



STUDENTS' PERCEPTIONS AND LEARNING INTEREST AS DETERMINANTS OF ENGLISH SPEAKING ABILITY IN AI-ASSISTED AND QUIZIZZ-BASED LEARNING ENVIRONMENTS

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ABSTRACT

This study explored the implementation of AI-Assisted Learning and Quizizz-Based Learning in enhancing students' English speaking ability in the EFL classroom at Universitas Asaindo. It also examined how learning interest and students' perceptions emerged through the integration of these technology-enhanced learning approaches. A qualitative case study design was employed involving 18 first-semester undergraduate students and one English lecturer. Data were collected from students and the lecturer through interviews and classroom observations supported by relevant documentation. The data were analyzed in depth to obtain a comprehensive understanding of participants' experiences in using AI-Assisted Learning and Quizizz-Based Learning. The findings indicated that AI-Assisted Learning improved students' speaking ability by providing personalized feedback, pronunciation correction, and opportunities for independent speaking practice. Students reported increased confidence, fluency, and willingness to communicate in English. In addition, Quizizz-Based Learning enhanced classroom engagement, participation, and learning motivation through gamified features such as points, rankings, and instant feedback. The study also revealed that both learning approaches fostered greater learning interest by creating interactive and enjoyable learning experiences. Furthermore, students expressed positive perceptions toward the use of AI and Quizizz, describing them as useful, accessible, and effective tools for language learning. These positive perceptions and increased learning interest encouraged students to participate more actively in speaking activities. Overall, the integration of AI-Assisted Learning and Quizizz-Based Learning contributed positively to students' English speaking ability and promoted a more engaging and student-centered EFL learning environment.

Keywords: AI-Assisted Learning, Quizizz-Based Learning, Learning Interest, Students' Perceptions, English Speaking Ability.

A. INTRODUCTION

English-speaking ability is widely regarded as one of the most important skills in English as a Foreign Language (EFL) learning, as it enables learners to communicate effectively in academic, professional, and social contexts. According to Susoy (2026), speaking is the productive oral skill that requires learners to use language accurately and fluently in real communication. Similarly, Sayed et al. (2024) argues that speaking is often considered the most challenging language skill because it requires the simultaneous use of vocabulary, grammar, pronunciation, and communication strategies. Despite its importance, many EFL students continue to experience difficulties in speaking English. Problems such as limited vocabulary, inaccurate pronunciation, low confidence, fear of making mistakes, and speaking anxiety frequently hinder students from participating actively in classroom communication.

One factor contributing to students' poor speaking performance is low learning interest. According to Zhang (2026), learning interest is a feeling of preference and attraction toward learning activities that encourages students to participate actively in the learning process. Students with high learning interest tend to demonstrate greater motivation, persistence, and engagement in learning activities. Conversely, students who lack interest often become passive and reluctant to practice speaking. In many EFL classrooms, conventional teaching methods provide limited opportunities for interaction and authentic communication, resulting in decreased student engagement and reduced speaking practice. Students' perceptions also play an important role in language learning outcomes. According to Almayez et al. (2025), perception refers to the process through which individuals interpret and organize information to give meaning to their environment. In educational settings, positive perceptions toward learning activities can increase students' confidence, participation, and willingness to communicate. Conversely, negative perceptions may create anxiety and resistance to learning activities. Therefore, fostering positive perceptions toward English learning is essential for improving students' speaking ability.

Recent technological developments have introduced innovative approaches to address these challenges. One of the most promising innovations is AI-Assisted Learning. According to Liu, Wang, and Wang (2025), artificial intelligence can provide personalized learning experiences by adapting instructional support to learners' individual needs. In language learning, AI applications offer speech recognition, pronunciation assessment, automated feedback, and opportunities for independent practice. These features enable students to receive immediate feedback and continuously improve their speaking performance. Previous studies have shown that AI-assisted learning can enhance learners' confidence, autonomy, and communication skills by providing a supportive and individualized learning environment. Another technology that has gained considerable attention in education is Quizizz-Based Learning. Quizizz is a gamification platform that integrates educational content with game elements such as points, rankings, badges, and instant feedback. According to Peng, Akhter, and Hashemifardnia (2025), gamification refers to the use of game-design elements in non-game contexts to increase user engagement and motivation. Through its interactive and competitive features, Quizizz encourages active participation and creates an enjoyable learning atmosphere. As a result, students become more interested in learning activities and more willing to engage in classroom communication.

Although various digital learning technologies have been introduced into EFL classrooms, many students continue to experience difficulties in developing English-speaking proficiency. Existing evidence suggests that the availability of technology does not automatically guarantee improvements in speaking performance (Xue and Ardasheva 2019). Students' learning interest, perceptions, engagement, and willingness to communicate may influence the effectiveness of technology-enhanced learning environments. However, the mechanisms through which AI-Assisted Learning and Quizizz-Based Learning contribute to speaking development remain insufficiently understood. This unresolved issue constitutes the primary research problem addressed in the present study. The relationship among these concepts is theoretically interconnected. AI-Assisted Learning and Quizizz-Based Learning can function as technology-enhanced instructional approaches that increase students' learning interest and shape positive perceptions toward English learning. Higher levels of learning interest encourage students to participate more actively in speaking activities, while positive perceptions foster confidence, willingness to communicate, and engagement in language use. Consequently, these

psychological factors may contribute significantly to the development of English-speaking ability. Therefore, understanding the interaction among technological, motivational, and perceptual factors is essential for explaining the mechanisms through which English-speaking ability can be enhanced in EFL contexts (Black 2023).

