Exploring self-regulated learning strategies to enhance English speaking skills among EFL students

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ABSTRACT
The idea of self-regulation derived from educational psychology has recently increased researchers' interest in second language learning studies. Self-Regulated Learning (SRL) is crucial since it empowers language learners to take ownership of their learning process. The present study examined university students' SRL strategies to improve their speaking skills. It involved ninety English as a Foreign Language (EFL) university students in non-English departments. An explanatory sequential mixed-method approach was employed to get an in-depth understanding of this study. The quantitative phase identified the correlation between SRL and students' speaking skills while the qualitative phase explored the implementation of SRL in improving students' speaking skills. In obtaining the data, a self-regulated learning questionnaire adapted from Zimmerman and Schunk (1998) and open-ended interview guidelines were used to gain insights into the participants' SRL strategies. The quantitative results revealed a positive correlation between the students' SRL strategy and speaking skills, suggesting that students with higher self-regulated learning are inclined to have better speaking abilities. In addition, the qualitative findings indicated that to enhance their speaking skills, the participants employed the three phases of SRL including forethought, performance or volitional control, and self-reflection along with the use of several online platforms to support their learning process. These findings offer valuable insights into the importance of self-regulated learning to enhance EFL students' speaking skills, fostering both academic development and practical communication competence.

Keywords: EFL students; self-regulated learning; speaking skills

INTRODUCTION
In second language acquisition, achieving fluency and accuracy in speaking a foreign language is widely regarded as one of the most difficult and stress-inducing aspects for learners. English as a Foreign Language (EFL) students, in particular, encounter some obstacles in improving their speaking abilities, including restricted exposure to English-speaking settings, low self-confidence, and the demands of performing during live interactions. Mandasari and Aminatun (2020) pointed out that speaking English is considered a difficult skill to master in Indonesia because English is a foreign language and there is not much English exposure available in public, so students may need to work harder to improve their speaking skills. Improving students' ability to speak proficiently is now a significant concern in the realm of teaching foreign languages. A primary motivation for learning a new language is the desire to interact with others effectively, yet numerous students struggle to enhance their speaking capabilities with confidence. It is important to note that speaking skills entail cognitive processes, physical, socio-cultural, and speaker knowledge that occur in a real-world setting and time (Fernández & Fonceca, 2022). Therefore, the researchers want to investigate the correlation between speaking skills and Self-Regulated Learning (SRL) which is considered to have a positive effect on language learning.

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Educational research suggests that SRL plays a vital role in the learning journey of students and it can improve their academic achievements and motivation to learn. SRL is especially prominent in higher education because university students need to manage their own studies (Broadbent et al., 2020; Özer & Akçayoğlu, 2021). The features of SRL include intrinsic motivation and independent learning, aiding learners in attaining their objectives across various learning scenarios. Zimmerman and Schunk (1998) proposed three cyclical self-regulatory phases including forethought, performance/volitional control, and self-reflection as shown in Table 1.

Table 1
Cyclical Self-Regulatory Phases

Forethought	Performance/Volitional Control	Self-Reflection
Goal setting	Attention focusing	Self-evaluation
Strategic planning	Self-instruction/imagery	Attributions
Self-efficacy beliefs	Self-monitoring	Self-attractions
Goal orientation		Adaptivity
Intrinsic interest		

Table 1 suggests that during the forethought and planning phase, students are instructed to become acquainted with the course material by understanding the learning objectives. They are encouraged to set personal goals, devise strategies to accomplish tasks effectively, and manage their time efficiently to meet deadlines. In addition, during the self-monitoring phase, learners learn to evaluate their learning progress, which may include activities like keeping a journal to record their progress and reporting on their advancements. This enables them to identify challenging areas in the material and seek feedback or assistance from peers or teachers to overcome these difficulties. After the self-monitoring phase, students engage in self-reflection to inform their planning for future learning cycles. This phase encourages students to reflect on their experiences, identify areas for improvement, and develop plans for their future learning endeavors (Zimmerman, 1990). Students' self-initiated thoughts, emotions, actions, and strategies play a significant role in supporting and enhancing language learning aimed at achieving proficiency in the target language. Self-regulated learning involves a cyclical process where students plan for a specific language task, actively monitor their progress, and evaluate and reflect on their results (Wang & Zhan, 2020).

