International Journal of Innovations in TESOL and Applied Linguistics

IJITAL ISSN: 2454-6887 Frequency: Quarterly Published by ASLA, AUH, India

Vol. 10, Issue. 3; 2025 © 2025 Impact Factor: 6.01



https://doi.org/10.5281/zenodo.15571245

Teacher and Student Experiences with AI-Powered Personalized Learning Platforms in ESL Classrooms: A Descriptive Qualitative Study

Anjali Malik SGT University, Gurgaon

Priyanka Jangir

SGT University, Gurgaon

Received: JAN. 10, 2025 Accepted: JAN. 28, 2025 Published: FEB. 25, 2025

ABSTRACT

This descriptive qualitative study explores teacher and student experiences with AI-powered personalized learning platforms in English as a Second Language (ESL) classrooms. Using phenomenological approaches, the research examined how ESL educators and intermediate-level students perceive, interact with, and integrate adaptive learning technologies into their teaching and learning practices. Data were collected through semistructured interviews with 12 ESL teachers and focus group discussions with 36 ESL students across three educational institutions over a 16-week period. Three prominent AI platforms were examined: Duolingo for Schools, Rosetta Stone Education, and Carnegie Learning's ALEX. Thematic analysis revealed five major themes: (1) transformative personalization experiences, (2) enhanced learner autonomy and motivation, (3) teacher role evolution and professional identity shifts, (4) technological integration challenges and digital divide concerns, and (5) balancing human interaction with AImediated learning. Findings indicate that while AI-powered platforms offer personalizing ESL instruction, potential for significant successful implementation requires careful consideration of pedagogical integration, professional development, teacher and maintaining authentic communicative opportunities. The study contributes to understanding how stakeholders experience AI integration in language education contexts and provides insights for policy and practice in TESOL.

Keywords: artificial intelligence, personalized learning, ESL instruction, teacher experiences, student perceptions, qualitative research, TESOL

1. Introduction

The integration of artificial intelligence (AI) in language education represents what Chapelle and Sauro (2017) describe as a "technological revolution" that fundamentally challenges traditional paradigms of second language instruction. As English continues to establish itself as the global lingua franca, the demand for effective English as a Second Language (ESL) instruction has intensified, creating what Kumaravadivelu (2016) terms "unprecedented pedagogical complexities" in managing increasingly diverse classrooms with varying proficiency levels, learning styles, and cultural backgrounds.

Recent developments in AI-powered adaptive learning platforms promise to address these challenges by leveraging machine learning algorithms to create personalized learning pathways that adjust to individual learner needs (Holstein et al., 2018). These platforms utilize sophisticated natural language processing capabilities to provide immediate feedback, identify knowledge gaps, and recommend targeted interventions, potentially transforming what Luckin et al. (2016) describe as the traditional "sage on the stage" model of language instruction.

Despite the growing adoption of AI-powered learning platforms in educational settings, Godwin-Jones (2019) notes that empirical research examining stakeholder experiences in ESL contexts remains limited, with most studies focusing on quantitative learning outcomes rather than the lived experiences of teachers and students. Furthermore, Heift and Schulze (2015) argue that understanding how educators and learners perceive, interact with, and integrate these technologies is crucial for successful implementation and long-term sustainability.

The present study addresses this research gap by exploring teacher and student experiences with AI-powered personalized learning platforms in authentic ESL classroom settings. Drawing on phenomenological research traditions, this investigation seeks to understand how stakeholders make meaning of their interactions with adaptive learning technologies and how these experiences shape their perceptions of language teaching and learning.

2. Literature Review

Theoretical Foundations of AI in Language Learning

The integration of AI in language education draws from several established theoretical frameworks. Vygotsky's (1978) sociocultural theory, particularly the concept of the Zone of Proximal Development (ZPD), has found new relevance in AI-powered learning environments. As Warschauer and Healey (1998) noted in their seminal work on computers and language learning, technology can serve as a mediating tool that scaffolds learner development within their ZPD. More recently, Chapelle (2009) has argued that AI platforms can dynamically identify and target each learner's optimal challenge level, effectively operationalizing Vygotsky's theoretical construct.

Constructivist learning theory, rooted in the work of Piaget (1977) and later developed by scholars like Jonassen (1999), emphasizes the active construction of knowledge through meaningful interaction with content and peers. In the context of AI-powered language learning, Levy and Stockwell (2006) argue that adaptive platforms can facilitate constructivist learning by providing learners with opportunities to explore, experiment, and receive immediate feedback on their language production.

Self-Determination Theory (SDT), developed by Deci and Ryan (1985), provides another crucial theoretical foundation for understanding learner motivation in AI-mediated environments. Research by Ryan and Deci (2000) suggests that personalized learning environments can enhance intrinsic motivation by supporting learner autonomy, competence, and relatedness. Rienties and Rivers (2014) found that AI-powered platforms can foster autonomy by allowing learners to control their learning pace and content selection, while algorithmic feedback systems can support competence development through timely, specific responses to learner actions.

