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## **Duolingo As a Digital Tool for Enhancing English As a Foreign Language (EFL) Speaking Proficiency at Zain Academy**

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### **Abstract**

This study aims to explore the integration of the Duolingo application into English speaking instruction for English as a Foreign Language (EFL) students at Zain Academy within a blended learning framework. Employing a descriptive qualitative approach, data were collected through interviews, observations, and documentation, then analyzed thematically. The findings reveal that Duolingo positively contributes to four key areas of speaking proficiency: building students' confidence, improving pronunciation, enhancing vocabulary acquisition, and strengthening basic sentence construction. The app's adaptive, multimodal, and gamified design facilitates linguistic development in an engaging and accessible manner. Nevertheless, the study also identifies several limitations, such as the lack of real-time interaction, difficulty in mastering complex sentence structures, and declining motivation during extended use. Within a blended learning environment, Duolingo proves more effective when complemented by classroom-based speaking practice and guided teacher feedback. Thus, the synergy between technological tools and pedagogical intervention becomes essential in maximizing the effectiveness of app-based language learning. The study recommends Duolingo as a supportive tool within hybrid learning strategies that is flexible, measurable, and oriented toward authentic communication development.

*Kata kunci: Speaking Proficiency, Duolingo, EFL Learners, Blended Learning, Language Technology, Communicative Competence, Adaptive Instructional Strategies*

### **1. Introduction**

In recent years, the need to improve speaking skills in English as a foreign language (EFL) has become increasingly crucial, in line with the demands of globalization that place English as the primary medium of international communication (Ayu et al., 2023; Mamonto et al., n.d.). Although various educational institutions have provided English teaching programs, the reality is that Indonesian students including those at Zain Academy still face difficulties in speaking fluently, accurately, and confidently (Saefiyani, 2021; Septarianto, 2023; Siswanti & Indrajit, 2023). This problem is exacerbated by conventional teaching methods dominated by a teacher-centered approach, a lack of opportunities for speaking practice, and minimal exposure to authentic pronunciation models (Afkar, 2025). Anxiety about speaking and fear of pronunciation errors also become psychological barriers that hinder students' progress in oral skills (Ain, 2024; Fadhilah, 2022; Kurniawati, 2024). In this context, the integration of application-based learning technologies such as Duolingo offers a potential solution that deserves scientific investigation (Al-Gifari, Rahmawati, & Susiawati, 2025; Bong & Firmansyah, 2023; Hanayanti & Fujiono, 2025; Lestari, Safitri, Nurcholis, & Jaya, 2024; Roda'i, Fujiono, & Basri, 2024).

The significance of this issue lies in its strategic implications both academically and practically (Pambayun & Permassanty, 2021). Academically, speaking proficiency is considered a key indicator of successful language learning because it involves the ability to actively and spontaneously produce language in real-life contexts (Rochmawati & Sylvia, 2023; Setiyanti, Sumantri, & Dewanti, 2022; Shofiyani, 2024). Practically, adequate speaking skills are essential for academic, professional, and social success (Ad & Ummah, 2024; Arif, 2023; Juniartini & Sudirman, 2024; Wahyono, 2024). Previous research has generally focused on improving reading skills or vocabulary mastery, while exploration of the effectiveness of digital learning on speaking skills remains minimal. Therefore, integrating Duolingo in an institutional setting such as Zain Academy can open up new opportunities to bridge the gap between traditional pedagogical approaches and the demands of 21st-century learning that emphasize flexibility, personalization, and students' digital engagement (Islam, Fadhila, Masrurroh, & Badriyah, 2022; Juniartini & Sudirman, 2024; Malik et al., 2021; Suryanto & Yulianto, 2022).

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The scope of this study is limited to analyzing the impact of Duolingo use on four key indicators of EFL students' speaking proficiency at Zain Academy: confidence building, pronunciation accuracy, vocabulary mastery, and sentence construction. This study does not focus on receptive skills such as reading or listening, and does not compare with other language learning platforms. The study focuses on the local context and blended learning strategies implemented in a structured manner through the integration of technology with the applicable curriculum at Zain Academy (Andilah et al., nd; Purnama, Hayati, & Indonesia, 2023). With this approach, the research is expected to produce a contextual and applicable understanding of best practices in optimizing learning technology to improve speaking skills.

