and objective evaluation of students' learning outcomes.

### **Learning Motivation**

The teachers expressed high expectations for improved student engagement through interactive features. The gamification features implemented consisting of daily challenges, a point system, badge rewards, and progress graphs are highly appreciated by the majority of research participants.

*"I believed the app's gamification elements and multimedia capabilities would motivate students who typically struggle with traditional teaching methods."*  
(Teacher 1)

*"I expected students would be more responsive to mathematical concepts presented through interactive exercises and visual representations."* (Teacher 2)

Teachers believed the app could serve as a bridge between school and home, allowing better interaction with students and parents. They also anticipated that the gamification and multimedia features would improve students' interest in learning and help explain difficult concepts more effectively.

### *Technical Challenge*

The most prominent challenge identified was inadequate technical infrastructure. By incorporating daily challenges, point systems, and virtual rewards, the application successfully maintained consistent learning motivation.

*"Frequent internet connectivity issues in our school make it difficult to rely on the app consistently. Sometimes lessons are disrupted when the connection fails during critical moments."* (Teacher 1)

*"The school's Wi-Fi bandwidth cannot support all students accessing the app simultaneously, leading to slow loading times and frustration."* (Teacher 2)

This finding is consistent with broader research on technology integration in developing countries, where infrastructure limitations remain a significant barrier to effective educational technology implementation (Trucano, 2016). The technical challenges highlight the importance of addressing foundational infrastructure before introducing advanced educational applications. Both participants expressed concerns about potential student distractions when using mobile devices for educational purposes.

*"While the app is educational, students sometimes get distracted by other phone features or social media notifications during lessons." (Teacher 1)*

*"Managing student device usage requires constant monitoring, which can detract from teaching time and focus." (Teacher 2)*

Teachers also noted that while mobile devices support learning, they may simultaneously distract students if not managed carefully. This dual role of technology highlights the importance of digital citizenship education and classroom management strategies. Moreover, teachers emphasized that institutional support and adequate training are crucial to optimize the benefits of the Hablo App. These results resonate with the Technology Acceptance Model (TAM), which suggests that while perceived usefulness and ease of use encourage adoption, contextual factors such as institutional readiness, infrastructure, and ongoing support play equally important roles in shaping technology acceptance. These concerns reflect broader debates about mobile device usage in educational settings and the need for clear digital citizenship guidelines (Selwyn, 2016).

The teachers appreciated the app's assessment capabilities despite implementation challenges.

*"The immediate feedback feature helped students identify mistakes quickly, though technical glitches sometimes prevented proper score recording." (Teacher 2)*

*"Digital quizzes were popular with students and provided me with instant data on comprehension levels, when the system worked properly." (Teacher 1)*

Based on their experiences, both teachers provided valuable recommendations for enhancing Hablo App implementation. Teachers highlighted the positive aspects of the app's assessment features. Immediate feedback and digital quizzes were considered beneficial in promoting active learning and providing real-time insights into student performance. Nevertheless, technical glitches sometimes undermined the effectiveness of these features, reducing teachers' trust in the system.

This contrast between expectations and real classroom experiences reflects the implementation gap often discussed in educational technology research. The findings suggest that to maximize the app's potential, schools need to strengthen their infrastructure, provide consistent technical support, and offer continuous professional development for teachers.

#### 4. Discussion

The findings support and extend the Technology Acceptance Model (TAM) in educational contexts. While both teachers initially perceived the Hablo App as useful and potentially easy to use, their actual adoption was significantly influenced by external factors such as infrastructure limitations and institutional support. This suggests that educational technology acceptance models should incorporate contextual factors beyond individual perceptions (Teo, 2011). The study also contributes to understanding the implementation gap between educational technology promises and classroom realities. Despite positive expectations and recognition of potential benefits, practical challenges significantly impacted effective usage, highlighting the importance of comprehensive implementation planning and support systems.

