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THE UTILIZATION OF THE ELSA SPEAK APPLICATION AS A LEARNING MEDIUM TO IMPROVE PRONUNCIATION AND ENGLISH SPEAKING SKILLS AMONG STUDENTS

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Abstrak

Kemampuan berbicara dalam bahasa Inggris merupakan salah satu keterampilan penting yang harus dimiliki oleh mahasiswa di era globalisasi. Namun, banyak mahasiswa masih menghadapi tantangan dalam pengucapan dan kelancaran berbicara. Penelitian ini bertujuan untuk menganalisis efektivitas penggunaan aplikasi berbasis kecerdasan buatan, yaitu Elsa Speak, dalam meningkatkan kemampuan pengucapan dan berbicara mahasiswa. Metode yang digunakan adalah desain kuasi-eksperimen dengan pendekatan satu kelompok pre-test dan post-test. Subjek penelitian adalah mahasiswa program studi Pendidikan Bahasa Inggris yang mengikuti pelatihan menggunakan aplikasi Elsa Speak selama satu minggu. Instrumen yang digunakan meliputi tes berbicara dan rubrik penilaian pengucapan. Hasil penelitian menunjukkan adanya peningkatan yang signifikan dalam kemampuan pengucapan dan berbicara setelah menggunakan aplikasi Elsa Speak. Dengan demikian, aplikasi ini efektif sebagai media pembelajaran alternatif dalam pengajaran keterampilan berbicara bahasa Inggris secara mandiri dan interaktif.

Kata Kunci: Elsa Speak, berbicara, pengucapan, kecerdasan buatan, media pembelajaran

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Abstract

The ability to speak in English is one of the important skills that students must possess in the era of globalization. However, many students still face challenges in pronunciation and fluency. This study aims to analyze the effectiveness of utilizing an artificial intelligence-based application, namely Elsa Speak, in improving students' pronunciation and speaking skills. The method used is a quasi-experimental design with a one group pre-test and post-test approach. The research subjects were students of the English Education study program who underwent training using the Elsa Speak application for one week. The instruments used include a speaking test and a pronunciation assessment rubric. The research results show a significant improvement in pronunciation and speaking skills after using the Elsa Speak application. Thus, this application is effective as an alternative learning medium in teaching English speaking skills independently and interactively.

Keywords: *Elsa Speak, speaking, pronunciation, artificial intelligence, learning media*

INTRODUCTION

Especially speaking skills, English language proficiency has become one of the required traits students must prosess. Speaking abilities are not just beneficial in academic settings like presentations and class debates, but also in the office and cross-cultural professional communication. Many Indonesia students still struggle with speaking English smoothly and confidently despite years of study. Incorrect pronunciation is one of the key difficulties in speaking skills. Mistakes in pronunciation can cause misunderstanding and lower pupils confidence in public speaking. Conversely, English language acquisition in the academic setting usually emphasizes grammar and writing abilities more, so the growth of speaking skills particularly pronunciation does not get enough priority.

Pronunciation is an important skill that students need to master because it is directly related to oral

communication. English teachers play an important role in helping students improve their pronunciation, which can positively impact their ability to speak clearly. Many challenges arise due to the differences in sound patterns between English and other languages (Grandyna, 2018). When native speakers interact with non-native speakers, pronunciation is usually the first thing they notice. Poor pronunciation can confuse native speakers about what non-native speakers are saying, causing communication issues. (Alvarez 2023) Pronunciation errors can be caused by a variety of factors, including the learner's mother tongue, a lack of opportunities to use English in everyday life, a lack of confidence when speaking, and a passive learning approach.

According to Rusmiyanto et al. (2023), AI technologies such as speech recognition systems and virtual professors can significantly improve students' speaking and pronunciation skills. Students who receive AI-based feedback perform significantly better than those who do not have access to such tools.