Despite the growing adoption of educational technologies in language learning, several important issues remain unresolved. Many EFL learners continue to demonstrate unsatisfactory speaking performance despite being exposed to various digital learning tools. This condition suggests that the effectiveness of educational technologies may depend not only on the technologies themselves but also on how students perceive and engage with these learning environments. Therefore, investigating the mechanisms through which technology-enhanced learning influences speaking ability remains an important research problem in contemporary EFL education. Several significant gaps can be identified in the existing literature. First, previous studies have primarily investigated AI-Assisted Learning and gamification-based learning as separate instructional approaches. Research on AI-Assisted Learning has largely focused on personalized learning, language achievement, learner autonomy, and adaptive feedback systems (Chen et al. 2020). In contrast, studies on Quizizz-Based Learning have mainly examined its effects on student motivation, engagement, classroom participation, and academic performance (Zhang 2026). However, limited research has investigated the combined influence of AI-assisted learning and Quizizz-based learning within a single framework. As a result, the potential synergistic effects of these technologies on English-speaking development remain insufficiently explored.

Second, although speaking ability is considered one of the most important outcomes of EFL learning, existing technology-related studies have focused predominantly on vocabulary acquisition, reading comprehension, writing performance, learning achievement, and motivation. Comparatively fewer studies have examined English-speaking ability as the primary outcome variable. Given that speaking requires not only linguistic knowledge but also confidence, interaction, and communication readiness, further investigation is necessary to understand how educational technologies contribute specifically to speaking development. Research on AI-Assisted Learning has predominantly examined its effectiveness in improving language-related outcomes such as writing quality, grammatical accuracy, vocabulary acquisition, learner autonomy, and personalized learning experiences (Feng 2025). AI-powered applications have been widely utilized to provide adaptive feedback, automated error correction, intelligent tutoring systems, and individualized learning support. Consequently, existing evidence has largely emphasized cognitive and achievement-related outcomes rather than communicative language skills. Although several studies have reported that AI technologies can increase learner confidence and engagement, empirical evidence regarding their direct contribution to English-speaking ability remains limited and inconclusive. Moreover, most previous studies have treated speaking ability as a secondary outcome rather than the primary focus of investigation. Given that speaking proficiency involves complex interactions among linguistic competence, communication confidence, willingness to communicate, and real-time language production, further research is needed to understand how AI-Assisted Learning facilitates speaking development in EFL contexts, particularly among university students. This represents an important empirical gap in the existing literature (Mohebbi 2025).

Third, previous studies have predominantly focused on examining the direct effects of educational technologies on learning outcomes, such as academic achievement, language proficiency, learner engagement, and motivation, while paying limited attention to the underlying psychological mechanisms that explain how these technologies influence students' learning behaviors and performance. Most studies investigating AI-Assisted Learning and Quizizz-Based Learning have primarily assessed whether these technologies improve learning outcomes, with relatively little emphasis on the processes through which such improvements occur (Mekheimer 2025). Consequently, the pathways linking technology-enhanced learning environments to English-speaking development remain insufficiently understood.

From a theoretical perspective, psychological factors play a crucial role in determining learning success. According to Guangxiang, Darwin, and Ma (2025), learning interest is a motivational construct that stimulates learners' attention, engagement, and persistence in learning activities. Students who possess high levels of learning interest are more likely to invest effort, actively participate in classroom activities, and sustain their engagement over time. Similarly, Lee and Lee (2024) argues that learning interest contributes significantly to deeper learning processes and improved academic performance. In EFL contexts, students with strong learning interest are more willing to practice speaking, interact with peers, and participate in communicative activities, which are essential for speaking development. In addition to learning interest, students' perceptions of learning experiences are equally important. According to Xu (2026), perception refers to the process by which individuals organize and interpret information to create meaningful understandings of their environment. In educational settings, positive perceptions toward instructional methods and learning technologies can enhance students' confidence, satisfaction, and willingness to engage in learning activities. Conversely, negative perceptions may reduce participation and create resistance toward learning innovations. Passeggia et al. (2026) further emphasize that learners' beliefs and perceptions significantly influence motivation, self-regulation, and academic achievement. Therefore, students' perceptions may serve as an important mechanism through which educational technologies affect language learning outcomes.

The importance of these psychological variables is also supported by Self-Determination Theory proposed by Ko (2026), which suggests that learners' motivation and engagement are influenced by their psychological experiences within learning environments. Similarly, Feng (2025) Social Cognitive Theory highlights that individuals' beliefs, perceptions, and self-efficacy influence their learning behaviors and performance outcomes. These theoretical perspectives suggest that educational technologies may not directly improve speaking ability; rather, their effectiveness may be transmitted through learners' psychological responses, such as increased interest, positive perceptions, confidence, and willingness to communicate. Despite the recognized importance of learning interest and perception, empirical studies examining their mediating roles in technology-enhanced language learning remain scarce. Most previous studies have treated learning interest and perception as independent variables or descriptive outcomes rather than explanatory mechanisms linking educational technologies and speaking performance. Consequently, there is limited empirical evidence explaining how AI-Assisted Learning and Quizizz-Based Learning influence English-speaking ability through the enhancement of students' learning interest and perceptions (Mohebbi 2025). This limitation represents a significant theoretical gap because the psychological processes through which educational technologies contribute to speaking development remain insufficiently explored. Therefore, further investigation is needed to examine whether learning interest and perception

function as mediating variables in the relationship between AI-Assisted Learning, Quizizz-Based Learning, and English-speaking ability among EFL learners.