SRL is believed to help students in the learning process, particularly after receiving guidance from the teachers in the classroom. Most theories of self-regulated learning imply that students are responsible for governing their learning strategies, motivation, emotional aspects, study settings, and social support systems (Bembenutty, 2011; Panadero, 2017). The learning environment impacts cognitive involvement by either promoting or restricting the use of particular learning strategies and types of interaction with other participants. The nature of tasks, whether structured or unstructured, also affects cognitive engagement although these connections are not yet fully understood (Li & Lajoie, 2022). There is a growing acknowledgment that strategic self-regulated learning is central to second/foreign language (L2) teaching and learning, as it fosters self-regulated learners who are independent, competent, goal-oriented, and equipped with lifelong learning strategies (Zhang et al., 2019).

Some previous research highlighted the importance of SRL strategies in various learning areas including foreign language learning. Kim and Nor (2019), Öztürk and Çakıroğlu (2021), Theobald (2021), Özer and Akçayoğlu (2021), Teng (2024), Mega and Sugiarto (2020), and Nurjanah et al. (2021) found that SRL encourages students to set personal goals, foster intrinsic motivation and a sense of ownership over their learning, and often demonstrate better understanding which leads to higher grades and achievements. However, most previous research only revealed quantitative data on the impact of SRL on learning achievement without providing a comprehensive explanation of the implementation process of SRL. Moreover, the previous research assessed the impact and correlation of SRL towards writing skills while this current research focused on speaking skills. This research provides not only quantitative data on the correlation between SRL and speaking skills but also broader qualitative data about how students set their learning process in three cyclical self-regulatory phases proposed by Zimmerman and Schunk (1998). Therefore, this research is aimed at examining the correlation between self-regulated learning applied by EFL students to improve their speaking performance and the implementation of self-regulated learning applied by the students in both quantitative and qualitative methods. Based on the background of the study, this research has two research questions:

1. To what extent does self-regulated learning correlate with EFL students' speaking skills?
2. How do EFL students implement self-regulated learning to enhance their speaking skills?

METHOD

Research Design

This study employed an explanatory sequential mixed-method design (Creswell & Clark, 2011) to portray the students' SRL strategy in enhancing their speaking skills. The rationale for considering this design stems from providing a thorough grasp of the data collected and a wealth of insight into the findings. This design encompassed a two-phase project including quantitative and qualitative phases. Specifically, the process started with collecting and analyzing quantitative data from a questionnaire, followed by collecting and interpreting data from an interview. As the result of the first phase, the quantitative results provide ideas on the types of participants to be purposively selected for the qualitative phase and the question guidelines for the interview session. In short, this design aims to provide a more detailed explanation of the preliminary quantitative results through the use of qualitative data (Creswell, 2014).

Research Participants

This study involved ninety English as Foreign Language (EFL) university students at one of the universities in Indonesia majoring in non-English departments. They took English courses for two semesters, and they had speaking class sessions which were completed with their speaking scores. The data, however, were collected in their second English course. The reason for selecting the participants of this study is that non-English department students were considered to put a lot of effort into learning how to speak English. This effort was driven by several factors, including their learning motivation, understanding of the importance of English, persistence in overcoming difficulties, utilization of available resources, and adoption of SRL strategies. The ninety students participated in quantitative data collection, which involved completing an SRL questionnaire. Following this phase, seven of the ninety students were selected purposively as the participants for the interview session to obtain the qualitative data. The selection rationale was based on the students' highly satisfactory results of SRL strategies and speaking scores, as those with greater self-regulated learning employ more learning strategies to enhance their speaking skills.

Research Instruments

The instruments applied in the present study included a questionnaire and interview question items. In the quantitative phase, an SRL questionnaire adapted from Zimmerman and Schunk (1998) was administered to the ninety participants. To be more detailed, the 4-point Likert scale questionnaire items were grounded from Zimmerman's theory of SRL encompassing forethought, performance or volitional control, and self-reflection. The questionnaire's validity and reliability were evaluated to confirm the results' accuracy and consistency. The construct validity was assessed through Pearson correlation analysis using Statistical Package for the Social Sciences (SPSS). The result showed that the correlation coefficient of the items exceeded the r_{table} value (0.207), highlighting the validity of the questionnaire items. Meanwhile, the reliability was measured using Cronbach's alpha, based on Cohen et al.'s (2017) guidelines, which define a coefficient value above 0.70 as acceptable for consistency. In this study, the Cronbach's alpha coefficient was 0.884, indicating a high level of reliability. In addition, semi-structured interview guidelines were developed as the instrument for collecting the qualitative data. The interview questions covered the students' SRL strategies to enhance their speaking performance in detail. Employing open-ended interview questions enabled interviewers to dive into the participants' knowledge and experience.

