Journal of English Language and Education
ISSN 2597- 6850 (Online), 2502-4132 (Print)
Journal Homepage: https://jele.or.id/index.php/jele/index
OPEN ACCESS Article

The Endorsement of Self-Regulated Learning Intercorporate with ELSA Speak AI to Boost Speaking Skill of Thai EFL Students

https://doi.org/10.31004/jele.v10i2.748

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A B S T R A C T

The development of English-speaking skills among Thai EFL students remains challenging due to linguistic differences, rote-learning methods, and limited real-world practice. While technology-assisted learning is gaining attention, research rarely explores the integration of Self-Regulated Learning (SRL) with AI tools. This study examines the effectiveness of combining SRL with ELSA Speak AI to improve speaking proficiency. Using Classroom Action Research (CAR), 30 sixth-grade students at Darul Muhmin Elementary School underwent a two-cycle intervention, with data collected through pre-tests, post-tests, interviews, and observations. Results show significant improvements in pronunciation, fluency, and confidence, with all students surpassing the minimum passing criteria. The study concludes that integrating SRL with AI fosters learner autonomy, engagement, and performance, demonstrating AI's potential in EFL education.

Keywords: *Self-Regulated Learning, ELSA Speak AI, Speaking Skill, Artificial Intelligence, Technology-Based Learning.*
Article History:
Received 05th February 2025
Accepted 18th March 2025
Published 11th April 2025

INTRODUCTION

English language learning for 6th-grade elementary school students in Thailand presents various challenges, particularly in developing speaking skills. Several factors contribute to several difficulties, including linguistic competence and linguistic differences between Thai and English, traditional teaching methods that emphasize rote memorization over communicative competence, and a lack of opportunities for students to practice English in real-life contexts (Uthaikun et al., 2024). Pronunciation and intonation remain significant obstacles due to the fundamental differences between the two languages, making it difficult for students to achieve fluency. Furthermore, the conventional classroom environment in Thailand often does not provide sufficient exposure to English, leading to low self-confidence and reluctance to engage in spoken communication (Tanmongkol et al., 2020).

The issue of low English proficiency in Thailand is further highlighted by statistical data from the EF English Proficiency Index (EF EPI, 2024) which ranks Thailand 106th out of 116 countries, placing it in the "very low proficiency" category. Compared to neighboring countries such as Indonesia, which ranks 80th, Thailand's position reflects a significant gap in English language acquisition. Several studies suggest that this issue stems from the dominance of traditional teaching methods, limited access to modern educational resources, and the absence of a strong national policy supporting English language education (Baker & Jarunthawatchai, 2016). While Indonesia faces similar challenges, the country has shown more stable progress in integrating technology-based approaches and improving educational

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infrastructure (Sholekhah & Fakhrurriana, 2023). The growing awareness of English as a crucial skill for global competitiveness has driven efforts in both nations to enhance language learning strategies. In recent years, innovative educational approaches such as Self-Regulated Learning (SRL) and artificial intelligence (AI)-based applications like ELSA Speak have shown promise in addressing these challenges. SRL has been recognized for its ability to enhance students' autonomy and self-efficacy in learning by encouraging metacognitive strategies and independent study habits (Menggo et al., 2022). Additionally, AI-driven learning tools such as ELSA Speak utilize advanced voice recognition technology to provide instant and personalized feedback on pronunciation, helping students refine their speaking skills more effectively (Sholekhah & Fakhrurriana, 2023). Studies indicate that students who use ELSA Speak experience significant improvements in confidence and motivation due to its interactive and game-based learning design (Karim et al., 2023). The integration of SRL with AI-driven applications thus presents an opportunity to create a more dynamic and flexible learning environment, particularly for English as a Foreign Language (EFL) learners in Thailand.

Despite the promising outcomes of SRL and AI-assisted learning, gaps remain in the current research. While studies have explored the benefits of ELSA Speak in improving pronunciation and speaking ability, most focus primarily on technical aspects rather than on how SRL and AI integration can foster greater learner independence, especially in the Thai educational and cultural context (Ngoc & Thanh, 2023). Additionally, much of the existing research has relied on small sample sizes and quantitative measures, with limited qualitative insights into students' experiences and perceptions of using AI tools for language learning. This gap underscores the need for a more comprehensive study that not only evaluates learning outcomes but also examines how SRL and AI can transform students' learning processes in a meaningful way.