Fourth, previous studies have reported inconsistent findings regarding the effectiveness of technology-enhanced learning for speaking development, highlighting the need for further investigation. Several studies have demonstrated that AI-Assisted Learning positively influences communication skills, speaking confidence, pronunciation accuracy, and learner engagement by providing immediate feedback, personalized learning support, and opportunities for autonomous practice (Mekheimer 2025). These findings are consistent with the views of Guangxiang, Darwin, and Ma (2025), who emphasized that learning is facilitated when learners receive appropriate support and scaffolding during the learning process. In AI-assisted environments, adaptive feedback and personalized guidance may function as scaffolding mechanisms that support language development. Furthermore, according to (Zhang and Yang 2026) Input Hypothesis, language acquisition occurs when learners are exposed to comprehensible input in meaningful contexts. AI technologies can provide individualized learning experiences that enable students to receive language input appropriate to their proficiency levels. Similarly, Chi and Lai (2026) Interaction Hypothesis suggests that language development is enhanced through meaningful interaction and feedback. AI-powered language learning applications potentially facilitate such interactions by providing real-time corrective feedback and conversational practice opportunities.

However, not all studies have reported positive outcomes. Several researchers have argued that technological tools alone are insufficient to improve speaking proficiency without active learner participation and strong motivational support (Scherer and Campos 2022). This argument is supported by Bhar (2026), which emphasizes that learning effectiveness depends not only on instructional resources but also on learners' intrinsic motivation, engagement, and psychological needs. Therefore, students who possess low learning interest or negative perceptions toward learning technologies may not fully benefit from AI-assisted learning environments despite having access to advanced technological support. Similar inconsistencies can be observed in studies examining Quizizz-Based Learning. Previous research has consistently reported that Quizizz increases student motivation, enjoyment, classroom participation, and engagement through gamification features such as points, badges, leaderboards, and instant feedback (Choi 2025). These findings are aligned with Youngshin and Woohyeok (2024), who argued that gamification enhances user engagement by incorporating game-design elements into non-game contexts. Likewise, Espana-Delgado (2023) found that gamification positively influences motivation and participation across educational settings.

Nevertheless, evidence regarding the contribution of Quizizz-Based Learning to speaking performance remains mixed and inconclusive. While some studies suggest that increased participation and motivation may indirectly contribute to speaking development, other studies indicate that gamified learning environments primarily improve engagement and formative assessment outcomes without generating substantial improvements in oral communication skills. According to Sanchez and Camarillas (2020), increased interest and engagement do not automatically lead to skill development unless learners are provided with sufficient opportunities for meaningful practice. Consequently, although Quizizz successfully enhances motivation and classroom interaction, its direct contribution to speaking proficiency remains uncertain. The conflicting findings reported in previous studies indicate that additional explanatory variables may influence the effectiveness of technology-enhanced learning for

speaking development. Urhahne and Wijnia (2023) emphasize that learners' perceptions, beliefs, and motivational orientations significantly influence academic performance and learning outcomes. Similarly, Meifang (2024) argue that learning interest plays a crucial role in sustaining engagement and promoting long-term learning achievement. Despite their recognized importance, learning interest and perception have rarely been examined as mediating variables in studies investigating the relationships among AI-Assisted Learning, Quizizz-Based Learning, and English-speaking ability. Therefore, a significant theoretical gap remains regarding the psychological mechanisms through which technology-enhanced learning environments influence speaking development among EFL learners.

Fifth, research examining the relationships among AI-Assisted Learning, Quizizz-Based Learning, learning interest, perception, and English-speaking ability in Indonesian higher education contexts remains relatively scarce. Most existing studies have been conducted in secondary schools or in countries with different educational systems, technological infrastructures, and sociocultural characteristics. According to Kohnke, Moorhouse, and Zou (2023), the effectiveness of technology-enhanced language learning is influenced by contextual factors, including learners' characteristics, instructional design, institutional support, and learning environments. Similarly, Sayed et al. (2024) argues that the success of educational technology implementation depends not only on the technology itself but also on the social and educational contexts in which it is used. Therefore, findings obtained from different countries or educational settings cannot be directly generalized to Indonesian university students, whose learning experiences, technological readiness, and educational backgrounds may differ substantially.

The importance of investigating this issue within Indonesian higher education is further supported by Ebadi et al. (2025) emphasizes that learning occurs within specific social and cultural contexts that shape learners' interactions, perceptions, and cognitive development. Likewise, Kafipour and Khoshnood (2023) argues that educational outcomes are influenced by multiple environmental systems, including institutional and cultural factors. In the context of Indonesian universities, the increasing integration of artificial intelligence and digital learning platforms has created new opportunities and challenges for English language instruction. However, empirical evidence regarding how AI-Assisted Learning and Quizizz-Based Learning influence English-speaking ability through learning interest and perception remains limited. Consequently, further investigation is urgently needed to provide context-specific evidence and to determine whether the relationships identified in previous international studies can be replicated within Indonesian EFL higher education settings.

Furthermore, the rapid advancement of artificial intelligence in education has transformed language learning practices worldwide, creating new opportunities for personalized, interactive, and technology-enhanced learning experiences. According to Zou et al. (2023), artificial intelligence has the potential to revolutionize education by providing adaptive learning pathways, real-time feedback, intelligent tutoring systems, and individualized instructional support tailored to learners' needs. Similarly, Laoun and Khampusaen (2025) argue that AI technologies can enhance learning effectiveness by facilitating personalized learning experiences that are difficult to achieve through traditional instructional approaches. In language education, AI-powered applications increasingly provide speech recognition, automated pronunciation assessment, conversational simulations, and immediate corrective feedback, enabling learners to engage in continuous language practice beyond the classroom



(Chung 2025). These developments indicate that artificial intelligence is no longer merely a supplementary tool but has become an integral component of contemporary language learning environments.