Data Collection

In the present study, the process of obtaining the data involved quantitative and qualitative phases. In the quantitative phase, the data were collected through a self-regulated learning questionnaire administered to ninety students after their speaking performance. Along with the students' speaking performance, the researcher took their speaking scores and evaluated them by giving some constructive feedback to boost students' speaking ability. The data of both self-regulated learning and speaking scores were analyzed by using SPSS to find the correlation between them. In the second phase, the qualitative phase, interview sessions were carried out with seven selected participants from the previous phase. The interview session aimed to get in-depth data concerning the students' SRL strategies and their speaking skills. The data were then analyzed comprehensively to obtain the results of this study.

Data Analysis

To discover the findings of the present study, the quantitative and qualitative data were analyzed separately. Enclosed in the first phase, the quantitative data obtained from the SRL questionnaire and the speaking scores were analyzed in the SPSS 29 Version. Initially, descriptive statistical analysis was employed to figure out the mean score and standard deviation of the data. In addition, using a One-Sample Kolmogorov-Smirnov Test, a normality test was applied to check the normal distribution of the population. Since the data were not normally distributed, Spearman's rho analysis, furthermore, was used to examine the correlation between self-regulated learning and students' speaking skills. Following the initial phase, the qualitative data obtained from interview

sessions were analyzed and interpreted descriptively based on the SRL theory proposed by Zimmerman and Schunk (1998) which includes forethought, performance or volitional control, and self-reflection. The results of this study were concluded comprehensively involving the use of SRL by EFL students in elevating their speaking skills.

FINDINGS AND DISCUSSION
This section begins with the findings and discussion of the quantitative phase including the results of the correlational analysis of self-regulated learning and speaking skills. Following this part, the results of the qualitative phase from the interview session

were presented to expose an in-depth understanding of the use of self-regulated learning in the process of learning to enhance students' speaking skills.

The Correlation between Self-Regulated Learning and Speaking Skills
This section outlines the findings and discussion from the quantitative phase to figure out the correlation between self-regulated learning and speaking skills of EFL students in which the data were obtained from the Self-Regulated Learning (SRL) questionnaire and students' speaking scores. Before presenting the results of the correlation analysis, it was necessary to expose the descriptive statistics of the variables.

Table 2
Descriptive Statistics of Self-Regulated Learning and Speaking Score

	N	Minimum	Maximum	Mean	Std. Deviation
Self-Regulated Learning	90	45	83	63.80	9.993
Speaking Score	90	70	90	81.34	5.163
Valid N	90				

As presented in Table 2, from the total sample of 90 students, it was clear that the score of self-regulated learning ranged from 45 to 83 points with a mean score of 63.8. It indicated that the use of self-regulated learning was at a moderate level from the maximum total score of 84. Moreover, a narrow variability of the standard deviation was shown at the score of 9.993. The low standard deviation indicated that the scores tend to be close to the mean. In other words, the data were not spread out over a wider range. Meanwhile, the students' speaking scores ranged from 70 to 90 along with a mean score of 81.34 which directed to the intermediate level of their speaking ability. The results of the standard deviation also showed a narrow variability with a score of 5.16. It indicated the low variance of the speaking scores which were mostly close to the mean score.

The aforementioned results specified the use of self-regulated learning and the students' speaking skills. The moderate level of SRL score indicated that the students had more self-awareness of learning English (Zimmerman & Schunk, 2013).

The result is in line with the studies conducted by Halim et al. (2023) and Rochmawati et al. (2023) on the use of self-regulation strategies employed by EFL students to enhance their English-speaking proficiency. Their findings revealed that the various strategies included in SRL significantly impacted the students' speaking performances. By putting SRL strategies in their learning process, the students had clearer goals and could evaluate their speaking performances to improve their speaking skills. They were able to apply the strategies of SRL including forethought, performance or volitional control, and self-reflection (Zimmerman & Schunk, 1998) to get the best result in their speaking performance which can be confirmed in the intermediate level of their speaking ability.

Additionally, for the correlation analysis, it was essential to assess the normality of the variables. This test determines whether sample data originates from a population with a normal distribution. The result of the normality test is revealed in Table 3.