AI Technologies and Personalized Learning

The concept of personalized learning in language education has evolved significantly since Carol Tomlinson's (1999) foundational work on differentiated instruction. Modern AI-powered personalized learning, as defined by Pane et al. (2017), encompasses "instruction that is paced to learning needs, tailored to learning preferences, and tailored to the specific interests of different learners" (p. 2). This definition has been further refined by researchers like Chen et al. (2020), who emphasize the role of data analytics in creating truly adaptive learning experiences.

Natural Language Processing (NLP) technologies enable platforms to analyze learner-generated text and speech, providing detailed feedback on grammar, vocabulary usage, and pronunciation accuracy. Burston (2015) notes that advances in NLP have made possible more sophisticated error detection and correction systems, while Godwin-Jones (2017) highlights the potential for conversational AI to provide authentic communicative practice opportunities.

Machine learning algorithms analyze vast amounts of learner interaction data to identify patterns and predict optimal learning pathways. As explained by Baker and Inventado (2014), these algorithms can model learner knowledge states, identify misconceptions, and adapt instructional strategies accordingly. Recent advances in large language models have further expanded possibilities for natural language interaction between learners and AI tutors, potentially addressing what Ellis (2005) identified as one of the primary challenges in ESL instruction: providing sufficient opportunities for meaningful communicative practice.

Teacher Perspectives on Educational Technology

Research on teacher attitudes toward educational technology integration has consistently identified several key factors that influence adoption and successful implementation. Davis's (1989) Technology Acceptance Model (TAM) suggests that perceived usefulness and perceived ease of use are primary determinants of technology acceptance among educators. Subsequent research by Venkatesh and Davis (2000) extended this model to include social influence and facilitating conditions as additional factors.

In the context of language education, Hubbard (2008) developed a framework for computer-assisted language learning (CALL) teacher education that

emphasizes the importance of understanding both technological capabilities and pedagogical applications. More recently, Kessler (2018) has argued that successful AI integration requires what he terms "techno-pedagogical knowledge" – an understanding of how technological affordances can support specific language learning objectives.

Studies of teacher experiences with AI-powered learning platforms have revealed both enthusiasm and apprehension. Research by Xu and Zuo (2019) found that ESL teachers appreciated the detailed analytics and personalized feedback capabilities of adaptive platforms but expressed concerns about maintaining their role as facilitators of human interaction and authentic communication. Similarly, findings by Lee and Lee (2020) indicated that teachers valued the efficiency gains from automated assessment and feedback but worried about over-reliance on technology at the expense of pedagogical judgment.

Student Experiences with AI-Mediated Language Learning

Research on student experiences with AI-powered language learning platforms has generally reported positive perceptions, though findings vary considerably across contexts and populations. Hockly (2019) conducted extensive interviews with language learners using various AI-powered platforms and found that students particularly valued the personalized pacing and immediate feedback features, describing these as significant improvements over traditional classroom instruction.

Studies focusing on student motivation have yielded particularly interesting insights. Research by Kim and Kim (2021) found that AI-powered platforms could enhance intrinsic motivation through features that support autonomy and competence, aligning with self-determination theory predictions. However, the authors noted that the novelty effect of technology could diminish over time, emphasizing the importance of sustained motivational design.

Cultural factors have emerged as important considerations in student experiences with AI-powered learning. Research by Chen and Liu (2022) found that students from collectivist cultures sometimes struggled with the individualized nature of AI platforms, preferring more collaborative learning approaches. This finding highlights the importance of considering cultural context in AI platform design and implementation.

3. Research Gaps and Study Rationale

Despite the growing body of research on AI in language education, several significant gaps remain. First, as noted by Grgurović et al. (2013), much of the existing research focuses on learning outcomes rather than stakeholder experiences and perceptions. Second, comparative studies examining different AI platforms are scarce, leaving educators with insufficient guidance for platform selection and implementation strategies (Wang & Petrina, 2013).

Third, research examining the lived experiences of both teachers and students within the same educational contexts is particularly limited. Heift and Schulze (2015) argue that understanding how different stakeholders experience AI integration is crucial for developing effective implementation strategies and professional development programs.

The present study addresses these gaps by employing qualitative research methods to explore in-depth experiences of both teachers and students with three prominent AI-powered learning platforms. By focusing on stakeholder perceptions and experiences rather than learning outcomes, this research contributes to a more holistic understanding of AI integration in ESL contexts.

4. Methodology

Research Design

This study employed a descriptive qualitative research design, drawing on phenomenological traditions to explore the lived experiences of ESL teachers and students with AI-powered personalized learning platforms. As described by Sandelowski (2000), descriptive qualitative research aims to provide a comprehensive summary of events in the everyday terms of those events, staying close to the data and to the surface of words and events.

The phenomenological approach, rooted in the philosophical work of Husserl (1913) and later developed by researchers like Moustakas (1994), was selected to understand how participants make meaning of their experiences with AI-powered learning technologies. This approach aligns with what van Manen (2016) describes as the goal of phenomenological research: "to transform lived experience into a textual expression of its essence" (p. 36).