At the same time, the integration of digital learning platforms and gamification technologies has significantly changed students' learning behaviors and expectations. According to Martin and Gallego (2025), gamification enhances learner engagement by incorporating game-design elements into educational activities, while Sa et al. (2025) found that gamified learning environments positively influence motivation, participation, and learning outcomes. However, despite the growing adoption of AI-assisted and gamified learning technologies, their effectiveness in improving English-speaking ability remains insufficiently understood. As noted by Hayati (2020), the successful implementation of educational technology should not be evaluated solely based on its availability or usage but also on its contribution to meaningful language learning outcomes. Therefore, higher education institutions require empirical evidence to determine whether technology integration merely increases student engagement or genuinely facilitates speaking development. Understanding how AI-Assisted Learning and Quizizz-Based Learning influence English-speaking ability through psychological factors such as learning interest and perception is particularly important for developing effective technology-enhanced language instruction. Consequently, this study is considered timely and necessary to provide evidence-based insights for educators, curriculum developers, and policymakers seeking to maximize the educational benefits of artificial intelligence and gamification in EFL learning.

Therefore, this study aims to explore how AI-Assisted Learning and Quizizz-Based Learning contribute to the development of English-speaking ability among EFL learners at Asaindo University. Specifically, the study seeks to investigate students' experiences with the implementation of AI-Assisted Learning and Quizizz-Based Learning and to examine how these technology-enhanced learning approaches influence students' learning interest, perceptions, engagement, and willingness to communicate in English. This objective is grounded in the view of Long, Chan, and Liu (2021), who argue that learning interest plays a crucial role in promoting sustained engagement and active participation in learning activities. Similarly, Chen et al. (2025) emphasize that learners' perceptions and motivational beliefs significantly influence learning behaviors and academic achievement. Furthermore, this study seeks to gain an in-depth understanding of the lecturer's perspectives regarding the integration of AI-Assisted Learning and Quizizz-Based Learning in EFL classrooms, including instructional strategies, classroom implementation, student responses, and perceived impacts on speaking performance. By exploring the experiences of both students and the lecturer, this study aims to explain the psychological and pedagogical mechanisms through which artificial intelligence and gamification technologies support English-speaking development. Ultimately, the study intends to provide context-specific evidence from Indonesian higher education and contribute to the growing literature on technology-enhanced language learning by integrating technological, psychological, and linguistic dimensions within a single conceptual framework.

To the best of the researchers' knowledge, no previous study has simultaneously examined AI-Assisted Learning, Quizizz-Based Learning, learning interest, perception, and English-speaking ability within a single qualitative framework in the context of Indonesian higher education. Existing studies have generally investigated AI-Assisted Learning and Quizizz-Based Learning separately, focusing primarily on language achievement, learner engagement,

motivation, academic performance, or technology acceptance (Sungkur and Shibdeen 2025). Moreover, most previous studies have employed quantitative approaches that emphasize the relationships among variables while providing limited insights into learners' experiences and the processes through which technology-enhanced learning influences speaking development. Consequently, there remains limited understanding of how students experience these technologies and how their learning interest and perceptions contribute to the development of English-speaking ability. This study integrates technological, psychological, and linguistic dimensions by examining the implementation of AI-Assisted Learning and Quizizz-Based Learning in relation to learning interest, perception, and English-speaking ability. Furthermore, the study adopts a qualitative approach to gain a deeper understanding of students' and lecturer's experiences and to explain the psychological and pedagogical mechanisms through which technology-enhanced learning environments support speaking development. By focusing on Indonesian higher education, this study also addresses a contextual gap identified by Xiudi (2025), who argues that the effectiveness of technology-enhanced language learning is influenced by specific educational and sociocultural contexts. Therefore, the findings are expected to enrich the existing literature on technology-enhanced language learning and provide practical insights for educators, curriculum developers, and policymakers seeking to optimize the integration of artificial intelligence and gamification in EFL instruction.

B. METHOD

Research Design

This study employed a qualitative case study design to explore the implementation of AI-Assisted Learning and Quizizz-Based Learning in enhancing students' English speaking ability in an English as a Foreign Language (EFL) classroom at ASAINDO University. A qualitative approach was selected because the study aimed to gain an in-depth understanding of students' experiences, learning interest, perceptions, and speaking development rather than to examine causal relationships among variables. According to Creswell and Creswell (2018), qualitative research is suitable for exploring and understanding the meanings individuals attribute to social and educational phenomena. Through this approach, the researcher was able to investigate how students experienced technology-enhanced learning and how these experiences influenced their engagement in speaking activities. A case study design was adopted because the research focused on a specific and bounded educational context, namely the integration of AI-Assisted Learning and Quizizz-Based Learning in an English-speaking course. Zhang and Fang (2022) explains that a case study is appropriate for investigating contemporary phenomena within their real-life settings. The implementation of AI and Quizizz was examined as a single case to provide a holistic understanding of how these technologies supported students' learning processes. This approach enabled the researcher to explore the interactions between technology use, learning interest, students' perceptions, and English speaking ability within an authentic classroom environment.

The study specifically focused on five interconnected concepts: AI-Assisted Learning, Quizizz-Based Learning, Learning Interest, Students' Perceptions, and English Speaking Ability. AI-Assisted Learning and Quizizz-Based Learning were explored as technology-enhanced instructional approaches, while Learning Interest and Students' Perceptions were examined as important aspects emerging from students' learning experiences. English Speaking Ability served as the primary outcome of the learning process. By employing a



qualitative case study design, the researcher was able to obtain rich and detailed insights into participants' experiences and develop a comprehensive understanding of how technology-supported learning contributed to speaking development in the EFL classroom.