Table 3
One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			90
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		4.37285599
Most Extreme Differences	Absolute		.139
	Positive		.085
	Negative		-.139
Test Statistic			.139
Asymp. Sig. (2-tailed)[c]			<,001
Monte Carlo Sig. (2-tailed)[d]	Sig.		<,001
	99% Confidence Interval	Lower Bound	.000
		Upper Bound	.001

a. Test distribution is Normal.
b. Calculated from data.

Table 3 shows the result of the normality test which was conducted by using a One- Sample Kolmogorov-Smirnov Test. As the result of the normality test, if the score of Asymp. Sig (2-tailed) of the unstandardized residual score is higher than the level of significance 0.05 (> 0.05), the variable is normally distributed and vice versa. In Table 3, however, the score of Asymp. Sig (2-tailed) was less than 0.001 (<0.001) which was lower than the level of significance 0.05 (<0.05). It indicated that the residual score of the variables was not normally distributed.

Furthermore, since the residual score of the correlated variables was not normally distributed, Spearman's rho analysis was employed to examine the correlation between self-regulated learning and students' speaking skills. The result of the correlation between variables is presented in Table 4.

Table 4

Correlation between Self-Regulated Learning and Speaking Skills

			Self-Regulated Learning	Speaking Skills
Spearman's rho	Self-Regulated Learning	Correlation Coefficient	1.000	.528[**]
		Sig. (2-tailed)	.	<,001
		N	90	90
	Speaking Skills	Correlation Coefficient	.528[**]	1.000
		Sig. (2-tailed)	<,001	.
		N	90	90

**. Correlation is significant at the 0.01 level (2-tailed).

To determine the correlation of the variables, if the score of Sig. (2-tailed) is lower than 0.05 (<0.05), it indicates a significant correlation between variables and vice versa. The result of Spearman's rho analysis in Table 4 showed that the score of Sig. (2-tailed) was less than 0.001 (<0.001) which was lower than the significant level α = 0.05 (0.001 < 0.05). Thus, it is apparent that there was a significant correlation between SRL and speaking skills. In addition, Table 4 also demonstrated that the Correlation Coefficient score was 0.528, which means that the variables are highly correlated based on correlation strength level criteria. Moreover, the positive point of this Correlation Coefficient score indicated that the more the students apply the SRL, the higher their speaking scores.

Concerning the findings of this study, the use of SRL enabled students to enhance their speaking performance. This is in line with the study conducted by Larasati (2020) that examined SRL on students' oral presentation performance in academic speaking classes. It revealed that the students employed more SRL suggested by Zimmerman and Schunk (1998) to get the best results in their speaking performances. Similarly, the study by Sun (2022) on the use of the SRL scale which helped students recognize the shortcomings of their SRL speaking strategies, also indicated that students with more knowledge and awareness of SRL speaking strategies are more willing to adjust the use of their strategies to achieve their learning goals.

The correlation between SRL and speaking skills is directed to the importance of SRL in elevating students' speaking skills. The implementation of self-regulated learning strategies can significantly impact the learners' language development, especially in speaking proficiency (Rum & Allo, 2023; Suratullah et al., 2023), and reduce students' anxiety considerably (El-Sakka, 2016). Besides, the positive correlation between SRL and speaking skills also suggested that the students with more self-regulated learning tend to have better speaking English abilities. This finding aligns with the study conducted by El-Hawamleh et al. (2022) who concluded that self-regulated learners can speak English successfully when they understand and regulate what they do with their speaking tasks. Moreover, De Vrind et al. (2024) in their study also concluded that by applying self-regulated learning, the students were found to be more adaptive, and concerned with their self-evaluation procedure. It indicated that the students with more self-regulated learning are able to set their learning goals, monitor their progress, and adapt their learning strategies that fit with their successful learning.

In addition, the results of the high correlation between SRL and speaking skills were triggered by some factors. The students' self-regulated motivation along with the utilization of available resources, especially online media, made the students grasp their target language easily. It is in line with the study conducted by Warni et al. (2024) that discovered a high level of self-regulated motivation in enhancing students' speaking skills. Supporting the finding of this study on the use of online media, a study by Nurjanah et al. (2021) also revealed that in implementing SRL, YouTube was considered one of the sources for lecturers and students, especially in providing learning models and ideas. It could be used as an effective medium to improve students' speaking skills. The use of self-regulated learning with smartphone assistance also had a double effect on students' language

proficiency (Menggo et al., 2022). Moreover, the students' persistence in overcoming their difficulties and their commitment to practicing their speaking were other factors that helped students improve their speaking ability. Therefore, by applying SRL, the students were able to organize their learning and shape their learning patterns (Nugroho et al., 2020; Sukma, 2022). In other words, self-regulated learners have personal initiative, perseverance, and adaptive skills. They can focus on how they activate the specific learning practices that meet their needs (Zimmerman, 2002). This approach not only enhances their academic performances but also fosters lifelong learning habits.