Self-Regulated Learning

Self-regulated learning (SRL) is a learning concept that places students as the main actors in their learning process. SRL not only encompasses the regulation of cognitive strategies but also involves metacognitive, motivational, and behavioral aspects to achieve optimal learning outcomes. In the modern education context, Self-regulated learning has become the important approaches to creating independent learners who can effectively manage students learning process, especially in higher education or distance learning environments (Santosa, 2022). Whereas according to (Sinkkonen & Tapani, 2024) Self-regulated learning is an educational approach that places students as the primary managers in their learning process. This approach not only involves cognitive aspects but also metacognitive, motivational, and behavioral aspects to achieve the predetermined learning goals. SRL has become a key concept in educational research due to its ability to enhance students' independence in learning, while also preparing students to be lifelong learners.

Self-Regulated Learning has proven effective in supporting language mastery, including speaking skills, because students can adjust their strategies as needed. Additionally, (Stanikzai, 2019) defines self-regulated learning as "an active and constructive process in which learners set goals for their learning, then monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and contextual features in their environment". In Thailand, recent research shows that SRL strategies such as goal planning and self-evaluation have a positive relationship with students' English proficiency levels. However, the implementation of these strategies is often limited to theoretical contexts, rather than real practice in the classroom.

Self-Regulated Learning is a key component in self-directed learning because it allows students to take full responsibility for their learning process. With SRL, students can

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overcome time constraints in the classroom and expand their learning experiences more flexibly. According to (Panadero, 2017) in learning English, students can set specific goals such as improving pronunciation, expanding vocabulary, or enhancing speaking skills. Research shows that students who use SRL tend to have a higher success rate in achieving their learning goals because students clearly understand the steps that need to be taken. Self-Regulated Learning (SRL) encourages students to use learning strategies such as speaking practice with AI-based applications, like ELSA Speak, which provides instant feedback on their pronunciation. According to (Khalizah & Damanik, 2024) Students can monitor their progress in real-time with tools like the score analysis feature in the ELSA Speak app. This helps students understand which areas need improvement and adjust their learning strategies accordingly. Additionally, (Zhao & Cao, 2023) Self-Regulate Learning integrates motivational settings to help students stay enthusiastic even when facing challenges, positive feedback from applications like ELSA Speak can boost students' confidence in their speaking skills.

Speaking Skill

Speaking ability is an important aspect of learning English, especially for EFL students in Thailand, who face challenges in pronunciation and a lack of supportive English-speaking environments. The main difficulties in speaking include phonetic differences between English and Thai, lack of confidence, and limited opportunities for active practice. Therefore, technology like ELSA Speak AI provides an interactive and flexible learning alternative, allowing students to practice independently without the pressure of a classroom environment. In addition, good speaking skills are highly needed in the era of globalization to enhance academic and professional opportunities. Therefore, this study focuses on the effectiveness of using ELSA Speak AI in improving the speaking skills of EFL students in Thailand and how the self-regulated learning approach can support the success of this technology-based learning. According to (Nguyen Van Huy et al., 2024) speaking is a verbal communication skill that not only requires technical ability (skillful competence) but also empathy and deep thinking skills to ensure the message can be effectively understood by the listener. According to(Chand, 2021), speaking skill is the main indicator of language proficiency. Fluent speaking ability indicates a learner's level of language proficiency. This skill not only involves linguistic aspects such as pronunciation and grammar, but also the ability to adapt to specific social and cultural situations. In the context of EFL (English as a Foreign Language) learning, speaking becomes a challenge due to limited practice and an environment that does not support natural language use, whereas speaking skills involve the ability to convey information through spoken language, with an emphasis on aspects such as pronunciation, fluency, grammar, and emotional engagement. At the educational level, this indicator is often used to assess students' language proficiency.