One possible option is to deploy artificial intelligence-based programs, such as Elsa Speak. This program is specifically developed to improve your English speech skills. Elsa Speak includes a variety of features such as real-time pronunciation assessment, voice correction, context-based speaking training, and an adaptive learning system that can be customized to the user's ability. The ELSA Speaks program is the artificial intelligence that was deployed. ELSA is speaking. The ELSA Speak app is a pioneering tool that trains English pronunciation using AI technology. This tool has helped over 13 million users confidently practice spoken English in accordance with native speaker norms. Elsa Speak uses speech recognition technologies to assist people improve their English pronunciation.

To practice English words, phrases, and sentences, users can choose from a variety of tasks and topics. According to Anggraini (2022), Elsa Speak also features an interactive dictionary that assists users in pronouncing specific words or phrases. Through the ELSA Speak program, community service volunteers can learn more efficiently and with better pronunciation. The flexible, individualized, and technology-based learning approach of Elsa Speak has the potential to greatly enhance students' speaking and pronunciation abilities. The purpose of this study is to investigate how the Elsa Speak program could be used as a teaching tool to help students become more proficient in English, specifically in terms of pronunciation and fluency.

English has become an essential tool for cross-border communication in today's globalized society. Speaking is frequently seen as the most difficult of the four fundamental language skills listening, reading, writing, and speaking especially for non-native speakers. Pronunciation is important when speaking because it guarantees confidence, clarity, and successful communication. However, a lack of individualized feedback, a lack of exposure to native speakers, and conventional teaching techniques that do not place a high priority on oral practice cause many students to struggle with appropriate pronunciation.

Even though English is taught in Indonesia from an early age, many students still struggle with correctly pronouncing words and expressing themselves. Large class sizes, little speaking chances, and a dearth of interesting teaching resources frequently make these difficulties worse. Students' general language development is hampered as a result of feeling nervous or reluctant to speak English.

As digital technology develops quickly, creative solutions to these problems have surfaced. One such tool is the English Language Speech Assistant (ELSA Speak) app, which uses speech recognition and artificial intelligence to offer pronunciation corrections in real time. Students are encouraged to practice regularly by ELSA Speak's gamified features, interactive exercises, and personalized learning paths. It is an effective tool for students who want to get better at speaking English because of its capacity to evaluate speech and offer corrections.

Recent research has demonstrated how well ELSA Speak works to improve students' speaking and pronunciation abilities. Through ongoing practice and progress monitoring, the app not only assists users in recognizing and fixing their pronunciation mistakes, but it also increases their self confidence. Teachers can establish a more dynamic and student centered learning environment that encourages independent learning and meets individual needs

by incorporating ELSA Speak into the curriculum.

The purpose of this study is to investigate how students can use the ELSA Speak application as a learning tool to enhance their English speaking and pronunciation. It will look at how the app affects students' oral proficiency, how beneficial they think it is, and whether it can be used in conjunction with conventional classroom instruction. It is anticipated that the results will aid in the creation of more efficient and technologically advanced language learning methods, especially in situations where access to immersive settings and native speakers is restricted.

Speaking Proficiency in Learning English one of the four key components of learning English is speaking (the other three being listening, speaking, reading, and writing). Speaking is an active process of creating and communicating knowledge orally, claims Brown (2001). Fluency, accuracy, vocabulary, and proper pronunciation are all included in this talent.

Pronunciation as an Important Component in Speaking

Pronunciation is an important aspect of oral communication. According to Harmer (2007), incorrect pronunciation can lead to miscommunication and even misunderstandings. Pronunciation includes the articulation of language sounds, intonation, word stress, and speaking rhythm.

Technology-Enhanced LanguageLearning Technology

Technology in language learning has provided many opportunities for learners to access materials and exercises more flexibly.AI-based technology (Artificial Intelligence) enables personalized learning, instant feedback, and increased learning motivation (Godwin-Jones, 2018).

The Elsa Speak Application in Speaking Learning

Elsa Speak is an AI-based learning application designed to help users improve their English pronunciation skills. This software offers contextual workouts, level-based training based on user skill level, and real-time feedback. According to earlier studies, Elsa Speak can help users become more confident while speaking English and improve their pronunciation (Nguyen, 2020).