A literature review reveals three trends in previous studies on the use of Duolingo in language learning. First, most studies emphasize Duolingo's effectiveness in enriching vocabulary and grammar, as demonstrated by Fakhurrozi and Istiadah, as well as research by Rusmana (Fakhurrozi & Istiadah, 2025; Rusmana, 2023). Second, several studies confirm Duolingo's role in increasing learning motivation and reducing speaking anxiety, as found by Fradana and Suwarta (Fradana & Suwarta, 2025). Third, there are indications that this application is suitable for use as a supplement to formal learning because it does not provide two-way feedback or contextually adaptive instruction (Safitri, Ramlah, & Sandy, 2025; Wicaksono & Rahayu, 2025). However, almost no research has comprehensively examined all four aspects of speaking proficiency simultaneously within an institutionally based blended learning framework. This gap indicates an urgent need for more in-depth and contextual research on the use of Duolingo in teaching speaking in formal settings.

This study aims to: (1) describe changes in students' learning patterns before and after using Duolingo in speaking learning, (2) identify blended learning strategies that emerge naturally through the use of the application, and (3) evaluate the challenges and opportunities for technology integration in English language teaching. The findings of this study are expected to support the development of technology-based pedagogy and provide a reference for institutions in designing curricula that are appropriate to the characteristics of the digital generation. The main hypothesis states that Duolingo integration can significantly improve EFL students' speaking skills (Baskara & Mbato, 2024; Fatimah, Jumriyah, & Mubasyiroh, 2025; Yuanda, Lubis, Devyanti, Rudansah, & Lestari, 2025). Three sub-hypotheses support this assumption: first, Duolingo is able to build students' confidence through a safe learning environment; second, the speech recognition feature helps improve pronunciation accuracy; and third, gamification exercises enrich vocabulary and sentence structure through contextual repetition (Asnishalina, 2025; Fatkhurizqia, Khafida, & Anugerah, 2025; Simaremare, Pane, Sinaga, & Barasa, 2025). Testing this hypothesis is expected to contribute to the development of the Mobile-Assisted Language Learning (MALL) approach and encourage the adoption of hybrid learning strategies that are more responsive to the needs of foreign language learning in the digital era.

## 2. Research Method

This study uses a qualitative approach with a case study design to investigate in depth the implementation of the Duolingo application integration in English learning at Zain Academy, specifically in improving the speaking fluency of EFL (English as a Foreign Language) students (Adji, 2024; Assyakurrohim, Ikhrum, Sirodj, & Afgani, 2022; Poltak & Widjaja, 2024). The material object of this study is the speaking learning process using Duolingo and its impact on students' abilities in four aspects: self-confidence, pronunciation, vocabulary, and sentence construction (Adji, 2024; Yuliani & Supriatna, 2023). Zain Academy was chosen because it is an educational institution that has begun implementing technology-based learning and shows openness to application-based curriculum innovation (Goyal et al., 2025; Pei et al., 2021).

This research design focuses on a complex and contextual single case study. (Iswadi, Karnati, Ahmad Andry, & Adab, 2023; Nurahma & Hendriani, 2021; Ridlo, 2023). This approach allows for a holistic understanding of the dynamics of learning technology integration within the context of educational institutions. By considering the interaction between technology, pedagogy, student characteristics, and institutional policies, this study examines not only the results of Duolingo use but also the process of its implementation in the field.

The sources of information in this study consisted of students as the primary participants and English teachers as key informants. Pseudonyms were used for the 16 student participants, including Rayhan, Diki, Jamil, Andi, and others. Data were collected through in-depth interviews, direct observation, and internal academic documentation. Additional information was obtained from Duolingo activity logs, the institution's curriculum adapted for app integration, and learning progress notes observed by teachers.

The data collection process was conducted through triangulation of three main techniques: (1) non-participatory observation of learning activities using Duolingo, (2) semi-structured interviews with students and teachers to explore their perceptions and experiences, and (3) policy documentation, application usage guides, learning outcome reports, and visual evidence such as screenshots and recordings of student activities (Daruhadi & Sopiati, 2024; Kaharuddin, 2021; Susanto & Jailani, 2023). This triangulation was strengthened by variations

in learning times and settings, including morning, afternoon, and evening sessions, to capture broader learning dynamics.