Speaking skill according to (Humaira, 2023) is a primary skill in English language learning aimed at creating effective communication at both local and global levels. This skill not only reflects linguistic ability but also encompasses critical thinking and confidence in speaking. (Humaira, 2023) emphasizes the importance of learning that encourages learner autonomy and technology-based speaking practice to improve fluency and accuracy. According to (Raj Sharma, 2024) speaking skill encompasses the ability to articulate ideas clearly through the use of a wide vocabulary, accurate pronunciation, and organized language structure. This skill is becoming increasingly important in the era of globalization to communicate effectively in various cultural contexts. The ability to speak in English is not just about fluency and accuracy, but also includes clarity in conveying ideas, the skill to adapt to communication contexts, and confidence in interactions, the focus is not only on improving fluency and pronunciation accuracy but also on how EFL students in Thailand can develop broader communication competencies, such as intonation, expression, and

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speaking skills in various social and academic situations. This skill not only reflects language proficiency but also involves technical aspects, empathy, and critical thinking abilities. In the context of learning English as a foreign language, speaking skills often become a challenge due to the lack of practice and supportive environments.

English as a Foreign Language

English as a Foreign Language (EFL) focuses on situations when English is taught as a foreign language with the goal of improving students' communication skills in a global context. The development of language competence necessary for social, academic, and occupational is the primary goal of English as a foreign language (EFL). The communicative approach is often used in EFL teaching in this context, when students are encouraged to use English in real-life situations. One primary goal of English as a foreign language (EFL) instruction is to improve students' ability to interact with one another, and research by (Alharbi, 2021) shows that interactive project-based learning methods may achieve this goal. The importance of understanding religious contexts in English as a foreign language (EFL) teaching is further highlighted by (Choi & Nunan, 2018) who argues that this knowledge may help students use English more effectively and relevantly.

The focus of EFL education is not only on the language and culture of the target country, but also on the social aspects related to the use of the English language. According to (Hwang et al., 2016) using technology in EFL teaching, such as apps and online platforms, may improve students' learning experience and provide students with access to more extensive resources. This is in line with the findings of (Choi & Nunan, 2018) which show that students' motivation to learn English as a foreign language (EFL) might increase when students engage in engaging activities that are relevant to their daily lives. As a result, EFL education includes more than just a foundation in English language skills; it encompasses the development of effective communication skills, an understanding of culture, and an appreciation for the role of technology in the classroom. Teaching English as a foreign language (EFL) may be more effective in preparing students to communicate in the increasingly interconnected world if it adopts a holistic and contextual approach.

ELSA Speak AI

ELSA Speak is an AI-based language learning application developed to help users improve their pronunciation and speaking skills in English. This application was founded in 2015 by Vu Van, a Vietnamese entrepreneur with a background in education and technology. ELSA has rapidly developed and become one of the leading AI applications for language learning, with unique features such as automatic speech recognition (ASR) and personalized digital feedback. According to (Khalizah & Damanik, 2024) this application provides various benefits, such as helping students improve their fluency, accuracy, and confidence in speaking English. ELSA enables self-directed learning with features such as real-time pronunciation correction, progress tracking, and gamification, making the learning process interactive and engaging. Additionally, in a study conducted by (Akbarani, 2024) it is explained that the AI-based voice recognition feature provides users with immediate feedback on their pronunciation errors, allowing for quick and effective corrections AI-based voice recognition feature provides users with immediate feedback on their pronunciation errors, allowing for quick and effective corrections. ELSA Speak is designed for various levels of language proficiency, making it a versatile tool for both beginner and advanced learners. According to (Karim et al., 2023) with its cutting-edge technology, this application helps users learn anytime and anywhere, offering a practical solution for more effective language learning.