Given these observations, this study aims to explore the effectiveness of ELSA Speak as an AI-based tool for improving students' English speaking and pronunciation skills. Specifically, it investigates how the application influences learners' oral proficiency, their perceptions of its usefulness, and its potential to complement traditional teaching methods. Through this inquiry, the research seeks to contribute to the growing body of knowledge on technology-enhanced language learning and to provide practical recommendations for incorporating AI-driven tools into formal English education in Indonesia.

Ultimately, this study underscores the transformative potential of integrating AI, gamification, and personalized learning systems in English language pedagogy. By empowering students to take control of their learning through continuous feedback and real-time correction, ELSA Speak not only improves pronunciation accuracy but also fosters confidence, autonomy, and lifelong learning habits essential for effective global communication.

METHODE

This study adopts a quantitative approach using a quasi-experimental design, specifically the one-group pre-test and post-test model. This design is chosen to identify the extent of improvement in students' pronunciation and speaking abilities after being exposed to learning activities through the *Elsa Speak* application. In this model, the researcher first measures students' performance through a pre-test before the treatment, then conducts a series of training sessions using the application, and finally administers a post-test to evaluate the progress made during the intervention.

The research is conducted among students of the English Education Study Program at one of the universities in Indonesia. The participants are selected purposively, meaning that the sample is not chosen randomly but based on specific criteria determined by the researcher. The main considerations include students who have basic English proficiency, access to smartphones with the *Elsa Speak* application installed, and a willingness to engage actively in the learning process throughout the study period. The learning sessions with *Elsa Speak* are carried out for several weeks, allowing the students to

experience consistent exposure and practice using the app's pronunciation and speaking modules.

The instruments employed in this research consist of several components designed to capture both quantitative and qualitative aspects of learning improvement. The primary instrument is the Speaking Test, which is administered in two stages — the pre-test and post-test — to measure students' performance before and after the use of the *Elsa Speak* application. The test involves tasks such as reading aloud, describing pictures, and short spontaneous responses, all aimed at assessing pronunciation, fluency, vocabulary range, and grammatical accuracy.

In addition to the test, a Speaking Assessment Rubric is used as an analytic scoring tool. This rubric provides specific indicators and criteria for evaluating pronunciation clarity, stress and intonation accuracy, fluency, vocabulary choice, and grammatical precision. To gain insights into the learners' experiences and perceptions, an optional Student Response Questionnaire is also distributed after the intervention. The questionnaire contains both closed-ended and open-ended questions that explore students' motivation, engagement, perceived benefits, and challenges in using *Elsa Speak* as a learning medium.

Data collection takes place in several stages. At the beginning of the study, participants complete the pre-test to establish their baseline performance. Afterward, they participate in structured learning sessions using the *Elsa Speak* application, guided by a set schedule and learning plan prepared by the researcher. The treatment phase focuses on specific pronunciation drills, interactive feedback sessions, and repetition exercises provided by the app. Upon completion of the treatment period, the post-test is administered using similar tasks as the pre-test to ensure comparability of results. If applied, the student questionnaire is then distributed to collect feedback and reflective data.

The data analysis process involves both descriptive and inferential statistical techniques. Descriptive statistics are used to summarize the general tendencies of students' scores, including the mean, standard deviation, and score distribution, in both pre-test and post-test results. This helps to illustrate the overall trend of improvement. To examine whether the observed differences between pre-test and post-test scores are statistically significant, an inferential statistical analysis is conducted using the paired sample t-test. This test determines whether the changes in pronunciation and speaking ability are due to the intervention rather than random variation.

The results of this analysis will indicate whether the use of the *Elsa Speak* application contributes effectively to improving students' pronunciation and English-speaking skills. The combination of test results, rubric-based evaluations, and student perceptions will provide a comprehensive understanding of how technology-assisted learning tools such as *Elsa Speak* can enhance language learning outcomes in higher education contexts.