Research Context and Settings

The study was conducted across three educational institutions in different geographic regions to ensure diversity of contexts and populations:

- 1. **Mountain View Community College** (California): A diverse community college serving primarily adult ESL learners from various linguistic backgrounds, with strong technology infrastructure and institutional support for educational innovation.
- 2. **Midwest University Intensive English Program** (Illinois): A universitybased intensive English program serving international students preparing for academic study, with access to cutting-edge language learning technologies.
- 3. **Brooklyn Adult Learning Center** (New York): An urban adult education center serving primarily immigrant populations, with varying levels of technology access and digital literacy.

These institutions were selected purposively to represent different educational contexts, student populations, and resource levels, providing what Patton (2015) describes as "maximum variation sampling" to enhance the transferability of findings.

Participants

Teacher Participants: Twelve ESL teachers participated in the study, with four teachers from each institution. Participants were selected using purposive sampling criteria including: (a) minimum three years of ESL teaching experience, (b)

familiarity with educational technology, (c) willingness to integrate AI platforms into their instruction, and (d) commitment to participate in the full research period.

Teacher participants ranged in age from 28 to 54 years (mean = 38.5 years) and represented diverse educational backgrounds, with 8 holding Master's degrees in TESOL or Applied Linguistics and 4 holding Master's degrees in related fields. Teaching experience ranged from 3 to 22 years (mean = 11.2 years). All participants had some previous experience with educational technology, though none had extensive experience with AI-powered learning platforms.

Student Participants: Thirty-six intermediate-level ESL students (CEFR B1-B2 level) participated in focus group discussions, with 12 students from each institution. Participants were selected to represent the diversity of each institution's student population in terms of age, linguistic background, and length of English study.

Student participants ranged in age from 19 to 47 years (mean = 31.8 years) and represented diverse linguistic backgrounds, including Spanish (33%), Arabic (25%), Mandarin (17%), Korean (14%), and other languages (11%). Length of English study ranged from 6 months to 8 years (mean = 2.7 years).

AI Platforms Examined

Three AI-powered adaptive learning platforms were selected based on their prominence in the ESL education market, availability for institutional use, and distinct pedagogical approaches:

Duolingo for Schools: A gamified language learning platform that utilizes spaced repetition algorithms, adaptive difficulty adjustment, and comprehensive progress tracking. The platform emphasizes vocabulary acquisition and basic grammar through interactive exercises and immediate feedback.

Rosetta Stone Education: An immersive language learning platform employing speech recognition technology, adaptive sequencing, and visual learning approaches. The platform emphasizes contextual understanding and natural language acquisition without explicit grammar instruction.

Carnegie Learning's ALEX (Adaptive Learning Exchange): An intelligent tutoring system designed specifically for academic English development, featuring comprehensive analytics, personalized learning paths, and targeted skill remediation with explicit instruction components.

Each institution implemented one platform across multiple classes to allow for focused examination of stakeholder experiences with specific AI technologies while maintaining institutional coherence.

Data Collection

Data collection occurred over a 16-week period (Fall 2023 semester) and employed multiple qualitative methods to ensure rich, comprehensive data:

Semi-structured Interviews with Teachers: Individual interviews were conducted with each teacher participant at three time points: pre-implementation (week 2), mid-implementation (week 8), and post-implementation (week 15). Each interview lasted 45-60 minutes and followed a semi-structured protocol exploring:

- Initial expectations and concerns about AI platform integration
- Experiences with platform implementation and student responses
- Perceived impacts on teaching practices and professional identity
- Challenges and successes in technology integration
- Recommendations for future implementation

Focus Group Discussions with Students: Three focus group sessions were conducted with student participants at each institution (weeks 4, 10, and 16), with each session lasting 60-75 minutes. Focus groups explored:

- Initial reactions to AI-powered learning platforms
- Perceived benefits and limitations of personalized learning features
- Comparisons with traditional classroom instruction methods
- Motivational and engagement factors
- Suggestions for platform improvement

Participant Observation: The researcher conducted classroom observations during platform implementation sessions, taking detailed field notes on teacher-student interactions, technology use patterns, and classroom dynamics. A total of 24 observation sessions were completed (8 per institution).

Document Analysis: Relevant documents including lesson plans, student work samples, teacher reflection journals, and institutional technology policies were collected and analyzed to provide additional context for understanding stakeholder experiences.

Data Analysis

Data analysis followed the thematic analysis procedures outlined by Braun and Clarke (2006), progressing through six phases: familiarization with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report.

Transcription and Initial Analysis: All interviews and focus groups were audiorecorded and transcribed verbatim by a professional transcription service. Transcripts were reviewed for accuracy and imported into NVivo 12 qualitative data analysis software for systematic coding and analysis.

Coding Process: Initial coding was conducted independently by two researchers using an inductive approach, allowing codes to emerge from the data rather than being predetermined. The coding process followed procedures described by Saldaña (2016), beginning with descriptive coding to capture basic topics and progressing to more interpretive coding to identify patterns and relationships.

Theme Development: Codes were organized into potential themes through an iterative process of comparison and consolidation. Themes were reviewed against coded data extracts and the entire dataset to ensure internal coherence and external distinctiveness, following procedures recommended by Patton (2015).