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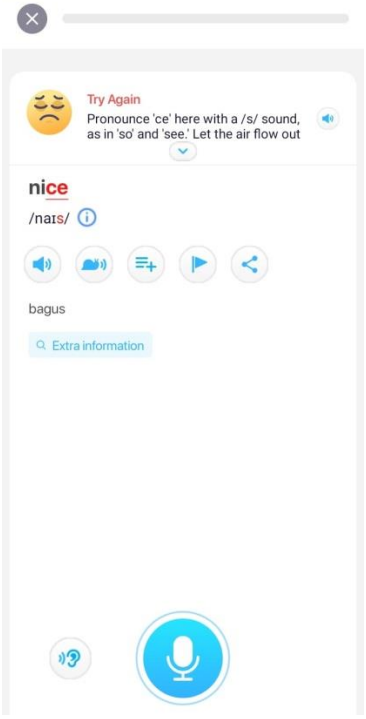

Figure 1. 1Incorrect Pronounciation

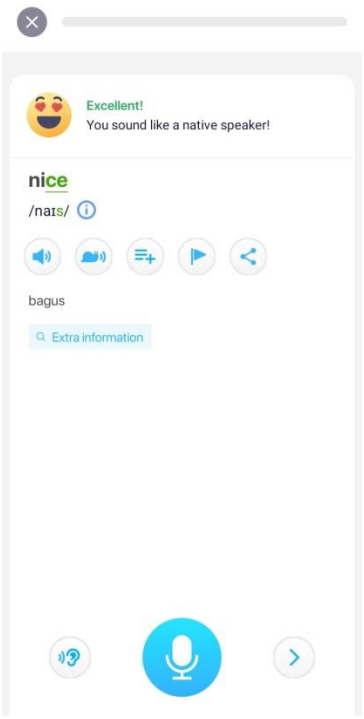

Figure 1. 2 Correct Pronounciation

Figure 1.1 Illustrates the pronunciation evaluation results in the ELSA Speak AI application. The user pronounced the word "nice," and the application rated their pronunciation as "Excellent!", which means it was very good. The text "You sound like a native speaker!" confirms that the pronunciation was similar to that of a native speaker. The phonetic transcription /naɪs/ is also displayed to help users understand the correct pronunciation. This application provides instant feedback, indicating that the word spoken has been pronounced correctly.. **Figure 1.2** shows the evaluation of the pronunciation of the word "nice" in the ELSA Speak AI application. The result displays the message "Try Again," which means the pronunciation is still not accurate. The mistake occurred with the sound "ce," which should be pronounced with the /s/ sound, and the phonetic transcription /naɪs/ is also displayed as a guide for the correct pronunciation.

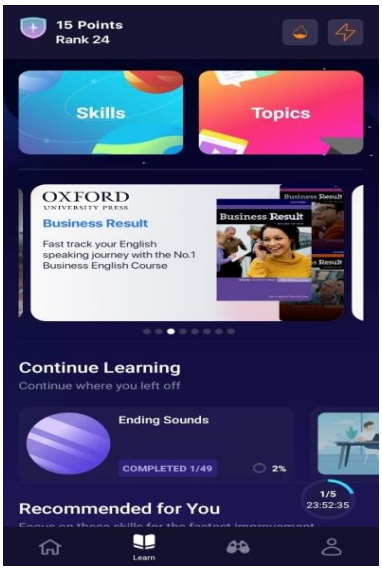

Figure 1. 3Learn Menu on Elsa Speak

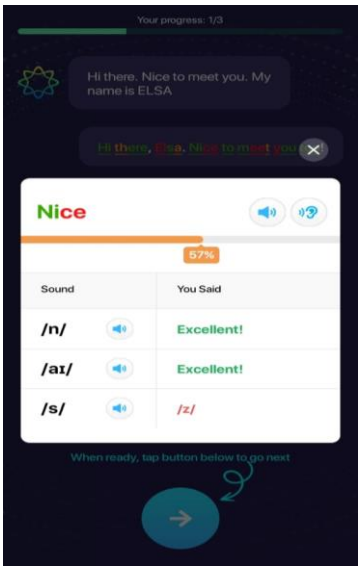

Figure 1. 4 Feedback Explanation

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Figure 1.3 shows the home menu of the ELSA Speak AI application, which serves as the main dashboard for users. At the top, it displays the user's points and rank, indicating progress and engagement. The "Skills" and "Topics" sections allow users to explore different learning modules. Below, there is a promotional banner for a Business English course by Oxford University Press. The "Continue Learning" section enables users to resume their last completed lesson, while the "Recommended for You" section suggests personalized exercises to enhance learning efficiency. The structured layout provides easy navigation for users to track their progress and access tailored learning content. **Figure 1.4** The image shows the pronunciation feedback feature of the ELSA Speak AI application. It evaluates the user's pronunciation accuracy by analyzing individual phonemes.