The Implementation of Self-Regulated Learning Employed by EFL Students
As the result of the qualitative phase, the implementation of Self-Regulated Learning (SRL) in enhancing students' speaking skills is presented based on Zimmerman's theory of SRL including

forethought, performance/volitional control, and self-reflection which are described as follows:

Forethought
The forethought phase involves the critical processes and beliefs that come before learning efforts, setting the groundwork for these efforts (Zimmerman & Schunk, 2013). In traditional education settings, the lecturer typically handles task definition and goal setting by establishing course objectives and informing students about the lecture's purpose (Zhang et al., 2020). On the other hand, self-regulated learners clarify the task requirements, set personal goals, and devise a plan for completing the task before beginning the task (Jansen et al., 2017). These processes of goal setting and strategic planning are influenced by various personal beliefs, such as goal orientations, a learner's self-efficacy, and intrinsic interest or value placed on the task.

Table 5
Students' Implementation of SRL in the Forethought Phase

Forethought Aspects	Students' Implementation of SRL
Goal setting	To speak fluently, to improve pronunciation, to use correct grammar, to expand the range of vocabulary, and to speak confidently.
Strategic planning	To participate in role-play exercises and to use many learning resources.
Self-efficacy beliefs	To believe that speaking is not difficult.
Goal orientation	To be able to get a job in the global era, to communicate with the international community, and to get a scholarship to study abroad.
Intrinsic interest	To recognize that speaking English is fun.

Table 5 shows how students implemented SRL in the forethought phase. Firstly, students who had goal-setting defined objectives such as to speak fluently, to improve pronunciation, to use correct grammar, to expand the range of vocabulary, and to speak confidently. Some students said "*I want to learn ten new conversational phrases this week.*" and "*I will learn to pronounce ten new words with correct stress each week.*" Then, in the strategic planning, students created a structured approach to achieve their speaking goals. It includes identifying resources, methods, and timelines, as well as anticipating challenges and planning solutions. Students reported "*In the classroom, I actively participated in role-play exercises to simulate real-life scenarios. I use many resources to improve my speaking for example videos, podcasts, and songs.*"

Self-efficacy refers to personal beliefs about one's capability to learn or perform at certain designated levels for example students who are self-efficacious set higher goals for themselves and are more likely to choose effective learning strategies than classmates who lack efficacy (Zimmerman & Schunk, 2013). Students in this research informed that English speaking was not difficult since they had known and learned English since elementary school. They acknowledged that they were able to speak English, but they did not know if their

grammar, diction, and pronunciation were correct. As long as they could communicate in English, they thought they were confident. "*I have studied English from elementary school to college. I also get a lot of exposure from the environment because English is widely used on digital platforms, so I think my English is quite good and I am confident speaking English.*"

Participants involved in the interview reported the general and specific goals of their learning. Students recognized the significance of speaking English in the global era. They viewed that they might get a job interview in English when they apply to international companies after graduation. "*With English, I can improve my life in terms of studying, scholarships, or job vacancies. All of this can be achieved if I can master English well.*" This student motivation supported the research conducted by Fiddiyasari and Pustika (2021) who found that instrumental motivation implies that a learner studies a language to achieve a goal related to their occupation or future career. This means that the students learn English to increase their skills and improve their chances of securing a good job in the future.

Speaking skills are also valuable for communicating with foreigners, whether at tourist places or while traveling abroad. The participant

said, "*In my opinion, language is the key to communication. When communicating with people from different countries, it is necessary to master a universal language, one of which is English*". The goal of students who want to talk to foreigners from abroad will motivate them to learn and practice speaking. This is in line with research conducted by Getie and Popescu (2020) who explained that students' attitudes had a positive influence on English language learning, integrative motivation involving an interest in foreign languages, a desire to engage with native speakers of the target language's culture, and positive attitudes towards these people and their culture.