Member Checking: Preliminary findings were shared with participant representatives to verify accuracy and enhance credibility. Feedback was incorporated into final theme refinement and reporting.

Trustworthiness: Multiple strategies were employed to enhance trustworthiness, including prolonged engagement, triangulation of data sources, peer debriefing, and maintenance of an audit trail documenting all analytical decisions (Lincoln & Guba, 1985).

5. Findings

The thematic analysis of interview transcripts, focus group discussions, observation notes, and documents revealed five major themes that characterize teacher and student experiences with AI-powered personalized learning platforms in ESL classrooms. These themes represent the most significant and frequently occurring patterns across all data sources and participant groups.

Theme 1: Transformative Personalization Experiences

Both teachers and students described AI-powered platforms as providing unprecedented levels of personalization that fundamentally changed their perceptions of language learning and instruction. This theme captures the ways in which adaptive algorithms created individually tailored learning experiences that participants found distinctly different from traditional classroom approaches.

Teacher Perspectives on Personalization:

Teachers consistently emphasized how AI platforms enabled them to address individual student needs in ways that were previously impossible with traditional instructional methods. Maria, a teacher at Mountain View Community College with 8 years of experience, explained:

"What amazes me most is how the platform knows exactly where each student is struggling. In a traditional classroom, I might notice that Juan has trouble with past tense, but I don't always catch the specific patterns of his errors. The AI picks up on things I miss – like how he consistently struggles with irregular verbs but does fine with regular past tense forms. It's like having a microscope on each student's learning."

Teachers described feeling empowered by the detailed analytics and individualized recommendations provided by the platforms. Sarah, from the Midwest University program, noted:

"For the first time in my teaching career, I feel like I truly understand what each student needs. The platform doesn't just tell me they got something wrong – it explains why they got it wrong and suggests exactly what to work on next. It's transformed how I think about assessment and instruction."

However, teachers also grappled with questions about their role in an increasingly automated educational environment. David, from Brooklyn Adult Learning Center, reflected:

"Sometimes I wonder if the computer understands my students better than I do. That's both exciting and a little unsettling. I've had to rethink what it means to be a teacher when the technology can do so much of what I used to do."

Student Experiences of Personalization:

Students across all institutions described AI personalization as a revelation that made learning more efficient and engaging. Ahmed, a 32-year-old Arabic speaker, explained:

"Before, in regular class, teacher teach same thing to everyone. But I already know some things, and some things very difficult for me. This computer, it knows what I know and what I don't know. It gives me exactly what I need to learn."

Many students compared the personalized experience favorably to traditional classroom instruction. Li Wei, a Chinese graduate student, noted:

"In regular English class, sometimes I feel bored because lesson too easy, sometimes I feel lost because too difficult. But this program, it's always at my level. When I understand something, it gives me harder exercises. When I struggle, it gives me more practice with easier examples."

Students particularly valued the adaptive pacing features that allowed them to progress at their own speed. Carmen, a Spanish-speaking student at Mountain View, explained:

"I can take my time with difficult grammar, but I can move quickly through vocabulary I already know. In regular class, we all have to go at same speed, and that doesn't work for me."

Theme 2: Enhanced Learner Autonomy and Motivation

Participants described how AI platforms fostered greater learner autonomy and intrinsic motivation through features that supported self-directed learning and provided immediate feedback and recognition for progress.

Development of Learner Autonomy:

Teachers observed significant changes in their students' approaches to learning, with many becoming more self-directed and reflective about their progress. Linda, from Midwest University, noted:

"My students are taking more ownership of their learning than I've ever seen. They're checking their progress, setting their own goals, and even asking me questions about specific grammar points the platform identified as challenging for them. The AI is turning them into more autonomous learners."

Students confirmed these observations, describing how the platforms helped them develop metacognitive awareness of their learning processes. Fatima, an Arabic speaker, explained:

"Before, I didn't really know what I was good at or bad at in English. I just knew English was hard. But now I can see exactly what I need to work on. The program shows me I'm good at vocabulary but need help with listening. So I know where to focus my attention."

Motivational Impacts:

The gamification elements present in some platforms, particularly Duolingo for Schools, generated strong motivational responses from students. However,

participants distinguished between surface-level game features and deeper motivational impacts related to personalized feedback and progress tracking.

Students described how immediate feedback and progress visualization maintained their engagement in ways that traditional instruction could not. Pavel, a Russian speaker, noted:

"In regular class, I do homework and wait one week to get it back. Sometimes I forget what I was thinking when I wrote it. But with this program, I know right away if I'm right or wrong, and I can fix my mistakes immediately. It keeps me interested."

Teachers observed changes in student persistence and effort, particularly among learners who had previously struggled with motivation. Jennifer, from Brooklyn Adult Learning Center, explained:

"I have students who rarely completed assignments in traditional classes, but they're spending hours on the AI platform at home. There's something about the immediate feedback and the way it celebrates small victories that keeps them engaged."