METHOD

This research is focused on the improvement of learning quality using the combination of Self-Regulated Learning (SRL) with ELSA Speak AI to improve the speaking abilities of EFL students in Thailand. This research was conducted at Darul Muhmin Elementary School, located in Southern Thailand, with 30 student subjects from two classes, namely class 6A consisting of 15 female students and class 6B consisting of 15 male students. The research method used is Classroom Action Research (CAR). (Burns, 2010) defines Classroom Action Research as a reflective approach undertaken by teachers in an effort to improve their teaching practices through a cycle of actions involving planning, implementation, observation, and reflection. This research uses two action cycles, where the cycle consists of four main stages: planning, action, observation, and reflection. SRL was applied through goal setting, self-monitoring, and self-reflection. Students set learning goals, tracked progress using ELSA Speak AI, and engaged in self-reflection through feedback and peer discussions. Data were collected via pre-tests, post-tests, interviews, and classroom observations. The first cycle used traditional methods, while the second integrated AI-driven SRL. Quantitative analysis used descriptive statistics, while qualitative data were coded thematically, ensuring a comprehensive evaluation of learning improvements.

Participants

The participants in this study are 6th-grade students of Darul Muhmin Elementary School located in Southern Thailand. The number of research subjects is 30 students from two classes, namely class 6A consisting of 15 female students and class 6B consisting of 15 male students. The selection of these participants was based on the consideration that they are EFL (English as a Foreign Language) students who are still in the stage of developing their English speaking skills.

Instruments

Several instruments were used to collect data in this study, including pre-tests and post-tests, interviews, and classroom observations. Speaking tests were administered before and after the intervention to measure improvements in students' fluency, pronunciation, and overall speaking ability. Following the post-test, interviews were conducted to explore students' confidence levels, learning experiences, and perceptions of using ELSA Speak AI. Additionally, classroom observations were carried out to assess student engagement, participation, and interaction with the ELSA Speak AI application.

Procedures

This study was carried out over two cycles, with each cycle consisting of two meetings (four meetings in total) to ensure structured intervention and evaluation. The stages in each cycle were as follows:

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Table 1. Research Cycles 1 (Burns, 2010)

No	Stage	Description
1	Planning	Giving a pre-test to measure students' initial speaking abilities and creating a lesson plan using traditional methods.
2	Action	Teaching using traditional methods such as lectures and drilling.
3	Observation	Observing students' responses to the teaching method then recording student engagement and difficulties faced.
4	Reflection	Evaluating observation results to identify the weaknesses of traditional methods and determining improvement strategies for the second cycle.

Table 2. Research Cycles 2 (Burns, 2010)

No	Stage	Description
1	Planning	Developing technology-based learning strategies. Integrating ELSA Speak AI with the Self-Regulated Learning (SRL) approach.
2	Action	Students practice speaking using ELSA Speak AI to improve their pronunciation and intonation and encouraging students to learn independently with Self-Regulated Learning.
3	Observation	Monitoring student engagement in the use of the application then analyzing the development of students' speaking skills.
4	Reflection	Evaluating the effectiveness of the ELSA Speak AI method compared to traditional methods then measuring the improvement in speaking skills and student independence in learning.

Data analysis

The data analysis in this study involved both quantitative and qualitative approaches. Quantitative analysis was conducted by comparing pre-test and post-test scores using descriptive statistics to evaluate improvements in fluency, pronunciation, and accuracy. Qualitative analysis involved thematic coding of student interviews and classroom observation data to identify recurring patterns and themes related to changes in confidence and speaking engagement. To ensure the validity and reliability of the findings, triangulation was applied by cross-examining data from test results, interview responses, and observations, providing a comprehensive assessment of students' overall improvement in speaking abilities..

