Uluwwul Himmah Education Research Journal

e-ISSN 3123-8688 // Vol. 3 No. 1 2026

A Dimensional Analysis Of Self-Regulated Learning Among Arabic Language Education Students

Muhammad Azhar[1*], Angga Frananda[2], Destia Yolanda[3], M. Ripani Saputra[4], Resy Mulyani[5], Siti Nurdinah[6], Mudhiul Hayat Pasaribu[7], Muhammad Sayuti[8]

[1,2,4,5,6,7,8] Institut Agama Islam Imam Syafii Indonesia, Indonesia

[3]Al-Furqon Islamic School, Kampar, Riau, Indonesia

*Email: azharm.arabicedu@gmail.com

Abstract

Self-Regulated Learning (SRL) is a critical factor in successful foreign language learning, particularly in Arabic, which is characterized by high linguistic complexity and limited exposure outside the classroom. This study aims to comprehensively examine the level and characteristics of self-regulated learning among students enrolled in an Arabic Language Education program within the context of higher education. A quantitative approach with a descriptive–explanatory design was employed. Data were collected using a five-point Likert-scale SRL questionnaire encompassing eight dimensions: learning planning, language learning strategies, self-monitoring, regulation of motivation and perseverance, time management and learning environment, utilization of learning resources, help-seeking and feedback, and self-reflection and evaluation. The participants consisted of 177 active students from the Arabic Language Education program. Data analysis was conducted using descriptive statistics and the Kruskal–Wallis test. The findings indicate that students' overall SRL levels range from moderately high to high; however, considerable variation exists across dimensions and academic semesters. The highest levels of SRL were observed among students in the final semesters, whereas students in the early and middle semesters demonstrated relatively lower levels. No statistically significant gender differences in SRL were identified. The most dominant dimension was the utilization of learning resources, followed by self-monitoring and motivational regulation, while learning planning and Arabic language learning strategies emerged as comparatively weaker dimensions. These findings highlight the need to strengthen operational planning skills and cognitive-linguistic strategies to promote a more balanced and sustainable development of SRL among Arabic Language Education students.

Keywords: Arabic, Arabic Learning, Self-Regulated Learning

Abstrak

Self-Regulated Learning (SRL) merupakan faktor krusial dalam keberhasilan pembelajaran bahasa asing, khususnya bahasa Arab, yang ditandai oleh kompleksitas linguistik yang tinggi serta keterbatasan paparan di luar kelas. Penelitian ini bertujuan untuk mengkaji secara komprehensif tingkat dan karakteristik *self-regulated learning* pada mahasiswa Program Studi Pendidikan Bahasa Arab dalam konteks pendidikan

tinggi. Penelitian ini menggunakan pendekatan kuantitatif dengan desain deskriptif–eksplanatori. Data dikumpulkan melalui kuesioner SRL berbasis skala Likert lima poin yang mencakup delapan dimensi, yaitu: perencanaan belajar, strategi pembelajaran bahasa, pemantauan diri (*self-monitoring*), regulasi motivasi dan ketekunan, manajemen waktu dan lingkungan belajar, pemanfaatan sumber belajar, pencarian bantuan dan umpan balik, serta refleksi dan evaluasi diri. Partisipan penelitian berjumlah 177 mahasiswa aktif Program Studi Pendidikan Bahasa Arab. Analisis data dilakukan menggunakan statistik deskriptif dan uji Kruskal–Wallis. Hasil penelitian menunjukkan bahwa tingkat SRL mahasiswa secara umum berada pada kategori sedang hingga tinggi, meskipun terdapat variasi yang cukup signifikan antar dimensi dan antar semester akademik. Tingkat SRL tertinggi ditemukan pada mahasiswa semester akhir, sedangkan mahasiswa semester awal dan menengah menunjukkan tingkat yang relatif lebih rendah. Tidak ditemukan perbedaan yang signifikan secara statistik berdasarkan gender dalam tingkat SRL. Dimensi yang paling dominan adalah pemanfaatan sumber belajar, diikuti oleh pemantauan diri dan regulasi motivasi, sementara perencanaan belajar dan strategi pembelajaran bahasa Arab tergolong sebagai dimensi yang relatif lebih lemah. Temuan ini menegaskan pentingnya penguatan keterampilan perencanaan operasional serta strategi kognitif-linguistik guna mendorong perkembangan SRL yang lebih seimbang dan berkelanjutan pada mahasiswa Pendidikan Bahasa Arab.

Katakunci: Bahasa Arab, Pendidikan Bahasa Arab, Self-Regulated Learning.