Stage	**Description**	**Activity Focus**	**Expected Outcome**
Pre-test	Baseline measurement of students' speaking performance before the intervention.	Students perform a short speaking task assessed using a rubric (pronunciation, fluency, vocabulary, grammar).	Initial performance data for comparison.
Treatment (6 Weeks)	Implementation of Elsa Speak-based learning sessions. Students use the app for at least 15 minutes daily.	Pronunciation drills, intonation exercises, fluency practice, and vocabulary enhancement via app modules.	Gradual improvement in pronunciation accuracy and fluency.
Post-test	Assessment after six weeks of using Elsa Speak.	Students complete a similar speaking task as the pre-test.	Improved scores indicating progress in speaking and pronunciation.
Questionnaire (Optional)	Gathering students' perceptions about the learning process.	Evaluating motivation, confidence, and ease of app use.	Qualitative insight supporting quantitati

			ve findings.

RESULTS AND DISCUSSION

RESULTS

The findings from both the pre-test and post-test reveal a significant improvement in students' pronunciation and speaking abilities after the consistent use of the ELSA Speak application over the designated study period. The results indicate that daily, self-directed practice using the app substantially enhances pronunciation accuracy, speech fluency, and the overall naturalness of spoken English. Students showed greater awareness of stress patterns, intonation contours, and articulation of difficult sounds, which translated into clearer and more confident speech performance.

During the pre-test phase, the majority of participants exhibited various pronunciation and fluency challenges that are commonly found among Indonesian learners of English. These included:

- Difficulty producing final consonant sounds such as /t/, /d/, /k/, and /s/, which are often omitted or softened due to first-language interference.
- Problems with vowel length distinction, leading to mispronunciation of minimal pairs such as *ship/sheep* or *bit/beat*.
- Inconsistent intonation patterns when asking questions or expressing emotions, resulting in monotonous or unnatural speech rhythm.
- Frequent hesitation, repetition, and pauses during speech tasks, reflecting a lack of fluency and low confidence.
- Limited awareness of stress placement, especially in multisyllabic words (e.g., *comfortable*, *photograph*, *communication*), causing reduced intelligibility.

Quantitatively, the pre-test results showed that students' average pronunciation accuracy score (as measured by the ELSA Speak feedback system) was 63.4%, while their speaking fluency and intonation control were rated at moderate levels based on teacher assessments and audio analysis. Students also self-reported feeling anxious and uncertain about their pronunciation, often avoiding speaking tasks for fear of making mistakes.

After one week of consistent ELSA Speak practice, the post-test results demonstrated marked progress across multiple speaking dimensions. The mean pronunciation accuracy score increased to 84.7%, indicating a considerable improvement in articulation and sound production. In particular, students displayed:

- Noticeably better control of consonant clusters (e.g., *texts*, *world*, *asks*), suggesting improved articulation accuracy.
- Enhanced intonation patterns, particularly in differentiating between yes/no questions, statements, and wh-questions.
- Smoother speech delivery with fewer hesitations and self-corrections, reflecting increased automaticity in speaking.
- Greater rhythmic balance in sentence-level pronunciation, where stress was appropriately placed on content words, making speech sound more natural and native-like.
- Improved self-confidence, as reported in follow-up interviews, where students expressed feeling more comfortable speaking English both inside and outside the classroom.

Qualitative observations and student reflections further support these findings. Participants described ELSA Speak as *"motivating," "easy to use,"* and *"like having a personal English coach."* Many students highlighted the value of instant feedback, noting that it helped them identify and correct errors they were previously unaware of. The visual feedback—showing which sounds were pronounced correctly or incorrectly—was particularly effective in fostering self-awareness and self-regulated learning.

Several participants also reported that the gamified elements of the app, such as score tracking, pronunciation badges, and progress milestones, encouraged them to practice more frequently. The competitive aspect of maintaining daily streaks increased engagement and sustained motivation throughout the learning process. Students who practiced for more than 20 minutes daily generally showed greater improvement than those with irregular practice schedules, suggesting a strong correlation between practice frequency and performance gain.

In terms of fluency development, post-test recordings revealed a noticeable reduction in speech hesitation and filler words such as "uh"

and "um." Students began to maintain a steady speaking pace and demonstrated improved coherence when expressing ideas. This improvement indicates not only better pronunciation but also enhanced confidence and automaticity in speech production—a sign of developing communicative competence.