Research Setting and Participants

Research Participants.

The study was conducted at ASAINDO University during the 2025/2026 academic year. The participants consisted of 18 first-semester undergraduate students enrolled in an English course and one English lecturer responsible for teaching the course. The student participants were selected based on the following criteria: (1) they were first-semester undergraduate students enrolled in the English course during the 2025/2026 academic year; (2) they had participated in AI-assisted learning and Quizizz-based learning activities for at least one semester; (3) they attended a minimum of 80% of the class meetings to ensure adequate exposure to the learning interventions; (4) they actively completed learning tasks and speaking activities using AI-assisted learning tools and Quizizz; and (5) they voluntarily agreed to participate in interviews and share their learning experiences. These criteria ensured that the participants had sufficient experience with both learning approaches and could provide detailed information related to the research objectives.

The English lecturer was selected based on the following criteria: (1) being the lecturer responsible for teaching the English course during the study period; (2) having direct experience in designing and implementing AI-assisted learning and Quizizz-based learning activities; and (3) monitoring students' learning progress and speaking performance throughout the semester. The lecturer was included to provide insights into the instructional implementation, student engagement, and observed changes in students' English-speaking ability. The inclusion of participants who met these criteria enabled the researcher to obtain comprehensive and relevant information regarding the implementation of AI-Assisted Learning and Quizizz-Based Learning in the English classroom.

Research Instruments

The primary instruments in this study were interview guidelines, observation sheets, and documentation records.

Interview Guidelines.

Semi-structured interviews were employed as the primary data collection instrument to obtain detailed and comprehensive information regarding participants' experiences with AI-Assisted Learning and Quizizz-Based Learning in the EFL classroom. This interview format was selected because it provided flexibility for the researcher to explore participants' responses in greater depth while maintaining consistency with the research objectives. The interview questions were designed to investigate students' experiences in using AI-assisted learning tools and participating in Quizizz-based learning activities, particularly in relation to their English speaking development. Students were asked about their experiences receiving personalized feedback from AI applications, practicing pronunciation and speaking skills independently, and interacting with Quizizz during classroom activities. The interviews also explored how these technologies influenced their confidence, fluency, pronunciation accuracy, classroom

participation, and engagement in speaking tasks. Furthermore, students were encouraged to share their views regarding the usefulness, accessibility, effectiveness, advantages, and challenges of using AI and Quizizz in English learning. Particular attention was given to understanding how these technologies affected students' learning interest, motivation, willingness to communicate, and overall perceptions of technology-enhanced language learning.

In addition to student interviews, a semi-structured interview was conducted with the English lecturer to obtain a broader understanding of the implementation process. The lecturer was asked about instructional planning, the selection and integration of AI-assisted learning tools and Quizizz-based activities, classroom management strategies, and the objectives of technology-enhanced speaking instruction. The interview also focused on the lecturer's observations of students' participation, engagement, learning interest, speaking performance, and responses toward the use of AI and Quizizz. Moreover, the lecturer was invited to reflect on the effectiveness of these technologies in supporting English speaking development, the challenges encountered during implementation, and recommendations for future technology integration in EFL classrooms. The inclusion of both student and lecturer perspectives enabled the researcher to gain a comprehensive understanding of the phenomenon and strengthen the credibility of the findings through multiple sources of information.

Observation Sheets

Classroom observations were conducted to obtain direct evidence of students' behaviors, interactions, and participation during the implementation of AI-Assisted Learning and Quizizz-Based Learning in English speaking activities. Observation was selected as an important data collection technique because it enabled the researcher to examine actual classroom practices and compare them with the information obtained from interviews. During the observation process, the researcher adopted a non-participant observer role, allowing classroom activities to proceed naturally without interference. The observations focused on several aspects, including students' engagement in learning activities, participation during speaking practices, interactions with AI-assisted learning tools and Quizizz-based activities, confidence in using English for communication, and learning interest demonstrated throughout the instructional process. Particular attention was given to how students responded to personalized feedback provided by AI technologies, participated in Quizizz-based tasks, and interacted with their peers and the lecturer during speaking activities.

The observation process was conducted throughout multiple classroom sessions to capture a comprehensive picture of students' learning experiences. Detailed field notes were used to document significant events, classroom interactions, student responses, and behavioral changes observed during the implementation of technology-enhanced learning. The researcher also recorded information related to classroom atmosphere, student enthusiasm, communication patterns, and overall learning dynamics. These observations provided valuable insights into how AI-Assisted Learning and Quizizz-Based Learning influenced students' learning interest, perceptions, participation, and English speaking development. Furthermore, the observational data served as a means of triangulation, supporting and validating the findings obtained from interviews and documentation.



Documentation

Documentation was utilized as a supplementary data source to support, enrich, and validate the information obtained from interviews and classroom observations. According to Creswell and Creswell (2018), documents serve as valuable sources of qualitative data because they provide detailed information about the research context and help researchers verify findings from other data collection methods. In this study, documentation was collected throughout the research process to provide additional evidence regarding the implementation of AI-Assisted Learning and Quizizz-Based Learning in the EFL classroom. The collected documents included course syllabi, lesson plans, teaching materials, screenshots of AI-assisted learning activities, Quizizz activity reports, students' assignments, speaking performance records, and photographs of classroom learning activities. These documents provided contextual information regarding instructional objectives, learning procedures, and the integration of technology into speaking instruction.