Theme 3: Teacher Role Evolution and Professional Identity Shifts

Teachers described experiencing significant shifts in their professional roles and identities as AI platforms took over many traditional instructional functions. This theme captures both the opportunities and challenges associated with these evolving roles.

From Information Provider to Learning Facilitator:

Teachers consistently described a shift from being primary sources of information and feedback to becoming facilitators of learning experiences and interpreters of AIgenerated data. Robert, from Mountain View Community College, explained:

"I used to spend so much time correcting papers and explaining the same grammar rules over and over. Now the AI does most of that correction and explanation, and I can focus on helping students understand what the feedback means and how to apply it in real communication situations."

This role shift was generally welcomed by teachers, who appreciated being freed from routine tasks to focus on higher-level instructional activities. Michelle, from Midwest University, noted:

"I feel like I'm finally doing what I was trained to do as a language teacher – helping students develop communicative competence rather than just correcting their grammar mistakes. The AI handles the mechanical stuff, and I can focus on the human elements of language learning."

Professional Identity Challenges:

However, teachers also grappled with questions about their continued relevance and expertise in an AI-enhanced educational environment. Some expressed concerns about deskilling and professional displacement. Carlos, from Brooklyn Adult Learning Center, reflected: "Sometimes I wonder if schools will decide they don't need teachers anymore, just computers and maybe some technicians to keep the machines running. It makes me question what unique value I bring as a human teacher."

Teachers worked to redefine their professional identity in ways that emphasized distinctly human capabilities. As Susan, from Mountain View, explained:

"I've realized that my job isn't just to teach grammar rules – it's to help students connect with English as a language for real communication, to understand cultural contexts, to build confidence in speaking. Those are things that AI can't do, at least not yet."

Need for New Professional Competencies:

Teachers identified the need to develop new technological and pedagogical competencies to work effectively with AI platforms. This included learning to interpret analytics data, integrate AI-generated insights with pedagogical knowledge, and balance AI-mediated instruction with human interaction.

Patricia, from Midwest University, noted:

"I had to learn a whole new set of skills – how to read the analytics, how to interpret what the data means for my instruction, how to help students understand their progress reports. It's like learning a new language of teaching."

Theme 4: Technological Integration Challenges and Digital Divide Concerns

Despite the generally positive experiences with AI platforms, participants identified significant challenges related to technology integration, technical reliability, and equity concerns that affected implementation success.

Technical Reliability and Support Issues:

Teachers and students reported various technical problems that disrupted learning experiences and created frustration. These included connectivity issues, software glitches, and platform downtime. Mark, from Brooklyn Adult Learning Center, described common challenges:

"We lost about three class sessions due to technical problems – sometimes the platform was down, sometimes our internet was too slow, sometimes the speech recognition wasn't working properly. When you're trying to maintain momentum in language learning, these disruptions really hurt."

Students also expressed frustration with technical issues, particularly speech recognition problems that affected their ability to practice pronunciation. Yuki, a Japanese speaker, explained:

"The speaking exercises are good when they work, but sometimes the computer doesn't understand my pronunciation even when I think I'm saying it correctly. Then I don't know if my pronunciation is wrong or if it's just a computer problem."

Digital Divide and Equity Concerns:

Teachers identified significant equity concerns related to students' varying levels of technology access and digital literacy. These disparities were particularly

pronounced at the Brooklyn Adult Learning Center, which served a predominantly immigrant population with limited resources.

Angela, from Brooklyn, noted:

"Some of my students have the latest smartphones and high-speed internet at home, while others are trying to complete assignments on old phones with limited data plans. The AI platform assumes everyone has equal access to technology, but that's just not reality for my students."

Students confirmed these access issues, describing how technological barriers affected their ability to engage with AI platforms. Maria Elena, a Spanish speaker, explained:

"I want to practice at home, but my phone is old and the app crashes sometimes. Also, I worry about using too much data because I have to pay extra. So I can only practice at school, but there's not always enough time."

Digital Literacy Challenges:

Teachers observed that students' digital literacy levels significantly affected their ability to benefit from AI platforms. While younger students generally adapted quickly, older learners often struggled with navigation and feature utilization.

Helen, from Mountain View, described these challenges:

"My older students – especially those over 45 – need a lot more support learning how to use the platform effectively. They can do the basic exercises, but they don't know how to access the analytics or understand their progress reports. The AI can personalize the content, but it can't teach them how to use the technology itself."

Theme 5: Balancing Human Interaction with AI-Mediated Learning

Both teachers and students emphasized the continued importance of human interaction and authentic communication opportunities, even within AI-enhanced learning environments. This theme captures ongoing concerns about maintaining the social and communicative aspects of language learning.

Preserving Authentic Communication Opportunities:

Teachers consistently stressed the need to balance AI-mediated instruction with opportunities for genuine human interaction and authentic communication practice. Laura, from Midwest University, explained:

"The AI is excellent for grammar practice and vocabulary building, but language is fundamentally about communication between people. I have to make sure my students still have plenty of opportunities to talk with me and with each other about real topics that matter to them."