Sung, Chang, & Liu (2016) conducted a meta-analysis on integrating mobile devices into teaching and learning. Their results showed that mobile applications significantly enhance student performance and engagement. However, similar to this study, they noted challenges related to infrastructure and teacher readiness, suggesting that effective integration requires more than just technology—it also demands support and preparation. Kaliisa & Picard (2017) explored mobile learning in higher education, particularly in African contexts. They found that while educational apps have the potential to transform learning by increasing access and interaction, limited internet connectivity and insufficient teacher training were major obstacles.

These findings mirror the challenges faced by teachers in Indonesia when implementing the Hablo App. Blackwell, Lauricella, & Wartella (2020) investigated the use of digital technology in early childhood education. Their research emphasized that teacher beliefs, digital literacy, and institutional culture strongly influence the adoption of new technologies. This aligns with the present study, where teachers expressed optimism about the Hablo App but also revealed hesitancy due to technical issues and the risk of student distraction.

These findings align with (Davis, 1989) Perceived usefulness refers to the degree to which individuals believe that using a particular technology will enhance their job performance, while perceived ease of use represents the extent to which users believe that utilizing the technology will be free from excessive effort. In the context of this research, TAM effectively explains the complex dynamics observed in teachers' responses to the Hablo App implementation.

This research extends TAM by demonstrating that in educational contexts, external factors such as institutional infrastructure, technical support, and organizational readiness play equally important roles in technology acceptance alongside individual perceptions. The findings suggest that successful implementation of educational technologies like the Hablo App requires addressing both user perceptions and systemic barriers to create a supportive

environment for technology adoption.

Beside that this research also supported by (Rogers, 2003) Technological infrastructure created obstacles to widespread adoption. The theory also explains the importance of observability in innovation diffusion, which was compromised in this context due to technical glitches that prevented teachers from consistently demonstrating the app's benefits. The research contributes to diffusion theory by highlighting how contextual factors in developing countries, such as infrastructure limitations and institutional readiness, can significantly impact the diffusion process of educational innovations, even when the innovation possesses clear relative advantages.

Constructivist Learning Theory provides essential theoretical support for understanding teachers' pedagogical expectations regarding the Hablo App and their vision for transformed learning experiences. This theory emphasizes that learning occurs through social interaction, with key concepts including the Zone of Proximal Development (ZPD), scaffolding, and active knowledge construction by learners. The research findings demonstrate how teachers viewed the Hablo App as a potential facilitator of constructivist learning principles, particularly in enhancing social interaction and providing digital scaffolding for student learning (Vygotsky's, 1978).

The research *contributes* to constructivist theory by demonstrating how digital tools can potentially enhance social learning and scaffolding when properly implemented, but also reveal the critical importance of addressing technical and management challenges to realize constructivist learning potentials. This research underscores that while educational technologies like the Hablo App have the theoretical potential to support constructivist pedagogical approaches, their effectiveness depends significantly on the quality of implementation and the support systems surrounding their use.

The integration of these three theoretical frameworks provides a comprehensive understanding of the complex phenomena observed in the Hablo App implementation study. TAM explains the individual-level factors affecting teachers' technology acceptance, highlighting how perceived usefulness and ease of use influence adoption decisions. The Diffusion of Innovation Theory elucidates the systemic factors that either facilitate or hinder the spread of educational innovations within institutional contexts.

Meanwhile, Constructivist Learning Theory provides the pedagogical rationale for teachers' expectations and their vision of transformed learning experiences through technology integration. The findings suggest that future educational technology initiatives must move beyond simply introducing new tools to creating comprehensive ecosystems that support technology adoption at individual, institutional, and pedagogical levels.

Only through such integrated approaches can educational applications like the Hablo App achieve their potential to meaningfully transform teaching and learning experiences in sustainable and effective ways.

This study's limitations include the small sample size and focus on a specific geographical region. Future research should examine larger, more diverse teacher populations and include student perspectives on Hablo App usage. Longitudinal studies could provide insights into how teacher experiences evolve over time as they become more familiar with the technology. Additionally, comparative studies examining different educational apps or comparing technology-enhanced versus traditional teaching methods could provide broader insights into effective educational technology integration strategies.