The documentation data were carefully reviewed and analyzed to identify evidence related to students' learning interest, perceptions, participation, and English speaking development. Screenshots of AI-assisted learning activities and Quizizz reports were particularly useful in illustrating how students interacted with technology-enhanced learning tools throughout the course. In addition, students' assignments and speaking performance records provided supporting evidence of their learning progress, while classroom photographs helped capture the learning environment and student engagement during instructional activities. The use of documentation enabled the researcher to triangulate data from multiple sources and enhance the credibility and trustworthiness of the study by providing concrete evidence of the implementation and outcomes of AI-Assisted Learning and Quizizz-Based Learning in the classroom.

Data Collection Procedures

The data collection process in this study was conducted in three sequential stages to ensure a systematic and comprehensive understanding of the implementation of AI-Assisted Learning and Quizizz-Based Learning in EFL speaking instruction. The first stage was preliminary observation, in which the researcher attended several classroom meetings to gain an initial understanding of the learning environment, teaching strategies, and student interaction patterns. This stage allowed the researcher to become familiar with participants and to identify how AI-assisted learning tools and Quizizz-based activities were integrated into speaking instruction. Preliminary observation also provided contextual insights into classroom dynamics, including students' initial responses, engagement levels, and the overall learning atmosphere before the main data collection process began.

The second stage involved intensive classroom observations during the actual implementation of AI-Assisted Learning and Quizizz-Based Learning activities. In this stage, the researcher systematically observed students' participation, interaction, engagement, and speaking performance throughout the learning process. Special attention was given to how students responded to AI-generated feedback, how they participated in Quizizz-based tasks, and how these technologies influenced their willingness to speak English. Detailed field notes were recorded during each session to capture significant classroom events, behavioral changes, and



interaction patterns. These observations were conducted across multiple meetings to ensure data richness and consistency.

The third stage consisted of interviews and documentation collection. Semi-structured interviews were conducted with both students and the English lecturer to explore their experiences, perceptions, learning interest, and reflections on the use of AI and Quizizz in speaking activities. Each interview lasted approximately 20–40 minutes and was audio-recorded with participants' consent to ensure accuracy of data transcription. In parallel, relevant documents such as lesson plans, learning materials, Quizizz reports, AI learning outputs, and students' speaking performance records were collected and reviewed. This triangulated approach strengthened the validity of the findings by combining observational, interview, and documentary evidence.

Data Analysis

The collected data were analyzed in depth to obtain a comprehensive understanding of participants' experiences in using AI-Assisted Learning and Quizizz-Based Learning in EFL speaking instruction. The analysis process followed a systematic qualitative procedure to ensure that all data from interviews, observations, and documentation were carefully examined and interpreted. Initially, all interview recordings were transcribed verbatim to maintain accuracy and authenticity of participants' responses. Observation notes and documentation records were then organized chronologically and thematically to facilitate systematic analysis and comparison across different data sources.

After data organization, the researcher engaged in repeated reading of the transcripts, field notes, and documents to gain a deep familiarity with the data and to identify meaningful patterns related to students' learning experiences. This iterative process allowed the researcher to immerse themselves in the data and develop a comprehensive understanding of participants' perspectives regarding AI-Assisted Learning and Quizizz-Based Learning. Following this, the data were systematically coded by assigning labels to significant statements and expressions related to AI-assisted learning experiences, Quizizz-based activities, learning interest, students' perceptions, and English speaking ability. These initial codes were continuously refined to ensure they accurately reflected the meaning of the data.

Subsequently, similar codes were grouped into broader categories to identify relationships among concepts. From these categories, key themes were developed through an interpretative process that focused on recurring patterns across interviews, observations, and documentation. Particular attention was given to themes explaining how AI-Assisted Learning supported speaking development through feedback and independent practice, how Quizizz-Based Learning increased student engagement and motivation through gamified learning features, and how learning interest and students' perceptions influenced participation and speaking performance. Finally, the identified themes were synthesized to construct a coherent and comprehensive interpretation of how AI-Assisted Learning and Quizizz-Based Learning contributed to students' English speaking development in the EFL classroom context.



Trustworthiness of the Study

To ensure the credibility and trustworthiness of the findings, several strategies were employed in this study to enhance the rigor of qualitative inquiry. The concept of trustworthiness is essential in qualitative research to ensure that the findings are accurate, reliable, and reflective of participants' actual experiences within the research context.

Credibility was established through data triangulation by comparing and cross-checking information obtained from interviews, classroom observations, and documentation. This process allowed the researcher to verify the consistency of findings across different data sources. In addition, member checking was conducted by inviting participants to review and confirm the accuracy of interview transcripts and preliminary interpretations. This helped ensure that participants' intended meanings were accurately represented.

Transferability was addressed by providing thick and detailed descriptions of the research setting, participants, classroom activities, and the implementation of AI-Assisted Learning and Quizizz-Based Learning. These rich descriptions enable readers to understand the context of the study and determine whether the findings can be applied or transferred to similar educational settings. Dependability was ensured by maintaining a clear and systematic documentation of all research procedures, including data collection steps, interview processes, observation activities, and data analysis decisions. This audit trail allows the research process to be reviewed and demonstrates consistency in how the study was conducted over time.

Confirmability was achieved by ensuring that the findings were grounded in the actual data rather than the researcher's personal bias or assumptions. This was supported through the use of multiple evidence sources, including interview excerpts, observation notes, and documentation such as lesson plans and Quizizz reports. By triangulating these sources, the study strengthened the objectivity and neutrality of the interpretations. Overall, these strategies ensured that the study maintained high standards of trustworthiness and produced findings that are credible, dependable, and well-supported by empirical evidence.