FINDINGS AND DISCUSSION

The level of EFL knowledge among students at Darul Muhmin Elementary School in Thailand is considered low. Based on the pre-test results, students experience difficulties in pronunciation, fluency, and confidence due to linguistic differences between Thai and English, a lack of an environment that supports the use of English, and traditional teaching methods that focus more on memorization than interactive communication. Moreover, Thailand ranks 106th out of 116 countries in the (EF EPI, 2024), which further indicates the overall low level of English proficiency in the country. Several factors cause students' English speaking skills to be inadequate. First, the significant phonetic and grammatical differences between English and Thai make it difficult for students to pronounce and speak fluently. Secondly, traditional teaching methods do not emphasize communication competence, so students rarely get the opportunity to practice speaking. Third, the lack of an environment that supports the use of English in schools and communities

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leads to minimal practice in real-life situations. Additionally, psychological factors such as low self-confidence, fear of making mistakes, and lack of motivation also pose obstacles in speaking English. The limited resources, lack of teacher training, and large class sizes also contribute to students' difficulties in mastering speaking skills.

ELSA Speak AI has been integrated into the learning process at Darul Muhmin Elementary School through the Self-Regulated Learning (SRL) approach to enhance students' speaking skills. This artificial intelligence-based application provides immediate feedback on pronunciation, fluency, and intonation, allowing students to practice independently. Studies show that after using ELSA Speak AI, students experience significant improvement, with post-test scores increasing drastically. The interactive features and gamification in this application help increase student motivation and engagement, while the SRL approach encourages self-practice, goal setting, and self-monitoring of progress. This method has proven efficiency in developing a more flexible and dynamic learning experience, thereby enhancing students' speaking skills and confidence. To further highlight the effectiveness of the combined SRL and AI approach, a comparison with a control group following traditional learning methods was conducted. The control group, which did not use ELSA Speak AI or SRL strategies, showed only a marginal improvement in post-test scores, with progress primarily limited to rote memorization and minimal pronunciation enhancement. In contrast, students using SRL with AI demonstrated significantly higher gains in fluency, accuracy, and confidence. This comparative analysis underscores the advantages of integrating AI-driven feedback with self-regulated learning strategies, providing a more effective and engaging method for improving EFL students' speaking skills.

Discussion

The implementation of Self-Regulated Learning (SRL) integrated with ELSA Speak AI in the English language learning process at Darul Muhmin Elementary School, Southern Thailand, has demonstrated significant impacts on students' speaking proficiency. Observations were conducted to analyze student engagement, interaction with the AI-based application, and overall improvement in speaking confidence and fluency.

During the first cycle, students were introduced to traditional teaching methods, where they primarily relied on rote memorization and repetition exercises. The classroom environment showed low participation and engagement, with students displaying hesitation and lack of confidence in speaking English. Many students struggled with pronunciation and fluency due to the linguistic differences between Thai and English. Additionally, classroom observations indicated that peer-to-peer interaction in English was minimal, and students often refrained from participating in oral communication activities. The overall classroom atmosphere reflected a teacher-centered approach, limiting opportunities for students to develop independent speaking skills. In the second cycle, SRL and ELSA Speak AI were incorporated into the learning process. Observations revealed a remarkable transformation in students' engagement and motivation. The introduction of ELSA Speak AI provided instant pronunciation feedback, allowing students to identify and correct their mistakes in real-time. As a result, students became more confident in

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practicing speaking independently. The interactive and gamified features of the application significantly enhanced student participation, as they showed increased enthusiasm in completing speaking tasks. It was observed that peer collaboration improved, with students actively discussing pronunciation corrections and encouraging one another.

Furthermore, students demonstrated higher autonomy in learning, as they were able to self-regulate their progress by setting learning goals and monitoring their improvements through the application's score analysis feature. Teachers also noted that students were more willing to take risks in speaking English without fear of making mistakes, as the AI-based system provided a supportive, non-judgmental learning environment. By the end of the observation period, all students had shown significant progress in their speaking abilities, as reflected in the increased average scores. The observations confirmed that SRL and AI-based learning fostered a dynamic, student-centered classroom environment, promoting both independent learning and collaborative engagement. This approach not only improved fluency and pronunciation accuracy but also cultivated students' confidence, motivation, and enthusiasm for learning English.