The collected data were analyzed using Miles and Huberman's interactive model, which includes three main stages: data reduction, data presentation, and conclusion drawing (Khabibullah & Sholahuddin, 2024; Qomaruddin & Sa'diyah, 2024). Data reduction was carried out to filter relevant information, followed by data presentation in the form of descriptive narratives to facilitate interpretation, and concluded with a verification process to ensure the consistency and validity of the findings (Bado, 2022; Kurniasih & Rusfiana, 2021). The analysis was carried out iteratively and reflectively to obtain a complete understanding of the effect of Duolingo use on EFL students' fluency at Zain Academy.

### 3. Results and Discussion

#### 1. Improvement Self- Confidence (Confidence Building)

The study's most striking findings were the students' increased confidence in speaking English. Zain Academy students, who had previously shown a tendency to be passive and reluctant to speak in class, gradually gained the courage to express themselves verbally after consistently using Duolingo. This improvement didn't happen overnight, but rather resulted from a combination of several supporting factors, such as a pressure-free learning environment, non-judgmental automated feedback, and intrinsic motivation fueled by the app's gamification features. Duolingo, as a flexible and personalized learning platform, provides a safe space for students to learn from their mistakes and develop gradually.

##### a. Environment and Reduction Anxiety

One of the main obstacles faced by foreign language learners, particularly in speaking, is high levels of anxiety stemming from the fear of making mistakes or being embarrassed in front of others. This anxiety can lead to passive students, reluctant to speak, even in learning contexts. However, the Duolingo app successfully minimizes this barrier by providing a personal, non-judgmental, and flexible digital learning environment.

This kind of environment is crucial in fostering students' courage to try, make mistakes, and improve without fear. This aligns with Horwitz et al.'s (1986) theory on Foreign Language Anxiety, which states that a stress-free environment is a prerequisite for success in oral skills. In interviews, several students explicitly expressed how they felt more comfortable and free to speak when practicing with Duolingo: "It's quite effective for a beginner like me. So I'm no longer shy about speaking English." – Andi "From not being able to speak at all to being able to have basic conversations." – Karina These two quotes demonstrate that speaking confidence isn't just about mastering the material, but also a result of students' perceptions of the learning environment. By reducing social pressure, Duolingo allows learners to gradually develop speaking confidence.

##### b. Step-by-Step Process : Motivation and Self-Efficacy

Increasing self-confidence doesn't happen overnight. It's the accumulation of small, successful experiences, supported by in-app gamification systems like experience points (XP), streak systems, and visual progress indicators. This fosters a sense of confidence that grows from the perception of personal progress known in educational psychology as self-efficacy (Bandura, 1997).

Some students noted that successfully completing daily challenges or receiving positive feedback from the app gave them extra motivation and made them feel capable of speaking English, even if they previously felt unsure.

" There's definitely been a significant change from the first time. My confidence is now better because my pronunciation is finally better." – Rayhan "The level of confidence has increased drastically, vocabulary has also increased significantly." – Ella To strengthen this narrative, here is a table of students' perceptions of themselves before and after using Duolingo:

Table 1. Students' Perceptions of Using Duolingo

Aspect Attitude and Emotion	Before Duolingo	After Duolingo
Shame when speak	Often	Seldom
Frequency try speak	Low	Increase
Belief will ability self	Not sure	Enough Certain
Reaction to error	Anxious , afraid criticized	Relax, feel Can repair

Informants such as Maya even stated that this self-confidence spread to other aspects of their learning life: "Huge improvement in fluency, pronunciation, and natural speech patterns." – Maya This finding is also supported by a study by Fitria et al. (2023) which found that 90% of their respondents experienced increased confidence after using Duolingo, and that the application significantly reduced anxiety about speaking English in public.

**c. Duolingo as Initial Trigger , Not Final Solution**

Despite significant increases in confidence, many students find that the confidence they feel in the app doesn't fully translate to live communication. Two-way interaction and spontaneity remain challenges. Therefore, Duolingo is better positioned as a starting point in the confidence-building process, not the sole tool.