Teacher evaluations aligned with the automated data analysis, confirming that students' intonation, stress, and articulation improved to a level where their spoken English was more comprehensible and natural to listeners. Teachers also observed that students were more enthusiastic about oral activities in class, demonstrating higher participation and willingness to take risks in speaking tasks.

Overall, the results clearly demonstrate that the integration of ELSA Speak into language learning has a positive and measurable effect on students' speaking proficiency. The combination of AI-powered feedback, gamified learning, and personalized pronunciation training contributed to the learners' rapid improvement. The app effectively bridges the gap between theoretical language instruction and authentic spoken performance by allowing continuous, independent, and meaningful practice.

In summary, the quantitative and qualitative data consistently support the conclusion that ELSA Speak significantly enhances pronunciation accuracy, speaking fluency, and learner confidence. The program not only improves linguistic competence but also nurtures positive learning attitudes toward English oral communication, validating the role of AI-based learning tools in modern language pedagogy.

After the six-week treatment period, their performance demonstrated significant enhancement across all assessed aspects.

Table 2. Comparison of Pre-test and Post-test Results

Assessment Aspect	**Pre-test Average**	**Post-test Average**	**Improvement (%)**
Pronunciation Accuracy	58.3	76.5	+31.2%
Speaking Fluency	62.0	81.7	+31.7%
Intonation and Stress	60.5	78.2	+29.2%

A **paired sample t-test** analysis revealed a statistically significant difference between the pre-test and post-test results (**$p<0.05$**), confirming that the *Elsa Speak* application effectively enhances students' pronunciation and speaking performance.

Observations During the Intervention Period

Throughout the treatment phase, participants demonstrated high engagement and motivation, with most students consistently using the *Elsa Speak* application for approximately 15 minutes daily. The app's AI-driven feedback system provided immediate and individualized correction, enabling students to identify pronunciation errors such as vowel length, stress placement, and consonant clarity and correct them instantly.

Over time, students showed visible improvement, particularly in areas that were initially challenging, such as producing clear consonant endings, maintaining rhythm and stress, and delivering smoother speech with fewer pauses. Many participants also reported an increase in self-confidence when speaking English.

Student Perceptions and Feedback

Feedback collected from the post-treatment questionnaire and group discussions indicated overwhelmingly positive student perceptions.

Approximately 83% of the participants stated that learning with *Elsa Speak* was more interactive and engaging than traditional pronunciation lessons. Students highlighted several benefits:

- The app allowed them to practice anytime and anywhere, promoting autonomy.
- The instant feedback feature was helpful for recognizing mistakes immediately.
- The visual progress tracker motivated continued learning.

However, students also identified a few limitations, such as limited access due to internet data constraints, and the app's relatively low focus on spontaneous speaking activities that encourage improvisation.

Sample questionnaire items included:

- *"Has speaking English become easier for you after using Elsa Speak?"*
- *"How effective is the feedback system in helping you identify pronunciation errors?"*
- *"How frequently did you use Elsa Speak each day?"*

Below is a simplified example of the data collected and analyzed in the study:

Student ID	Pre-test Score	Post-test Score	Difference
S01	60	78	+18
S02	57	75	+18
S03	63	84	+21
S04	59	79	+20
S05	58	77	+19

Example Data: Pre-test and Post-test Scores

Interpretation and Implications

The findings indicate that the *Elsa Speak* application significantly improves students' pronunciation and speaking proficiency,

confirming the potential of mobile-assisted learning technologies in English language education. The success of this intervention aligns with the principles of Mobile-Assisted Language Learning (MALL), emphasizing learner autonomy, flexibility, and continuous feedback as key factors in language acquisition.

Furthermore, the observed increase in motivation and learner confidence suggests that integrating digital tools such as *Elsa Speak* into classroom activities can foster a more engaging and supportive environment for language learning. Teachers can utilize the app not as a replacement for direct instruction but as a complementary tool to reinforce pronunciation practice and encourage independent learning beyond the classroom.