Students echoed these sentiments, expressing appreciation for AI capabilities while maintaining preference for human interaction in certain contexts. Hassan, an Arabic speaker, noted:

"The computer is good for practicing grammar and learning new words, but when I have a question about American culture or I want to talk about something that

happened in the news, I need to talk to a real person. The teacher understands things the computer doesn't."

Social Learning and Peer Interaction:

Teachers observed that AI platforms, while effective for individualized instruction, could inadvertently reduce peer interaction and collaborative learning opportunities if not carefully managed. Kevin, from Brooklyn, noted:

"When students are all working individually on their computers, they're not talking to each other as much. I have to deliberately create opportunities for them to share what they're learning and practice together, because the social aspect of language learning is so important."

Students valued opportunities to discuss their AI platform experiences with classmates and learn from each other's strategies. Dimitri, a Russian speaker, explained:

"It's helpful to talk with other students about the program – sometimes they discover features I didn't know about, or they have good strategies for the difficult exercises. We can help each other even though we're each following our own personalized path."

Teacher Presence and Emotional Support:

Both teachers and students emphasized the irreplaceable role of human teachers in providing emotional support, cultural guidance, and motivational encouragement that AI platforms could not replicate.

Students particularly valued their teachers' ability to provide encouragement during challenging periods and to understand cultural and contextual factors affecting their learning. Ana, a Spanish speaker, reflected:

"When I feel frustrated or want to give up, I need my teacher to encourage me and remind me why I'm learning English. The computer can tell me I made a mistake, but it can't understand how I feel or help me when I'm discouraged."

Teachers described their ongoing role in providing emotional support and cultural mediation as essential and irreplaceable. Nancy, from Mountain View, noted:

"Students need someone who understands not just their language errors, but their cultural background, their goals, their fears about learning English. That kind of understanding and support is fundamentally human – it's not something an algorithm can provide."

6. Discussion

The findings of this qualitative study illuminate the complex and multifaceted nature of stakeholder experiences with AI-powered personalized learning in ESL contexts. The five themes that emerged from the data reveal both the transformative potential of these technologies and the significant challenges that must be addressed for successful implementation.

The Promise and Challenge of AI Personalization

The finding that both teachers and students experienced AI personalization as transformative aligns with theoretical predictions from adaptive learning research (Plass et al., 2020) and supports claims made by AI education proponents (Luckin et al., 2016). However, the depth of impact described by participants suggests that AI personalization may represent more than simply an incremental improvement over traditional differentiated instruction.

Participants' descriptions of AI platforms as providing "microscopic" views of individual learning needs echo Vygotsky's (1978) conceptualization of the Zone of Proximal Development, but suggest that AI may operationalize this concept more precisely than human teachers can achieve alone. As Warschauer and Healey (1998) predicted in their early work on computers in language learning, technology appears to be serving as a powerful mediating tool that enhances rather than replaces human pedagogical expertise.

The finding that AI personalization fostered greater learner autonomy supports self-determination theory predictions (Deci & Ryan, 1985) while extending previous research on technology and motivation in language learning (Rienties & Rivers, 2014). Participants' descriptions of increased metacognitive awareness and self-directed learning behaviors suggest that AI platforms may be successfully addressing what Holec (1981) identified as a central challenge in language education: developing learners' capacity for autonomous learning.

Evolving Teacher Roles and Professional Identity

The theme of teacher role evolution reflects broader discussions in educational technology literature about the changing nature of teaching in digital environments (Mishra & Koehler, 2006). However, participants' experiences reveal that these changes are more complex and emotionally challenging than much of the literature suggests.

Teachers' shift from information providers to learning facilitators aligns with constructivist pedagogical approaches (Jonassen, 1999) and mirrors transformations observed in other technology-enhanced educational contexts (Ertmer & Ottenbreit-Leftwich, 2010). However, the depth of professional identity questioning described by participants suggests that AI integration may represent a more fundamental challenge to traditional teaching roles than previous educational technologies.

The finding that teachers worked to redefine their professional identity around distinctly human capabilities echoes concerns raised by scholars like Selwyn (2019) about the need to preserve human elements in increasingly automated educational environments. Teachers' emphasis on emotional support, cultural mediation, and authentic communication facilitation suggests that successful AI integration may require explicit recognition and cultivation of these uniquely human contributions.

Technology Integration Challenges and Equity Concerns

The technical and equity challenges identified in this study reflect persistent issues in educational technology implementation that have been documented since the early days of computer-assisted language learning (Chapelle, 2001). However, the AI context appears to amplify these concerns in important ways.

The digital divide issues described by participants align with broader research on educational equity and technology access (Reich & Mehta, 2020). However, the finding that AI platforms assume universal technology access while serving populations with significant disparities highlights a crucial design and policy challenge. As Cuban (2001) noted in his analysis of computers in schools, technology solutions often exacerbate existing inequalities unless carefully designed and implemented with equity concerns in mind.

The digital literacy challenges identified by teachers reflect what Prensky (2001) termed the "digital divide" between "digital natives" and "digital immigrants," though participants' experiences suggest that this divide is more complex and consequential in AI-mediated learning environments than previous research has indicated.