Pursuing higher studies in master's and doctoral degrees requires speaking skills for delivering presentations in the classroom and the international conferences. Moreover, studying in foreign countries will demand students to speak in English. The scholarship from the Indonesian government or other countries also asks the applicants to master English by submitting TOEFL and IELTS certificates that involve speaking tests. One of the students said "*I am studying English, especially speaking, because I want to continue my master's studies so that I will take a scholarship test later. Currently, the scholarship test is available in English, so I have to prepare for it from now on. Learning a language is not an instant process and must be practiced every day*."

The intrinsic interest of students in English speaking was apparent as they explained that they like learning English which is usually taught by fun teachers using games, role-play, and other instruction strategies. "*Learning English is fun because the teacher is a pleasant person. The learning process is also varied, such as role-play, games, and quizzes, so it's not boring. Moreover, the speaking class is very exciting because there is more practice than materials.*" Getie and Popescu (2020) interviewed some students in their research and found that the teacher is an important factor that determines the level of students' success in learning a foreign language. If the teachers teach well and interestingly, students will be enthusiastic about learning and their performance will be better.

Practical recommendations for language instructors in the forethought phase include incorporating goal-setting activities such as beginning each course or unit by helping students define personal and specific speaking goals, such as mastering a set of vocabulary or improving pronunciation in presentations, and providing structured tools like goal-setting worksheets or digital planners. The activity that can be practiced is that the students plan a short speaking task (e.g., introducing themselves in two minutes) by setting a goal (e.g., using three new vocabulary words).

Performance/Volitional Control

The performance/volitional control involves processes that occur during learning efforts and affect concentration and performance namely attention focusing, self-instruction/imagery, and self-monitoring (Zimmerman in Jansen et al., 2017). In the attention-focusing process, students kept their focus on learning how to speak in English using some strategies.

Table 6
Students' Implementation of SRL in the Performance/Volitional Control Phase

Performance/Volitional Control Aspects	Students' Implementation of SRL
Attention focusing	To do fun speaking practices and to arrange a regular study timetable.
Self-instruction/imagery	To use online games and platforms.
Self-monitoring	To use AI-enhanced feedback tools.

Table 6 presents how students implemented SRL in the performance/volitional control phase. In order to master speaking, some students usually do fun activities in learning, such as listening to English music and singing to practice pronunciation. "*I usually practice my speaking before and after the class because I want to speak fluently. Sometimes also I listen to English songs, so I can pronounce words well.*" Rahmania and Mandasari (2021), Baills et al. (2021), and Makasoe et al. (2022) suggested that learning to speak English through listening to music and singing is an engaging and effective method for language acquisition, especially for improving pronunciation, vocabulary, and listening skills. This approach leverages music's rhythmic and repetitive nature to help learners internalize language patterns and pronunciation in a fun and natural way.

Some students arranged a regular study timetable, for example, they practiced English speaking before and after class so that they could achieve good results. Especially, if there was an exam, it was very important to study the lessons that have been taught well in advance. "*Because I know that speaking English is important in this global world, I usually write the study timetable of my courses including English speaking. Before the class starts, I learn the lessons from the previous meeting and do the assignments.*" Wolters and Brady (2021) assume that time management is an essential self-regulation strategy that enables students to effectively plan and control how and when they

dedicate time to activities necessary for achieving their academic objectives.

In the self-instruction phase, students were aware of how to improve their speaking skills in their own ways. Students stated that learning is not only in the classroom. Students who applied SRL in their learning have their own strategies, particularly in speaking skills. Some students reported that they used online games as a learning medium. They were exposed to pronunciations and new vocabulary used in the game. *I really love video games. I play an online game called Valorant and Elden Ring with foreigners, so I think it affects my English skills including speaking".* The students utilized not only online games but also online platforms such as social media YouTube, Podcast, Netflix, TikTok, and Instagram. These media were used to help students improve their speaking skills such as finding content creators who uploaded English-speaking videos, so they could imitate the pronunciation and learn new expressions and vocabulary. It was supported by Syafiq et al. (2021) research showing that YouTube videos as English learning material improved the speaking skills of students including fluency, vocabulary, pronunciation, grammar, and content.