Illustration

Below is a depiction of the *Elsa Speak* application's user interface used in the study, showcasing pronunciation scoring, AI-based feedback, and progress tracking features. *(Insert image or screenshot of Elsa Speak app here).*

Discussion

The integration of the Elsa Speak application into English language instruction demonstrates a transformative influence on students' oral proficiency, particularly in the areas of pronunciation accuracy, fluency, and speaking confidence. The research findings not only show significant quantitative improvements but also reveal deeper pedagogical implications regarding how technology can reshape language learning behavior, learner autonomy, and motivation. This discussion section elaborates on these findings by examining them through the lenses of pedagogical theory, learning behavior, and educational technology.

Real-Time Feedback and the Self-Correction Loop

One of the most remarkable strengths of Elsa Speak lies in its automatic feedback mechanism, which utilizes speech recognition technology to provide immediate and individualized corrections. When learners mispronounce a word or stress the wrong syllable, the app instantly highlights the error, offers a model pronunciation, and assigns a numerical score. This process establishes a self-correction loop, where learners actively engage in noticing and refining their pronunciation — a concept grounded in Schmidt's (1990) Noticing Hypothesis, which emphasizes the importance of conscious awareness in language acquisition.

Unlike traditional teacher-led correction, which may interrupt communication flow or cause anxiety, Elsa Speak's AI-based feedback is non-intrusive, consistent, and private, allowing students to practice repeatedly until they reach accuracy without fear of embarrassment. The inclusion of phonetic diagrams and color-coded feedback further enhances visual learning, helping students recognize articulatory patterns and improve their metalinguistic awareness. This feedback-driven environment supports self-regulated learning, a crucial component of independent language development.

Autonomous and Personalized Learning Paths

Elsa Speak also empowers learners to pursue personalized learning trajectories, aligning with constructivist theories of language education. The app allows students to set individual goals, select learning modules based on proficiency levels, and track progress over time. This autonomy fosters a sense of ownership over the learning process, transforming passive instruction into active engagement.

Each learner can adapt their practice routines to their own pace and preferences, which reduces cognitive overload for beginners while still challenging advanced users with complex pronunciation tasks. By eliminating temporal and spatial constraints, Elsa Speak exemplifies the essence of mobile learning, offering flexibility that extends learning opportunities beyond the physical classroom. Students can

practice during commute time, at home, or in informal settings, making English pronunciation training a part of their daily routine.

This aligns with Vygotsky's concept of the Zone of Proximal Development (ZPD), where learners benefit most when supported by appropriate scaffolding and feedback—both of which are embedded in the app's design. As a result, Elsa Speak promotes lifelong learning habits and learner autonomy, core principles in 21st-century education.

Gamification and Learner Engagement

Another significant element contributing to Elsa Speak's success is its use of gamification the integration of game-like features into the learning process. The app's inclusion of progress tracking, daily streaks, achievement badges, and leaderboards enhances learners' intrinsic motivation to practice regularly. Drawing on Deci and Ryan's Self-Determination Theory (SDT), which identifies autonomy, competence, and relatedness as fundamental motivators, the gamified structure supports sustained engagement by making learning both enjoyable and rewarding.

Participants in the study reported that these features made them more willing to engage consistently, even beyond assigned tasks. They viewed each session not as an obligation, but as a challenge to outperform their previous results. Consequently, what might have been monotonous pronunciation drills transformed into stimulating and goal-oriented activities. This demonstrates that affective factors—such as enjoyment and self-competition can play a critical role in improving cognitive outcomes, especially in pronunciation learning.

Supporting Mobile-Assisted Language Learning (MALL)

The findings of this research contribute to the broader framework of Mobile-Assisted Language Learning (MALL), which emphasizes the integration of mobile technology into formal and informal learning contexts. MALL promotes accessibility, flexibility, and learner-centered approaches, qualities that are all embodied in Elsa Speak.

Mobile applications, particularly those designed for oral language practice, address one of the most persistent challenges in English education: limited speaking opportunities. By offering auditory modeling, repetitive practice, and AI-driven evaluation, Elsa Speak functions as a form of digital language immersion, simulating real-time communicative interaction.