Some students noticed that their courage only appeared when using the app, but was not yet stable when they were talking to teachers or friends:

"Quite realistic and quite helpful. Although, you need other resources to be able to learn English. So, don't just use Duolingo." – Diki

"I feel more confident, but I still have difficulty speaking spontaneously with other people." – Gita This was also acknowledged by instructors, who noted that students did become more confident speaking up when using Duolingo, but some still expressed hesitation during class discussions. This means that the app helps build an emotional foundation, but it doesn't replace the need for human interaction as part of real-life communication practice.

**2. Repair Pronunciation Improvement**

Pronunciation is a fundamental aspect of speaking skills that influences the clarity, understandability, and effectiveness of oral communication. In the context of EFL (English as a Foreign Language), pronunciation accuracy is often a major challenge due to the influence of the L1 (mother tongue), limited time for oral practice, and limited access to authentic pronunciation models. Research results This show that Duolingo, with feature speech recognition and audio modeling , successful give impact positive to accuracy pronunciation Zain Academy students . These changes occurred gradually and were evident in student reflections, teacher observations, and recordings of learning activities.

**a. Phonological Awareness and the Effectiveness of Speech Recognition Features**

Improving students' pronunciation is one of the most prominent aspects of Duolingo's application in English language learning, particularly in speaking skills. In the context of Zain Academy, EFL students generally face pronunciation challenges due to a lack of phonological-focused speaking practice and a lack of exposure to authentic pronunciation models. Duolingo's integration addresses some of these challenges through its speech recognition feature integrated into the speaking exercises.

This feature allows students to pronounce words or phrases and then receive automatic feedback from the system. While it doesn't always explicitly identify errors, the system will prompt students to repeat their pronunciation if it feels incorrect. This process indirectly encourages students to improve their speaking based on the patterns learned from the audio model. Some key points that emerged from this research include:

- 1) Students are beginning to understand the importance of elements such as word stress, vowel-consonant clarity, and intonation. This is evident in their new habits of paying more attention to how words are pronounced, not just how they are written. Even in class exercises, students are beginning to try to imitate the intonation they hear from the voice models in the app.
- 2) Before using Duolingo, most students were unaware of their pronunciation errors or considered pronunciation unimportant. After becoming accustomed to the app's feedback, students became more reflective and demonstrated independent efforts to improve their pronunciation. This is the first step in metalinguistic awareness, which is crucial for developing oral competence.
- 3) Because the app provides immediate, non-shameful feedback, students feel comfortable trying again and again without fear of ridicule or blame. This pressure-free environment encourages positive emotional engagement in the learning process, making pronunciation a fun and stress-free learning experience.
- 4) On the other hand, this study also noted the limitations of the speech recognition system, which is not yet adaptive to the variations in Indonesian students' accents. Some students expressed frustration because their pronunciation was not recognized by the system, even though it was phonetically understandable to a human speaker. This suggests that this type of technology, while very helpful, cannot completely replace human-based pronunciation evaluation (teacher-based judgment).

Classroom observations showed that students were beginning to internalize correct pronunciation into their speaking practice, even outside the context of the app. For example, students became more careful when answering questions in English, trying to imitate the pronunciation they heard in the Duolingo audio. Teachers also noted spontaneous improvements in students' intonation during presentations or group dialogues.

However, it's important to remember that natural speaking skills are developed not only through automated feedback, but also through real interactions that allow students to express themselves and receive correction from their conversation partners. Therefore, Duolingo's speech recognition feature should be seen as an effective tool for developing basic phonological awareness, but it still requires supplementary social practice to achieve contextualized and communicative pronunciation skills.

b. Monitoring Industry Trends and Career Transformation Directions

Another advantage of Duolingo is its repetition-based learning structure. This pattern has been proven to support gradual and continuous improvement in students' pronunciation. Continuous pronunciation exercises across various topics and levels encourage students to memorize, imitate, and repeat words with more accurate pronunciation. Over time, this process forms articulation habits that increasingly approach standard.