In the self-monitoring aspect, students monitored and improved their learning by using internet-based sources. As digital media are getting more sophisticated, many applications are created for learning purposes. Students said that using applications such as Elsa Speak, Duolingo, and DeepL was very helpful. Those applications have a feature of speaking practice with Artificial Intelligence as if they talked with foreigners in a real situation. The applications are easy to use and free to access by students. "*I use the Elsa Speak application to measure how well I am practicing English. Also, I use Duolingo and DeepL as platforms to find new vocabulary and pronunciation. These applications are easy to use".* Elsani et al. (2023) examined the effect of the use of the Elsa Speak application on students' speaking skills and found that SRL has a significant effect on fostering fluency and accuracy in acquiring EFL students' speaking skills. Learning through Elsa Speak has many advantages, such as the variety of topics according to the needs of the user, where they can choose any topics they want to practice. Elsa Speak includes repetition drills and structured practice that encourage fluent speaking and provides AI-driven feedback on individual sounds, stress, and intonation, helping learners identify and correct mispronunciations.

Language instructors can use several strategies in the performance control phase. They should guide students to focus on specific aspects of their speaking (e.g., grammar accuracy, fluency, or pronunciation) while performing tasks. Encouraging "think-aloud" strategies where learners verbalize their thought processes as they engage in speaking activities is also important. An example activity is during a role-play, students pause at intervals to assess if they are meeting their communication goals (e.g., avoiding filler words).

Self-Reflection

The third phase of self-regulation includes processes that take place after learning activities and affect a learner's responses to that experience namely self-evaluation, attributions, self-attractions, and adaptivity. These self-reactions subsequently impact the forethought phase for future learning efforts for completing the self-regulatory cycle (Zimmerman, 2002).

Table 7
Students' Implementation of SRL in the Self-Reflection Phase

Self-Reflection Aspects	Students' Implementation of SRL
Self-evaluation	To use feedback from lecturers and peers, to speak in front of the mirror, and to record voices.
Attributions	To show the feeling of success or failure in the learning.
Self-attractions	To have more motivation to learn.
Adaptivity	To adapt to the learning strategies.

Table 7 explains how students implemented SRL in the self-reflection phase. Firstly, in the self-evaluation process, participants explained that the evaluations obtained from their lecturers such as pronunciation, diction, and grammar were used to improve their speaking performance. They also got speaking evaluations by asking peers to assess their performance and asking for evaluations from students majoring in the English department or friends whom they knew on social media. "*I see input from lecturers and the results of English-speaking assignments as opportunities to learn and develop. By accepting criticism that can be challenging, I realize that it is an important part of the learning process. Input from lecturers and assignment evaluations help me see weaknesses and deficiencies in my English-speaking skills, which allow me to make improvements.*" In this sense, students with higher levels of task value and interest were found to employ more self-regulatory metacognitive techniques such as concentration, planning, monitoring, evaluating, and regulation of media (Bai & Wang, 2021).

Students did self-evaluation by practicing in front of the mirror, so they could see their expressions and confidence. Recording voices was

also employed by the students to evaluate some aspects of their speaking skills such as pronunciation, intonation, pace, and clarity of speech to check their progress over time. They paid attention to how others reacted in the speaking practice to notice if interlocutors understood their utterances easily and asked for clarification. After the self-evaluation and peer-teacher evaluation, students tried to enhance their speaking in a better way. "*I respond to feedback from my lecturer during speaking practice or assignments by identifying and noting my mistakes. This helps me improve my speaking skills based on the feedback given.*" Students who can manage their SRL tend to use strategies that have increasing effort management on their cognition, motivation, behavior, and context and many good outcomes could be achieved (Kim et al., 2020).

In the context of learning English speaking skills, self-attribution evaluation can play a significant role in shaping learners' motivation, confidence, and persistence. Students attributed their success or failure to internal factors (e.g., effort, skills, or strategies), so they feel more in control of their learning. "*I did well because I practiced a lot. I realized my speaking performance is in line with my effort.*" This often results in more motivated learners who are willing to improve their speaking skills. Attribution can play a role in motivating and guiding students' learning activities. When students believe that their efforts lead to a high score, they are more likely to increase their effort on future tasks, which can result in higher achievement (Rosito, 2020).

The concept of self-attraction in learning to speak is closely related to self-attribution and self-motivation. It could be interpreted as the process where students focus on their intrinsic appeal or interest in speaking skills, leading to greater motivation and engagement. Therefore, students find enjoyment or value in speaking tasks, making them more attracted to practicing speaking. Students said "*I feel proud of my progress when I successfully express myself in English during a role-play. When I make mistakes, I identify what went wrong and how to improve.*"

Self-regulated learners are not only capable of planning, monitoring, and assessing their own learning, but they also show adaptability in their strategies to achieve academic success. Self-regulated learners can modify their strategies based on the demands of the task or feedback. "*If a particular study method isn't yielding the desired results, I will switch to a more effective approach. If I get a low score, I will study harder*". It indicated that the students who recognized that their learning strategy was ineffective and decided to switch to a new one (demonstrating negative metacognitive judgment followed by adaptive control), scored higher on a post-test compared to those who realized

their strategy wasn't working but chose to continue using the same ineffective approach, despite insufficient progress toward their learning goal (Raković et al., 2022).