Table 3. Statistical Data 1

Statistics

PRETEST

N	Valid	30
	Missing	0
Mean		54.67
Median		55.00
Std. Deviation		10.581
Minimum		40
Maximum		75

Source: Processed data with SPSS 29.00

Based on the statistical data displayed in the image, the pretest results conducted on 30 students show that the average score (Mean) is 54.67, with the median score (Median) being 55.00. This indicates that most students scored around that value. A standard deviation of 10.581 indicates a significant variation in scores among students, meaning that some students have scores that are much higher or lower than the average. The range of scores is also quite large, with a minimum score of 40 and a maximum score of 75, indicating differences in the levels of understanding or skills among students before any intervention or further learning actions are taken.

Table 4. Statistical Data 2

Statistics

POSTEST

N	Valid	30
	Missing	0
Mean		82.50
Median		82.50
Std. Deviation		5.374
Minimum		75
Maximum		95

Source: Processed data with SPSS 29.00

Based on the statistical data displayed in the image, the posttest results conducted on 30 students. The average (mean) posttest score is 82.50, with a median value also of 82.50,

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indicating a relatively symmetrical data distribution. The standard deviation of 5.374 indicates the variation in scores within this data group. The range of values is between 75 as the minimum value and 95 as the maximum value. There are no missing data, so all 30 valid data points were used in this analysis. This result provides an overview of the central tendency and dispersion of the data that can be used for further analysis.

Table 5. Statistical Data 3

Paired Samples Test

		Paired Differences							Significance	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	One-Sided p	Two-Sided p
Pair 1	PRETEST - POSTEST	-27.833	8.272	1.510	-30.922	-24.745	-18.430	29	<0.001	<0.001

significant difference between the pretest and posttest scores in this study. The average difference between the pretest and posttest is -27.833, with a standard deviation of 8.272 and a standard error mean of 1.510. The 95% confidence interval for this difference ranges from -30.922 to -24.745, indicating that the difference in values did not occur by chance. The t-value of -18.430 with 29 degrees of freedom (df) indicates a highly significant difference. This is reinforced by a p-value < 0.001 for both one-tailed and two-tailed tests, which means the difference before and after the treatment is statistically very significant. Thus, these results indicate that the applied learning intervention has a significant impact on improving students' abilities.

Table 6. Result of Learning Activities

Criteria	Cycle 1	Cycle 2
Number of Students	30	30
Number of Values	1.640	2.475
Average Value	54,67	82,50
Highest Value	75	95
Lowest Value	40	75
Percentage	6.67%	100%

The analysis of the scores from cycles 1 and 2, involving 30 students, demonstrates a substantial enhancement in educational results. In the cycle 1, only 2 out of 30 students achieved scores above the Minimum Passing Criteria, while the remaining 28 students did not meet the required standard. This is reflected in the average score of 54.67, with the highest score recorded at 75 and the lowest at 40. However, following the implementation of an instructional intervention in the cycle 2, a substantial improvement was observed, wherein all 30 students successfully attained scores above the Minimum Passing Criteria. The average score has increased to 82.50, with the highest score reaching 95, while the lowest score also improved to 75. These findings indicate that no students remained below the required competency threshold. Furthermore, the percentage of students meeting the competency standard increased from 6.67% in the first cycle to 100% in the second cycle, signifying that the applied instructional approach was highly effective in enhancing students' learning achievements.

Table 7. Interview Table

Category	Answer	Number of Students	Performance Ratio%
Independent Practice Strategies	"I practice speaking every day so I can be better."	3	10.0%
Utilization of App Features	"I listen to the app and say the words again if I make a mistake."	7	23.3%
Motivation and Patience	"I try not to give up and I am happy when I get a high	4	13,3%

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	score."		
Challenges in Learning	"Some words are hard to say and I feel shy."	2	6.77%
Pronunciation Improvement & Confidence	Now I can say words better, and I feel more confident speaking in class."	11	36.7%
Social Support	"My teacher helps me say words correctly, and I practice with my friends."	3	10.0%
	Amount	30 Students	100%