Balancing AI and Human Elements

The finding that participants valued AI capabilities while insisting on the continued importance of human interaction reflects what Heift and Schulze (2015) describe as the fundamental tension in computer-assisted language learning between technological efficiency and authentic communicative practice.

Students' preferences for human interaction in certain contexts support Long's (1985) Interaction Hypothesis, which emphasizes the importance of negotiated meaning-making in second language acquisition. The finding that AI platforms could inadvertently reduce peer interaction opportunities highlights the need for careful pedagogical design that leverages AI capabilities while preserving essential social elements of language learning.

Teachers' emphasis on their role in providing emotional support and cultural guidance aligns with research on the affective dimensions of language learning (Arnold, 1999) and suggests that successful AI integration must account for what Dörnyei (2005) describes as the fundamentally social and emotional nature of second language acquisition.

7. Implications for Theory and Practice

These findings have several important implications for both theoretical understanding and practical implementation of AI in language education:

Theoretical Implications:

The study extends existing theories of personalized learning by demonstrating how AI can operationalize theoretical constructs like the Zone of Proximal Development in practical educational settings. The findings also contribute to understanding of teacher professional identity in technology-enhanced environments and suggest the need for new theoretical frameworks that account for AI-human collaboration in educational contexts.

Practical Implications:

For educators and administrators considering AI platform adoption, the findings suggest that successful implementation requires:

- 1. Comprehensive professional development programs that address both technical skills and pedagogical integration strategies
- 2. Explicit attention to equity concerns and digital divide issues in platform selection and implementation
- 3. Careful balance between AI-mediated instruction and opportunities for authentic human interaction
- 4. Ongoing support for teachers as they navigate evolving professional roles and identities

8. Limitations and Future Research Directions

Several limitations should be considered when interpreting these findings. First, the study was conducted in a specific geographic and cultural context (United States) and may not be transferable to other educational systems or cultural settings. Second, the 16-week timeframe, while substantial for qualitative research, may not capture long-term effects or adaptation patterns that develop over extended use periods. Third, the focus on intermediate-level learners limits generalizability to other proficiency levels.

Future research should examine stakeholder experiences across different cultural and educational contexts to enhance understanding of how local factors influence AI integration. Longitudinal studies tracking teacher and student experiences over multiple semesters or years would provide valuable insights into adaptation patterns and sustained implementation effects. Additionally, research examining experiences across different proficiency levels and age groups would inform more comprehensive implementation strategies.

Comparative studies examining stakeholder experiences with different AI platforms within the same educational contexts would provide practical guidance for platform selection decisions. Research investigating the development of teacher professional competencies for AI integration could inform more effective professional development programs.

9. Conclusion

This descriptive qualitative study provides rich insights into the lived experiences of ESL teachers and students with AI-powered personalized learning platforms. The findings reveal that while these technologies offer significant potential for transforming language education through unprecedented personalization capabilities, successful implementation requires careful attention to pedagogical integration, equity concerns, and the preservation of essential human elements in language learning.

The transformative personalization experiences described by participants suggest that AI platforms can effectively operationalize theoretical constructs like the Zone of Proximal Development while fostering greater learner autonomy and motivation. However, the challenges identified around teacher role evolution, technological integration, and balancing AI with human interaction highlight the complexity of implementing these technologies in authentic educational settings.

The study's findings have important implications for TESOL practice and policy. Educators considering AI platform adoption should prioritize comprehensive professional development programs that address both technical skills and pedagogical integration strategies. Institutional policies should explicitly address equity concerns related to technology access and digital literacy, ensuring that AIpowered learning opportunities do not exacerbate existing educational disparities.

Perhaps most importantly, the findings suggest that successful AI integration in language education requires a collaborative approach that leverages the unique strengths of both artificial intelligence and human expertise. AI platforms excel at providing personalized instruction, immediate feedback, and detailed learning analytics, while human teachers remain essential for emotional support, cultural mediation, authentic communication facilitation, and the complex pedagogical decision-making that effective language instruction requires.

As Chapelle and Sauro (2017) predicted, AI integration in language education does represent a technological revolution, but the experiences of teachers and students in this study suggest that this revolution is most successful when it enhances rather than replaces human elements of language teaching and learning. The challenge for the field moving forward is to develop implementation strategies that maximize the benefits of AI personalization while preserving the fundamentally human and social nature of language acquisition.

The voices of teachers and students captured in this study remind us that behind every algorithm and analytics dashboard are real people with complex needs, motivations, and experiences. Their perspectives provide essential guidance for ensuring that AI-powered innovations in language education serve their intended purpose: creating more effective, engaging, and equitable learning opportunities for all ESL learners.

Future developments in AI-powered language learning should be informed by continued research into stakeholder experiences and needs. Only by maintaining focus on the human elements of language education can we ensure that technological innovations truly enhance rather than diminish the transformative potential of language learning experiences.

References

Arnold, J. (1999). Affect in language learning. Cambridge University Press.

Baker, R. S., & Inventado, P. S. (2014). Educational data mining and learning analytics. In J. A. Larusson & B. White (Eds.), *Learning analytics: From research to practice* (pp. 61-75). Springer.