Practical recommendations for language instructors in the self-reflection phase include some ways. Instructors have students maintain a journal where they document their speaking experiences, challenges, and strategies used involving prompts that guide their reflections. An example activity involves having students reflect on a speaking task by writing about what went well and the challenges they faced. Another strategy is combining instructor, peer, and self-feedback to provide a comprehensive perspective for reflection. After a presentation, students receive peer feedback (strengths and areas for improvement), instructor feedback (detailed evaluation), and self-assessment (reflection on their feelings and performance).

Beyond the self-regulated learning, some other factors contributed to the students' speaking performances including personal and environmental factors. Personal factors, such as motivation, confidence, and language proficiency, play a crucial role. Students with higher intrinsic motivation, confidence, and broader vocabulary are more likely to engage in speaking activities and express their ideas effectively (Al-Hoorie & MacIntyre, 2020). Moreover, environmental factors like language exposure and access to technology provide critical opportunities for practice and improvement, especially through immersive settings on digital resources (Reinders & Benson, 2017). Effective teaching methods that emphasize communicative language teaching also help students improve their speaking abilities by focusing on real-life communication scenarios. Thus, the need for a comprehensive approach to language training is highlighted by these interrelated aspects, suggesting that although SRL helps individual learning management, speaking abilities are also impacted by other factors influencing the students' language ability.

CONCLUSION

This study explored the relationship between self-regulated learning and students' speaking abilities at the university level as well as the self-regulated learning implementation that students have carried out during the learning process. Self-regulated learning has been widely studied in research and has been proven to be able to improve students' abilities and help the learning process. As the results of the quantitative phase in which the data were taken from the self-regulated learning questionnaire and students' speaking scores, it can be concluded that the students' self-regulated learning is at a moderate level. Meanwhile, their speaking ability is at the intermediate level. The result of the correlational

analysis, moreover, revealed that there was a significant correlation between self-regulated learning and speaking skills. In addition, the variables are highly correlated which can be shown from the correlation coefficient score at the level of 0.528. The positive points of the correlation coefficient score also directed to the use of self-regulated learning in improving speaking performance which indicated that the more students employ self-regulated learning, the higher the speaking scores they achieve.

In the qualitative phase, furthermore, the interview results of students achieving the highest scores in speaking performance can be summarized according to Zimmerman's SRL theory, which includes three phases: forethought, performance/volitional control, and self-reflection. In the forethought phase, the students clarified task requirements, set personal goals, and devised plans. They were motivated by the significance of English in securing jobs, communicating internationally, and pursuing higher education. Their self-efficacy was high as they had learned English from a young age and were confident in their speaking abilities. Intrinsic interest was also noted. Students find English learning enjoyable due to engaging teaching methods. In the performance/volitional control phase, the students used various methods to improve their speaking skills outside the classroom, such as playing online games, using social media platforms, and educational applications like Elsa Speak and Duolingo. These tools helped them practice pronunciation, vocabulary, and conversation skills effectively. In the self-reflection phase, the students used feedback from lecturers and peers, and self-assessment techniques like practicing in front of mirrors and recording their voices. They focused on improving aspects like pronunciation, intonation, and clarity based on this feedback. Effective self-regulation was linked to employing metacognitive techniques and responding constructively to criticism, leading to improved speaking skills.

Pedagogically, the findings of the present study provide valuable insights to instructors or curriculum developers on the significance of self-regulated learning use in enhancing students' speaking skills. Practically, the instructors or curriculum developers can guide students to set specific, measurable, attainable, and relevant goals for their speaking practice, regularly engage students in self-assessment activities, encourage learners to pay attention to specific aspects of their speaking, and provide tools like checklists. For further studies, it needs to be taken into account regarding the use of self-regulated in improving other language skills including reading, listening, and writing. Future researchers are suggested to employ different quantitative and qualitative methods to obtain thorough findings in revealing the use of SRL in improving learners' speaking skills.

Lastly, more research participants with various proficiency levels will be better used in the interview to know how they implement SRL in the learning process.

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