Analysis of documentation and student activity logs in the app shows that students who engage more actively in speaking practice on Duolingo experience significant improvements in confidence when pronouncing new words. Some students are even able to pronounce fairly complex vocabulary with more natural intonation and stress after a weekly practice routine.

The following table presents a summary of students' perceptions of their pronunciation abilities before and after using Duolingo:

Table 2. Summary of Students' Perceptions of Pronunciation Ability.

Aspect Pronunciation	Before Duolingo	After Duolingo
Accuracy sound base	Many mistakes general	More controlled and accurate
Use word stress	Not noticed	Starting to be realized and implemented
Trust in say	Low , afraid of being wrong	More confident and consistent
Independent practice outside the classroom	Seldom	More active and scheduled

However, Duolingo cannot stand alone as the sole method for pronunciation development. While in-app exercises can strengthen pronunciation automation, speaking skills in real-life communication still require a dialogic context and interpersonal feedback. Teachers at Zain Academy note that students tend to show pronunciation improvements during presentations or class discussions, but sometimes struggle with intonation during spontaneous conversations. This means that pronunciation practice gained through Duolingo should be combined with interactive activities such as role-plays, Q&A, and discussions to ensure the transfer of skills from the system to real-world contexts.

### 3. Mastery Vocabulary (Vocabulary Acquisition)

Vocabulary is the backbone of second language acquisition, especially in the context of speaking. Without an adequate vocabulary, learners will struggle to express ideas, convey meaning, and understand the responses of others. In this study, nearly all participants reported significant increases in the number and variety of their vocabulary after using Duolingo regularly. This improvement was not only quantitative but also qualitative they began to recognize synonyms, understand word usage in context, and develop lexical flexibility.

Vocabulary acquisition occurs gradually. In the beginning, students are often only able to recognize word forms and meanings. However, after several weeks of practicing using Duolingo, they begin to use the vocabulary in spoken language, particularly during presentations or conversations with classmates. This indicates that the internalization process is progressing well. Furthermore, through the daily practice feature and adaptive repetition system, students are able to build long-term retention of the vocabulary.

#### a. Discovery of New Vocabulary and Synonym Variations

Duolingo presents many words not commonly found in school textbooks. These words are presented in the form of everyday life topics, which are relevant and easily related to students' personal experiences. Participants reported frequently encountering new words they had never encountered in class. An interesting example is the word "couch," which Rayhan only realized was a synonym for "sofa" after using it in Duolingo. "My vocabulary discovered important facts that I didn't know. For example, I found the word 'sofa' on Duolingo." – Rayhan

This statement illustrates lexical enrichment, namely the development of an understanding of the concept of synonymy in English. This strengthens students' lexical flexibility in responding to various conversational contexts. This understanding is crucial in speaking practice, as not all words have a single form; often, a single meaning can be expressed in multiple ways

Table 3. Examples of Vocabulary and Synonyms Found by Participants ..

Vocabulary	Synonyms / Variations	Context Duolingo Sentences
sofa	couch	“She sits on the couch to watch TV.”
dad	father	“My dad is a teacher.”
angry	mad	"He was mad because he missed the bus."

**b. Memory Strengthening Through Repetition and Gamification**

One of Duolingo's key mechanisms that plays a significant role in strengthening memory is the spaced repetition system. This system allows users to continually revisit unfamiliar words through various practice sessions. This supports the consolidation of memories into long-term memory.

Students benefit from this repetitive practice because it's presented in a fun, non-monotonous format. Features like daily streaks, XP points, and weekly challenges make the learning process more engaging. This gamification is what keeps them consistent in their practice, as Ella explained: “The level of confidence has increased drastically, vocabulary has also increased significantly.” – Ella pattern encourages students to return to learning every day, forming new habits that indirectly strengthen their retention of the vocabulary they've learned. bullet points main thing that can concluded: Regular repetition in various formats strengthens vocabulary retention. Game elements create a more friendly and less stressful learning environment. Students are motivated to complete levels because there are goals and a reward system.

**c. Multimodality and Understanding Contextual**

Duolingo combines text, images, audio, and example sentences into a single learning unit. This multimodal approach aligns with the cognitive psychology principle that the more modalities used in learning, the deeper the processing level. Images help associate word meanings, audio supports pronunciation, and sentences demonstrate how words are used in real-world contexts.