C. FINDINGS AND DISCUSSION

Findings

The findings of this study present the main themes derived from interviews, classroom observations, and documentation regarding the implementation of AI-Assisted Learning and Quizizz-Based Learning in EFL speaking instruction. The analysis revealed four major themes: (1) enhancement of English speaking ability through AI-assisted learning, (2) increased engagement and motivation through Quizizz-based learning, (3) development of learning interest, and (4) formation of positive students' perceptions toward technology-enhanced learning. Overall, the findings indicate an interconnected relationship among AI-assisted learning, Quizizz-based learning, learning interest, students' perceptions, and English speaking ability.

Enhancement of English Speaking Ability through AI-Assisted Learning

The findings revealed that AI-Assisted Learning significantly contributed to the improvement of students' English speaking ability in several interconnected aspects, including pronunciation

accuracy, fluency development, grammatical control, and speaking confidence. Students reported that AI-based applications provided immediate, specific, and personalized feedback after each speaking attempt. This feedback allowed learners to directly identify their pronunciation errors, such as incorrect stress patterns, intonation issues, and mispronounced phonemes, as well as grammatical mistakes that often hindered communication clarity. In addition, AI tools enabled students to repeatedly practice speaking tasks in a low-pressure environment, which reduced anxiety and encouraged more frequent oral production in English.

This finding is strongly supported by Laoun and Khampusaen (2025), who emphasizes that Artificial Intelligence in education facilitates adaptive and personalized learning experiences by analyzing learners' performance and providing tailored feedback based on individual needs. In this context, AI functioned not only as a learning tool but also as an intelligent feedback system that guided students' gradual improvement in speaking skills. The continuous cycle of practice and feedback contributed to measurable progress in students' fluency, as they became more able to speak with smoother delivery and fewer hesitations over time. Furthermore, classroom observations indicated a noticeable increase in learner autonomy during speaking activities. Students were observed engaging in independent practice sessions, repeating speaking tasks multiple times without direct instruction from the lecturer. This behavior reflects the concept of autonomy proposed by Zhang (2025), who argues that learner autonomy plays a crucial role in language acquisition because it encourages students to take responsibility for their own learning process. In this study, AI-assisted tools supported autonomous learning by allowing students to self-evaluate their performance and make corrections independently.

In addition, students demonstrated reduced speaking anxiety when using AI tools compared to traditional classroom speaking activities. The absence of immediate peer or lecturer evaluation created a psychologically safe learning environment, enabling students to experiment with language use more freely. As a result, students became more willing to take risks in speaking, which is an essential factor in developing communicative competence. Overall, the integration of AI-Assisted Learning not only improved technical aspects of speaking ability but also fostered psychological readiness, autonomy, and confidence in English oral communication.

Increased Engagement and Motivation through Quizizz-Based Learning

Quizizz-Based Learning was found to enhance students' engagement and motivation during speaking-related activities in the EFL classroom. The gamification features such as points, rankings, leaderboards, and instant feedback created a competitive yet enjoyable learning environment that encouraged students to participate more actively in speaking tasks. Students showed higher enthusiasm, increased willingness to respond, and greater involvement in classroom interaction when Quizizz was implemented. The interactive and game-like structure of Quizizz also helped reduce boredom and maintained students' attention throughout speaking activities, making the learning process more dynamic and engaging compared to traditional instruction.

This finding is supported by Paudel and Shrestha (2025), who define gamification as the use of game design elements in non-game contexts to enhance user engagement and motivation. In this study, Quizizz functioned as a gamified learning platform that transformed speaking practice into an interactive and competitive activity, thereby increasing students' intrinsic and extrinsic motivation. Furthermore, this result aligns with Rokhaniyah, Ardiyanti, and Hidayat

(2025), who argues that game-based learning environments promote active engagement, sustained participation, and meaningful learning experiences. Overall, the integration of Quizizz contributed not only to increased classroom participation but also to a more enjoyable and motivating speaking learning environment.

Development of Learning Interest

The study found that both AI-Assisted Learning and Quizizz-Based Learning contributed to the development of students' learning interest. According to Meifang Zhang (2024), learning interest is a psychological tendency that drives students to engage actively in learning activities. Students expressed that AI feedback increased curiosity and motivation to improve speaking skills, while Quizizz created a fun and interactive learning environment. This combination of personalization and gamification fostered sustained interest in speaking practice, encouraging students to participate more actively and consistently in English learning activities.

Formation of Positive Students' Perceptions

Students showed generally positive perceptions toward the use of AI-Assisted Learning and Quizizz-Based Learning. This is consistent with Chan and Hu (2023), who explain that perception influences how individuals interpret and respond to their environment. Students perceived AI tools as effective in improving pronunciation and fluency, while Quizizz was viewed as engaging and enjoyable. These positive perceptions reduced speaking anxiety and increased confidence in using English. As a result, students became more willing to participate in speaking activities, which contributed to improved classroom interaction and communication.

Overall Findings

Overall, the findings indicate that AI-Assisted Learning and Quizizz-Based Learning are interrelated in enhancing students' English speaking ability. AI contributes primarily through personalized feedback and learner autonomy, while Quizizz enhances engagement through gamification. These technologies collectively foster learning interest and positive perceptions, which, according to learning motivation theories, play a crucial role in improving language performance.