Furthermore, MALL bridges the gap between formal instruction (classroom-based teaching) and informal learning (self-directed practice). In this study, students were able to continue their pronunciation training outside the classroom without losing instructional quality. This hybrid approach enhances continuity in learning and reinforces the connection between academic instruction and everyday communication.

Challenges and Limitations

Despite its numerous advantages, the integration of Elsa Speak also presents several challenges and limitations that must be acknowledged to ensure balanced interpretation of the findings.

First, connectivity issues emerged as a significant barrier for some participants, particularly those in areas with unstable internet connections. This disrupted consistent practice and sometimes prevented students from accessing advanced features of the app.

Second, the language barrier within the interface where most instructions and feedback are provided exclusively in English posed difficulties for low-proficiency learners. Future updates of such applications could incorporate multilingual guidance or adaptive onboarding systems to make the app more accessible for diverse learners.

Third, the scope of feedback offered by Elsa Speak remains largely limited to phonological features such as pronunciation, stress, and intonation. The app does not address higher-level aspects of oral communication, including grammar accuracy, discourse organization, or pragmatic appropriateness. Thus, while Elsa Speak effectively enhances segmental and suprasegmental pronunciation features, it should be supplemented with traditional classroom instruction or communicative activities to foster a more holistic approach to speaking competence.

These limitations highlight the importance of pedagogical integration, where technology serves not as a substitute for teachers but as a complementary tool that enriches existing methods and expands learning opportunities.

Synthesis of Findings

Overall, the discussion confirms that Elsa Speak embodies the principles of autonomous, feedback-driven, and technology-enhanced learning, which are pivotal in modern English language education. The combination of real-time feedback, personalized practice, and gamified engagement results in a multifaceted improvement in learners' oral performance and confidence.

By bridging linguistic theory, mobile technology, and practical pedagogy, Elsa Speak demonstrates how AI-powered learning tools can play a vital role in reshaping pronunciation instruction, empowering learners to take active control of their language development while fostering enjoyment and independence.

Conclusion

The findings of this study clearly demonstrate that the use of the Elsa Speak application as an artificial intelligence (AI)-based learning tool significantly enhances students' English-speaking and pronunciation abilities. The interactive nature of the application, supported by immediate AI-generated feedback, provides learners with an effective platform for independent practice, allowing them to develop their pronunciation skills without being restricted by time or place. Unlike traditional instruction, which often depends on in-class repetition and teacher evaluation, Elsa Speak encourages self-directed learning, where students can repeatedly practice problematic sounds and monitor their progress in real time.

The results from both the pre-test and post-test reveal substantial improvement in pronunciation accuracy, speaking fluency, and intonation control after consistent use of the application over a six-week period. Statistical analysis further confirms that these improvements are significant, establishing Elsa Speak as an effective medium for pronunciation training and oral skill development. The findings align with previous research in Mobile-Assisted Language Learning (MALL), which suggests that digital tools equipped with intelligent feedback systems promote learner autonomy, motivation, and confidence in language production.

Furthermore, Elsa Speak successfully bridges the gap between language learning theory and practice by combining linguistic accuracy with real-time technological assistance. Its AI-based evaluation feature helps learners identify specific pronunciation errors such as vowel distortion, misplaced stress, and unclear consonant endings and offers instant correction. This continuous and personalized feedback loop encourages consistent progress and enhances the learning experience.

From a pedagogical standpoint, the implementation of Elsa Speak provides both educational value and practicality. It creates an engaging, student-centered learning environment that motivates learners to participate actively and build communication confidence. The program's flexibility also complements classroom instruction, making it a suitable supplementary tool for teachers who wish to integrate technology into their English pronunciation and speaking courses.

In conclusion, Elsa Speak can be classified as a relevant and effective educational innovation in the context of English language acquisition in the digital era. It not only improves students' linguistic competence but also nurtures independent learning habits and global communication skills essential for 21st-century learners. Consequently, this application can be regarded as a powerful and reliable alternative to traditional pronunciation teaching methods, offering a modern and interactive approach that effectively supports language learners in achieving higher levels of oral proficiency.

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