"I can memorize words because they have pictures and are repeated over and over in sentences. So, I don't just know them, I can also use them." – Maya

This contextualization is the difference between memorization and true understanding. Students not only memorize words loosely, but also understand when and how to use them. With repeated exposure in various contexts, they develop a better intuition for word usage.

Based on the findings, the multimodal approach implemented by Duolingo has been shown to have a positive impact on students' vocabulary acquisition. The combination of text, audio, images, and sentence context strengthens students' grasp of word meaning and usage. Some of the key benefits of this approach can be summarized as follows: Improve semantic and phonological associations. 2) Helps to remember the meaning of words visually and auditorily. Strengthening the transition from passive memory to active use.

**d. Moving from Receptive to Productive Vocabulary**

Mastering receptive vocabulary is a crucial initial step in learning a foreign language, but language success can only be considered optimal when that vocabulary is transferred into productive skills, namely, used in active speaking practice. Research shows that consistent use of Duolingo has enriched students' receptive vocabulary. New words, initially only recognized through practice in the app, gradually begin to emerge in more realistic spoken interactions.

However, the transition from recognizing words to using them spontaneously remains a challenge. Many students find it easier to understand the meaning of words when reading or hearing them, but are unable to use them in speaking without additional practice. This indicates that the shift from passive to active vocabulary requires time and a supportive practice space.

Classroom observations show that students are beginning to apply some of the vocabulary they've learned in discussions and presentations, albeit in simple expressions. This suggests that apps like Duolingo can be a good starting point for building speaking skills, especially when supported by face-to-face instruction that emphasizes language production.

Thus, Duolingo can be said to be effective in accelerating vocabulary acquisition, but the transition to productivity still requires ongoing pedagogical intervention. A combination of app-based independent practice and oral practice in a classroom setting will yield maximum results in developing students' holistic and communicative speaking skills.

#### 4. Compilation Sentence (Sentence Construction)

Sentence construction is a crucial component of speaking proficiency. Without a good grasp of sentence structure, oral communication becomes limited and less effective. This study revealed that using the Duolingo app positively impacted the development of students' sentence construction skills, particularly in forming simple sentences that adhere to basic English structures. However, this improvement was significantly influenced by students' initial abilities, particularly their mastery of basic grammar.

##### a. Development Structure Sentence Simple

Regular use of Duolingo helps students develop and strengthen simple sentence structures in English. The app offers a variety of exercises that focus on basic patterns like subject + verb + object through interactive formats like reordering words, completing sentences, or translating short sentences from Indonesian to English and vice versa. These exercises encourage students to become familiar with common sentence structures and recognize the use of tenses, such as the present tense, which are fundamental to everyday communication.

Many students feel more confident constructing sentences after using Duolingo. They no longer rely solely on word-for-word translations from their native language, but instead begin to construct sentences based on patterns they've seen and practiced in the app. This process demonstrates that through consistent repetition, students indirectly develop a "syntactic intuition," which then contributes to their speaking ability.

Teachers also noted increased spontaneity in classroom practice. For example, during group presentations or pair conversations, students used more complete sentences such as "I go to school every day," "He drinks milk," or "We have class at 8." This indicates that the simple sentence patterns reinforced by Duolingo have moved from passive comprehension to skills ready for active production in real-life communication. Here is a summary of students' sentence development before and after using Duolingo:

Table 4. Comparison of the Ability to Construct Simple Sentences.

Rated aspect	Before Duolingo	After Duolingo
Use of the S+V+O structure	Seldom or No consistent	Increase in a way significant
Use of present tense	Often wrong in verb form	More precise in choosing verb forms
Completeness element sentence	Sentences are often broken or incomplete	Sentences become more complete and clear
Confidence when composing sentences	Hesitant, often stopped	More fluent and bold in using simple sentences
Ability to construct sentences without assistance	Often dependent on translation or teacher	Starting to be independent in forming your own sentences

Thus, using Duolingo can be said to be successful in building a foundation of simple and functional sentence structures. Although limited to basic patterns, this success provides an important foundation for advanced speaking skills. These structures can then be further developed through more complex expression exercises and real-life interaction-based learning.