Discussions

The findings of this study demonstrate that the integration of AI-Assisted Learning and Quizizz-Based Learning significantly contributes to the enhancement of students' English speaking ability through interconnected psychological and pedagogical factors, namely learning interest and students' perceptions. This result supports constructivist learning theory, which posits that knowledge is actively constructed through meaningful interaction with learning environments rather than passively received. In this study, both AI-assisted tools and Quizizz-based activities created interactive, student-centered learning experiences that encouraged active engagement, autonomous practice, and meaningful communication in English speaking activities.

The improvement of students' speaking ability through AI-Assisted Learning can be explained through the theory of personalized learning. According to Ding and Yusof (2025), AI technologies in education are capable of adapting instructional feedback based on individual learner performance, thereby creating a responsive learning environment. The findings of this study confirm this claim, as students consistently reported receiving immediate, specific, and individualized feedback on pronunciation, fluency, and grammatical accuracy. This feedback loop enabled learners to identify linguistic gaps and make continuous improvements through repetitive practice. Moreover, the reduction of speaking anxiety observed in this study aligns with affective filter theory, which suggests that lower anxiety levels facilitate language acquisition. By providing a non-judgmental environment, AI tools reduced students' fear of making mistakes, thereby increasing their willingness to speak.

In addition, AI-Assisted Learning fostered learner autonomy, which is a critical factor in second language acquisition. Razali et al. (2020) emphasizes that autonomous learners are more effective in developing language proficiency because they take responsibility for monitoring and regulating their own learning process. The findings support this view, as students were observed engaging in self-directed speaking practice, repeatedly using AI tools without teacher intervention. This autonomous behavior indicates that AI not only functions as a feedback mechanism but also as a scaffolding tool that supports independent language development. Over time, this autonomy contributed to increased fluency and confidence in English speaking performance. Similarly, Quizizz-Based Learning played a significant role in increasing students' engagement and motivation. The gamification elements embedded in Quizizz, such as points, rankings, badges, and instant feedback, transformed traditional speaking practice into an interactive and competitive learning experience. This finding is consistent with Chan and Hu (2023), who define gamification as the application of game design elements in non-game contexts to enhance user engagement and motivation. In this study, Quizizz not only stimulated extrinsic motivation through competition but also fostered intrinsic motivation by creating enjoyable and meaningful learning experiences. Students were more willing to participate in speaking tasks, respond to questions, and interact with peers when Quizizz was implemented.

Furthermore, the motivational impact of Quizizz can also be explained through Razali et al. (2020) game-based learning principles, which highlight that effective learning environments should promote active participation, immediate feedback, and sustained engagement. The findings show that students remained focused and enthusiastic during Quizizz-based activities, suggesting that gamification helps maintain cognitive engagement and reduces learning boredom. This indicates that Quizizz serves as both a pedagogical tool and a motivational strategy that enhances classroom dynamics in EFL speaking instruction. Learning interest emerged as a key mediating factor in the improvement of speaking ability. Based on Moreira, Lucia, and Freire (2024), learning interest refers to a psychological tendency that drives learners to engage actively and persistently in learning activities. The findings indicate that both AI-Assisted Learning and Quizizz-Based Learning significantly increased students' learning interest by making learning more interactive, enjoyable, and less monotonous. AI tools stimulated curiosity through personalized feedback, while Quizizz created a playful learning atmosphere that sustained students' attention. This combination resulted in higher participation rates and increased willingness to practice speaking. Students' perceptions also played a crucial role in shaping their learning behavior and outcomes. According to Harahap and Kembaren (2023), perception is the process through which



individuals interpret and give meaning to their environment, which subsequently influences their attitudes and behavior. The study found that students held positive perceptions toward both AI and Quizizz, viewing them as useful, engaging, and supportive learning tools. These positive perceptions contributed to reduced speaking anxiety, increased confidence, and greater willingness to participate in speaking activities. This suggests that perception acts as a psychological bridge between technology use and learning outcomes. Overall, the findings of this study indicate that AI-Assisted Learning and Quizizz-Based Learning do not function in isolation but interactively influence students' learning interest, perceptions, and speaking ability. AI primarily supports cognitive and linguistic development through personalized feedback and autonomy, while Quizizz enhances affective and motivational aspects through gamification. The interaction of these factors creates a supportive and engaging learning environment that facilitates English speaking development in EFL classrooms. Therefore, the integration of educational technology should be viewed not only as a tool for instructional delivery but also as a catalyst for psychological engagement and communicative competence development.

D. CONCLUSION

This study concludes that the integration of AI-Assisted Learning and Quizizz-Based Learning plays an important role in enhancing students' English speaking ability in EFL classroom settings. The findings reveal that AI-Assisted Learning contributes to the improvement of students' pronunciation, fluency, grammatical accuracy, and speaking confidence through personalized feedback and opportunities for independent practice. Meanwhile, Quizizz-Based Learning enhances students' engagement and motivation through gamification elements such as points, rankings, and instant feedback, which create an interactive and enjoyable learning environment.

Furthermore, the study highlights that learning interest and students' perceptions act as important psychological factors that support the development of speaking ability. Increased learning interest encourages students to participate more actively in speaking activities, while positive perceptions toward AI and Quizizz reduce speaking anxiety and increase confidence in using English. These findings indicate that both technological approaches not only improve cognitive and linguistic aspects of speaking but also influence affective dimensions of learning.

Overall, the study emphasizes that AI-Assisted Learning and Quizizz-Based Learning are effective complementary tools in EFL speaking instruction. Their integration creates a more student-centered, interactive, and motivating learning environment that supports both language development and learner engagement. Therefore, educators are encouraged to incorporate these technologies into speaking instruction to enhance students' learning experiences and outcomes.

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