The research results show that there are various strategies and factors that influence the improvement of students' speaking skills in language learning. One of the most commonly used strategies is self-practice, where students actively practice speaking every day to improve their skills. The results show that the **Pronunciation Improvement & Confidence** category has the highest percentage, at 36.7%, indicating that most students experienced an improvement in pronunciation and felt more confident speaking in class after using this application. This indicates that the real-time pronunciation correction feature provided by ELSA Speak AI is effective in helping students correct their mistakes and boosting their confidence in communicating in English. In addition, the category of **Utilization of App Features** ranks second with 23.3%, which means that many students utilize the features available in the app to repeat and improve their pronunciation. This shows that technology-based learning methods with the help of artificial intelligence can attract students' interest and make them more active in practicing speaking. **Motivation and Patience** contribute 13.3%, indicating that some students remain motivated and strive patiently despite facing challenges in speaking English. This shows that the use of ELSA Speak AI can be a helpful tool in enhancing students' perseverance in mastering speaking skills. Meanwhile, **Independent Practice Strategies and Social Support** each have a percentage of 10.0%, indicating that there are students who practice independently to improve their skills, as well as those who receive support from teachers or peers in the learning process. The assistance from teachers and peers is important because it can provide direct feedback and boost students' confidence in speaking.

However, challenges in learning still exist, as seen from the **Challenges in Learning** category which has a percentage of 6.77%, indicating that there are still students who have difficulty pronouncing some words correctly and feel shy to speak. These difficulties are most likely caused by the phonetic differences between English and students mother tongue, as well as the lack of speaking opportunities in their daily environment. Overall, the findings from this study reflect that the implementation of ELSA Speak AI at SD Darul Muhmin has a positive impact on improving students' speaking skills, particularly in aspects of pronunciation and confidence. Although there are still challenges to be addressed, the use of this artificial intelligence-based technology has proven effective in providing immediate feedback and enabling students to learn independently. With support from teachers, friends, and self-motivation, it is hoped that students can further develop their English speaking skills.

CONCLUSIONS

The conclusion of this research confirms that the implementation of Self-Regulated Learning (SRL) combined with ELSA Speak AI significantly enhances the speaking skills of English as a Foreign Language (EFL) students at Darul Muhmin, Thailand. Before the implementation of this method, students' speaking proficiency was relatively low, as reflected in the average scores that did not meet the required competency standards. The key factors contributing to students' low speaking abilities included linguistic differences between Thai and English, traditional teaching methods that did not support communicative competence, and limited exposure to and practice of English in daily life. Additionally, a lack

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of confidence and motivation in speaking English further hindered students' progress in language acquisition. Following the implementation of technology-assisted learning through SRL and ELSA Speak AI, the research demonstrated a significant improvement in students' speaking skills. The average scores increased substantially, with all students achieving the required competency level in speaking. The ELSA Speak AI application provided instant feedback and personalized pronunciation correction, helping students improve their accuracy and confidence in using English. Moreover, the Self-Regulated Learning approach empowered students to take control of their learning process, fostering greater motivation and independence in language acquisition. Factors such as independent practice, effective utilization of AI-powered features, increased motivation, and social support from teachers and peers played a crucial role in the students' improved performance.

The results of this research indicate the positive impact of AI-driven learning and SRL in enhancing EFL students' speaking proficiency. In addition to improving fluency and pronunciation accuracy, this method also boosted students' confidence and engagement in the learning process. Beyond immediate learning outcomes, the integration of SRL and AI has the potential to revolutionize language education by promoting lifelong learning habits and adaptability in acquiring new languages. As AI technology continues to evolve, its ability to provide personalized, data-driven feedback will further refine and enhance the effectiveness of SRL strategies, ensuring sustained improvement in language skills. Therefore, the incorporation of SRL and AI-assisted learning methods into English language curricula at both primary and secondary education levels is strongly recommended to create a more interactive, independent, and technology-driven learning environment that prepares students for long-term success in language acquisition.

ACKNOWLEDGEMENTS

The researchers extend the deepest appreciation to all parties who have offered support and participated in the implementation of this research. Special thanks are extended to the Darul Muhmin educational institution in Southern Thailand, which provided permission and facilities to conduct this research. In addition, appreciation is also given to the students who participated in this research with full dedication and enthusiasm.

The researcher also wishes to express gratitude to the supervising lecturers and colleagues who have provided valuable input in the preparation of this research.

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