##### b. Limitations in Composing Sentences Complex

Although Duolingo has been shown to be effective in strengthening basic sentence structure, research shows that the app is not yet optimal in supporting students' ability to construct complex sentences. Most students still struggle with tasks that require the use of compound structures, connecting clauses, or more complex grammatical forms such as the passive voice, the present perfect, or compound-complex sentences. This is because most Duolingo exercises focus on simple, repetitive sentence patterns without providing explicit grammatical explanations.

Several students revealed that although they frequently see long sentences on Duolingo, they don't truly understand how they are structured. They simply copy them without understanding the grammatical elements that make them up. When asked to construct sentences with more complex ideas, many of them revert to the simple sentence patterns they have already mastered. This indicates that the transition to understanding complex sentences has not yet progressed optimally.

Furthermore, teacher observations showed that students were more likely to make errors when attempting to construct sentences with two clauses or using conjunctions such as "although," "because," or "when." The sentences they produced were often incomplete or structurally illogical, such as missing subjects, errors in word order, or inappropriate tense usage. This suggests that Duolingo, which relies on an implicit and repetitive approach, still needs to be supplemented with explicit grammar instruction in the classroom. The following points summarize the limitations of constructing complex sentences in the context of Duolingo use: Duolingo rarely presents exercises that involve compound sentences or complex structures in depth. The lack of explicit explanation of grammar causes students to simply imitate, not understand. Students still have difficulty using conjunctions and combining clauses into logical sentences. Common errors include incorrect word order, incorrect verb forms, and incomplete sentences. Teachers suggested the need for additional reinforcement through explicit practice and open dialogue in class.

These findings suggest that Duolingo should be used as a tool focused on strengthening basic structures, while developing complex sentence construction skills through active, guided classroom learning. The teacher's role remains crucial in explaining syntactic rules, providing feedback, and coaching students in constructing complex sentences through exercises based on broader communication contexts.

### **Limitations and Challenges**

While research findings indicate that Duolingo integration offers numerous benefits in speaking learning, the app is not without limitations. Fieldwork and in-depth interviews with participants revealed various technical, pedagogical, and psychological challenges. These challenges stem from both the learning system built into the app and user characteristics, particularly in an institutional context like Zain Academy. Therefore, this section outlines two main categories of limitations encountered during implementation: limitations of the Duolingo system and challenges from the user perspective.

#### **a. Limitations of the Duolingo System as a Learning Tool**

One of the most prominent issues is the one-way nature of Duolingo's interactions. The app is designed for individual use, where users respond to system instructions without engaging in meaningful interactions with fellow learners or the instructor. This makes it difficult for students to develop authentic and pragmatic conversational skills, such as taking turns speaking or managing topics in dialogue. In language learning, pragmatics can only develop through authentic interactions, not simply through responsive exercises within the app's interface.

Another weakness frequently cited by students is the inaccuracy of speech recognition. Several informants expressed frustration because, even when pronouncing words correctly, the app still marked them as incorrect. This resulted in a decrease in self-confidence and motivation to learn. While Duolingo's speech recognition feature is objective, it still isn't sufficiently adaptive to the diverse local accents and intonations of students.

Another limitation is the system's lack of responsive and contextual feedback. There's no additional explanation available when students make mistakes, unlike a teacher who can re-explain, provide examples, or adjust the learning method. Therefore, while Duolingo can strengthen linguistic competencies like basic vocabulary and grammar, it's not sufficient to develop true communicative competency.

#### **b. Challenges of Use in Institutional Contexts**

From a user perspective, the most common challenges are decreased motivation and learning fatigue after medium-term use. Gamification elements like streaks, points, and levels are initially engaging, but over time, some students begin to find the exercises repetitive and less challenging. This leads to decreased consistency in use and potential learning fatigue.

Some students also pointed out a gap between their achievements in the app and their real-life speaking abilities. For example, despite reaching high levels and earning numerous awards in the app, they still felt hesitant or lacked confidence when speaking in real-life situations. Duolingo was deemed unable to fully bridge the gap between digital learning and real-life communication needs.