## **5. Conclusion**

This study reveals that while teachers hold optimistic expectations about the Hablo App's potential to enhance educational experiences, they face significant implementation challenges that must be addressed for successful integration. The findings emphasize that successful educational technology adoption requires more than simply introducing new tools; it demands comprehensive infrastructure development, ongoing professional support, and careful attention to contextual factors.

The research contributes to understanding the complex dynamics of educational technology implementation in Indonesian schools and provides practical insights for improving digital learning platform integration. For the Hablo App to realize its full potential, developers and educational institutions must collaborate to address infrastructure limitations, provide adequate training, and ensure ongoing technical support.

Future educational technology initiatives should prioritize holistic implementation approaches that consider teacher perspectives, institutional readiness, and contextual factors. Only through such comprehensive approaches can educational applications like Hablo truly transform teaching and learning experiences in meaningful and sustainable ways.

## 6. References

- Alshammari, M. (2020). The role of educational technology in teaching English as a foreign language. *Journal of Language Teaching and Research*, 11(5), 723-730.
- Blackwell, C. K., Lauricella, A. R., & Wartella, E. (2020). Factors influencing digital technology use in early childhood education. *Computers & Education*, 146, 103750.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Burston, J. (2015). Twenty years of MALL project implementation: A meta-analysis of learning outcomes. *ReCALL*, 27(1), 4-20. <https://doi.org/10.1017/S0958344014000159>
- Stockwell, G. (2013). Mobile-assisted language learning. In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics*. Wiley-Blackwell. <https://doi.org/10.1002/9781405198431.wbeal0768>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approach* (5th ed.). Sage Publications.
- Crompton, H., & Burke, D. (2018). The use of mobile learning in higher education: A systematic review. *Computers & Education*, 123, 53-64.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- Davis, N., Eickelmann, B., & Zaka, P. (2013). Restructuring of educational systems in the digital age from a co-evolutionary perspective. *Journal of Computer Assisted Learning*, 29(5), 438-450.
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education*, 42(3), 255-284.
- Hwang, G. J., & Chang, C. Y. (2011). A formative assessment strategy for enhancing the effectiveness of mobile learning. *Educational Technology & Society*, 14(3), 45-57.
- Johnson, D. W., & Johnson, R. T. (2014). Cooperative learning in 21st century. *Theory into Practice*, 53(3), 225-232.
- Kaliisa, R., & Picard, M. (2017). A systematic review on mobile learning in higher education: The African perspective. *Turkish Online Journal of Educational Technology*, 16(1), 1-18.
- Kukulska-Hulme, A., & Traxler, J. (2019). *Mobile learning: A handbook for educators and trainers*. Routledge.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054.
- Nikolopoulou, K., Gialamas, V., & Lavidas, K. (2021). Acceptance of mobile phone by university students for their studies: An investigation applying UTAUT2 model. *Education and Information Technologies*, 26(2), 1449-1471.

- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Sage Publications.
- Rogers, E.M. (2003) *Diffusion of Innovations*. Free Press, New York.
- Scherer, R., Siddiq, F., & Tondeur, J. (2019). The technology acceptance model (TAM): A meta-analytic structural equation modeling approach to explaining teachers' adoption of digital technology in education. *Computers & Education*, 128, 13-35.
- Stockwell, G. (2013). Mobile-assisted language learning. In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics*. Wiley-Blackwell. <https://doi.org/10.1002/9781405198431.wbeal0768>
- Sung, Y. T., Chang, K. E., & Liu, T. C. (2016). The effects of integrating mobile devices with teaching and learning on students' learning performance: A meta-analysis and research synthesis. *Computers & Education*, 94, 252-275.
- Teo, T. (2011). Factors influencing teachers' intention to use technology: Model development and test. *Computers & Education*, 57(4), 2432-2440.
- Tondeur, J., van Braak, J., Ertmer, P. A., & Ottenbreit-Leftwich, A. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence. *Educational Technology Research and Development*, 65(3), 555-575.
- Trucano, M. (2016). *SABER-ICT framework paper for policy analysis: Documenting national educational technology policies around the world and their evolution*. World Bank Group.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186-204.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.