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.

Chapelle, C. A. (2001). *Computer applications in second language acquisition*. Cambridge University Press.

Chapelle, C. A. (2009). The relationship between second language acquisition theory and computer-assisted language learning. *The Modern Language Journal*, 93(1), 741-753.

Chapelle, C. A., & Sauro, S. (2017). *The handbook of technology and second language teaching and learning*. Wiley Blackwell.

Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264-75278.

Chen, X., & Liu, M. (2022). Cultural factors in AI-powered language learning: A cross-cultural study. *Computer Assisted Language Learning*, 35(4), 789-812.

Cuban, L. (2001). Oversold and underused: Computers in the classroom. Harvard University Press.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum Press.

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition.* Lawrence Erlbaum Associates.

Ellis, R. (2005). *The study of second language acquisition* (2nd ed.). Oxford University Press.

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.

Godwin-Jones, R. (2017). Smartphones and language learning. *Language Learning* & *Technology*, 21(2), 3-17.

Godwin-Jones, R. (2019). Artificial intelligence and language learning: Applications and implications. *Language Learning & Technology*, 23(1), 1-14.

Grgurović, M., Chapelle, C. A., & Shelley, M. C. (2013). A meta-analysis of effectiveness studies on computer technology-supported language learning. *ReCALL*, 25(2), 165-198.

Heift, T., & Schulze, M. (2015). Tutorial computer-assisted language learning. *Language Teaching*, 48(4), 471-490.

Hockly, N. (2019). Artificial intelligence in language learning: Friend or foe? *ELT Journal*, 73(4), 457-460.

Holec, H. (1981). Autonomy and foreign language learning. Pergamon Press.

Holstein, K., McLaren, B. M., & Aleven, V. (2018). Student learning benefits of a mixed-reality teacher awareness tool in AI-enhanced classrooms. *Artificial Intelligence in Education*, 10947, 154-168.

Hubbard, P. (2008). CALL and the future of language teacher education. *CALICO Journal*, 25(2), 175-188.

Husserl, E. (1913). Ideas: General introduction to pure phenomenology. Macmillan.

Jonassen, D. H. (1999). Designing constructivist learning environments. In C. M. Reigeluth (Ed.), *Instructional-design theories and models: A new paradigm of instructional theory* (Vol. 2, pp. 215-239). Lawrence Erlbaum Associates.

Kessler, G. (2018). Technology and the future of language teaching. *Foreign Language Annals*, 51(1), 205-218.

Kim, H., & Kim, J. (2021). AI-powered language learning and student motivation: A self-determination theory perspective. *Computers & Education*, 165, 104-118.

Kumaravadivelu, B. (2016). The decolonial option in English teaching: Can the subaltern act? *TESOL Quarterly*, 50(1), 66-85.

Lee, S. M., & Lee, J. H. (2020). Teacher experiences with AI-powered learning platforms in EFL contexts. *Computer Assisted Language Learning*, 33(8), 851-879.

Levy, M., & Stockwell, G. (2006). *CALL dimensions: Options and issues in computerassisted language learning.* Lawrence Erlbaum Associates.

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. Sage Publications.

Long, M. H. (1985). Input and second language acquisition theory. In S. M. Gass & C. G. Madden (Eds.), *Input in second language acquisition* (pp. 377-393). Newbury House.

Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson Education.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054.

Moustakas, C. (1994). Phenomenological research methods. Sage Publications.

Pane, J. F., Steiner, E. D., Baird, M. D., & Hamilton, L. S. (2017). *Continued progress: Promising evidence on personalized learning*. RAND Corporation.

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Sage Publications.

Piaget, J. (1977). *The development of thought: Equilibration of cognitive structures*. Viking Press.

Plass, J. L., Moreno, R., & Brünken, R. (2020). *Cognitive load theory*. Cambridge University Press.

Prensky, M. (2001). Digital natives, digital immigrants. On the Horizon, 9(5), 1-6.

Reich, J., & Mehta, J. (2020). Failure to disrupt: Why technology alone can't transform education. Harvard University Press.

Rienties, B., & Rivers, B. A. (2014). Measuring and understanding learner emotions: Evidence and prospects. Learning Analytics Review, 1, 1-28.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.

Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Sage Publications.

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23(4), 334-340.

Selwyn, N. (2019). Should robots replace teachers? AI and the future of education. Polity Press.

Tomlinson, C. A. (1999). *The differentiated classroom: Responding to the needs of all learners*. Association for Supervision and Curriculum Development.

van Manen, M. (2016). *Researching lived experience: Human science for an action sensitive pedagogy* (2nd ed.). Routledge.

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.

Wang, Y., & Petrina, S. (2013). Using learning analytics to understand the design of an intelligent language tutoring system for ESL students. *Educational Technology Research and Development*, 61(2), 225-244.

Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. *Language Teaching*, 31(2), 57-71.

Xu, Q., & Zuo, X. (2019). Teacher perceptions of AI-powered learning platforms in Chinese EFL contexts. *Computer Assisted Language Learning*, 32(7), 692-713.