Furthermore, limited teacher monitoring is also a challenge. Because Duolingo is personalized, teachers cannot always monitor student progress in detail. The app doesn't provide comprehensive and specific progress data for each aspect of speaking, such as grammar, pronunciation, or sentence construction. This makes it difficult for teachers to intervene in a timely manner or adjust teaching strategies to meet student needs.

Furthermore, some students also reported becoming obsessed with numerical performance metrics like streaks and levels, rather than focusing on the quality of their communication. This makes them vulnerable to psychological

pressure to maintain a perfect record, which can actually reduce their intrinsic motivation to learn the language in depth.

## 6. Integration in Blended Learning

The integration of Duolingo into the Zain Academy learning system doesn't stand alone, but rather forms part of a blended learning approach that combines technology-based self-paced learning with direct classroom interaction. In this approach, Duolingo is utilized to strengthen linguistic aspects such as vocabulary, pronunciation, and basic sentence structure, while face-to-face sessions serve to explore communicative skills contextually and pragmatically. This model is designed to address the challenges of conventional speaking instruction, which has traditionally lacked space for ongoing and personalized oral practice.

Practically, teachers at Zain Academy implement a rotating assignment pattern, where students are asked to use Duolingo independently outside of class, then discuss the results of their practice in class discussions or role-plays. For example, after completing a unit on "introducing yourself," students are asked to give an oral presentation to the class using the expressions they have learned. This approach reinforces students' understanding in practice while improving retention and transfer of knowledge to real-world contexts.

This integration is also supported by internal curriculum adjustments. Several core competencies in speaking learning are directly linked to specific unit completion targets in Duolingo. Teachers act not only as facilitators but also as evaluators, reviewing student usage logs, providing feedback on common errors, and designing supplementary activities based on the results of app use. This combination allows for a more adaptive, structured learning process, and supports differentiation based on each student's individual abilities.

However, the success of this blended learning implementation also depends on students' consistency in using the application independently. Teachers have noted that students who show rapid progress are those who actively complete daily targets and take notes on things they find difficult to discuss in class. With this approach, Duolingo becomes more than just a tool, but a vital part of an integrative learning ecosystem.

This study concludes that a blended learning model with Duolingo as a digital component has significant potential for improving EFL students' speaking proficiency. In addition to strengthening linguistic foundations, this approach provides students with the opportunity to actively apply language skills and helps teachers make more responsive, data-driven instructional adjustments .

## 5. Conclusion

Based on the data analysis and discussion, this study concludes that the integration of the Duolingo app into EFL students' speaking lessons at Zain Academy significantly contributes to the development of linguistic competence and speaking skills. While it does not replace the role of teachers and direct interactive learning, Duolingo successfully serves as a tool that enhances learning in a structured and directed blended learning context. The improvement in students' speaking skills was demonstrated through four main aspects. First, consistent use of Duolingo resulted in increased confidence in speaking English, primarily due to the learning environment being free from social pressure and judgment. Second, the app has also been shown to help students improve pronunciation through its speech recognition feature and audio-based exercises. Third, vocabulary acquisition improved through an adaptive and multimodal repetition approach that made it easier for students to recognize and remember words in context. Fourth, sentence construction, especially in simple sentences, also improved, although complex sentence construction still requires additional reinforcement through direct instruction. However, the study also identified several limitations. Duolingo is limited in creating authentic two-way communication, providing contextual feedback, and addressing complex sentence structures. Several technical challenges, such as the accuracy of its speech recognition feature and fatigue with long-term use, also pose challenges. Furthermore, the disparity between students' in-app performance and their real-world speaking abilities suggests that Duolingo cannot stand alone as a comprehensive learning solution. However, the integration of Duolingo into the blended learning system developed at Zain Academy demonstrates that, when used in a targeted and teacher-supervised manner, the app can be an effective complement to developing speaking proficiency. The combination of independent practice in the app and oral practice in class creates a synergy that strengthens students' understanding and communication skills. Overall, this study concludes that the use of Duolingo in a blended learning context significantly contributes to improving EFL students' speaking skills. Duolingo effectively builds linguistic foundations, while face-to-face activities enable the transformation of passive skills into productive ones. The synergy between technology, pedagogical strategies, and active student participation is key to the success of effective, adaptive, and contextual technology-based speaking learning.

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