INTRODUCTION

The success of second language acquisition is strongly influenced by learners' independence and active engagement in managing their own learning processes (Namaziandost et al., 2024; Yaraghi & Shafiee, 2018). In foreign language learning contexts, limited face-to-face instructional time and minimal exposure to the target language outside the classroom require students to develop the capacity for autonomous and sustainable learning (Chong & Reinders, 2025; Finn et al., 2025; Sinkkonen & Tapani, 2024). Existing literature consistently demonstrates that Self-Regulated Learning (SRL) is one of the strongest predictors of academic achievement and second language learning success (Chen, 2022; Ma & She, 2024; Teng & Zhang, 2020; Z. Zhang et al., 2025). Numerous empirical studies indicate that learners with high levels of SRL tend to achieve better academic outcomes than those with lower SRL levels (Theobald, 2021; L. Xu et al., 2022; Zhao et al., 2025). Pintrich (2004) emphasized that goal regulation, cognitive monitoring, and motivational control constitute core components of effective learning. In a similar vein, research has shown that the use of planned and independently regulated language learning strategies significantly contributes to the development of language competence (Oxford, 2016; Seker, 2016). Furthermore, studies in higher education contexts reveal that students who are able to set clear learning goals, consistently monitor their learning progress, and evaluate the effectiveness of their strategies demonstrate higher levels of perseverance and intrinsic motivation. These

findings suggest that SRL functions not only as a learning strategy but also as a psychological foundation supporting sustainable second language acquisition.

In the context of Arabic language learning among students in Arabic Language Education programs, the role of Self-Regulated Learning becomes increasingly critical due to the inherent complexity of Arabic phonology, morphology, syntax, and semantics. Limited classroom contact hours and the absence of a supportive Arabic-speaking environment outside the classroom require students to actively seek and utilize supplementary learning resources independently. Through SRL, students are able to plan language proficiency goals, monitor the development of language skills across *istimaʿ*, *kalam*, *qiraʾah*, and *kitabah*, and evaluate the effectiveness of the learning strategies employed. The application of SRL encourages Arabic Language Education students to become autonomous and sustainable learners (Dent & Koenka, 2016). Moreover, self-regulation supports students in managing motivation and emotions when facing linguistic challenges, enhancing self-confidence, and fostering reflective and adaptive learning dispositions. Consequently, Self-Regulated Learning plays a significant role in improving Arabic language proficiency and supporting continuous learning success (Kong & Lin, 2023; Ma & She, 2024; Omar et al., 2023).

Empirical research on SRL has predominantly focused on English language learning (Abadikhah et al., 2018; Ismail et al., 2023; Nejabati, 2015; Öztürk & Çakıroğlu, 2021) and general educational contexts (Garcia et al., 2018; Greene et al., 2015; Ng et al., 2024). Although several studies have examined SRL in Arabic language learning, particularly among Arabic Language Education students, existing research remains fragmented. Albantani et al., (2022), for example, emphasized the role of SRL in online learning through goal setting and time management, while Omar et al., (2023) reported a strong relationship between self-efficacy and SRL. From a pedagogical perspective, Samin et al., (2022) and Linur & Mubarak (2022) highlighted the influence of learning environments, flipped classroom approaches, and motivation. Affective dimensions were explored by Ahmid & Abdullah (2020) through motivational beliefs, whereas media support and cultural context were discussed by Di et al., (2022) and Irawan, (2023), who affirmed the contribution of social media and local culture to strengthening SRL and Arabic learning outcomes. Despite these contributions, prior studies have not sufficiently explored SRL dimensions in a comprehensive and systematic manner. Therefore, further research is needed to examine SRL holistically as a key factor in enhancing sustained success in Arabic language learning.

This study aims to comprehensively investigate the level and characteristics of Self-Regulated Learning among students enrolled in Arabic Language Education programs within higher education contexts. Specifically, the study seeks to identify and map key SRL dimensions, including learning planning, the use of Arabic language learning strategies, self-monitoring of learning processes and outcomes, regulation of motivation and perseverance, time management and learning environment, utilization of

learning resources, help-seeking and feedback, and self-reflection and evaluation. The analysis of these dimensions is intended to identify areas of SRL that require further strengthening in order to enhance the effectiveness of Arabic language learning, particularly in contexts characterized by limited face-to-face instruction and minimal exposure outside the classroom. Accordingly, this study is expected to contribute in three major ways: (1) theoretically, by enriching and strengthening the conceptual understanding of SRL in Arabic language learning, which remains underrepresented in international literature; (2) empirically, by providing systematic and evidence-based data on the SRL profiles of Arabic Language Education students to inform the development of self-regulation-based learning models; and (3) practically, by offering evidence-based recommendations for lecturers, academic programs, and higher education institutions in designing and implementing Arabic language learning that is more autonomous, effective, and oriented toward lifelong learning.

METHODOLOGI

This study employed a quantitative approach with a descriptive–explanatory research design. This design was selected to describe the levels and characteristics of Self-Regulated Learning (SRL) among Arabic Language Education students and to examine SRL dimensions that contribute to the effectiveness of Arabic language learning in higher education.

The research population comprised all active students enrolled in the Arabic Language Education program at Imam Syafii Islamic Institute of Indonesia. A purposive sampling technique was applied, with inclusion criteria limited to active students who had participated in Arabic language learning for at least one academic semester, ensuring that respondents had sufficient learning experience to reflect on their self-regulation practices.

Data were collected using a self-regulated learning questionnaire developed based on the theoretical frameworks of Pintrich (2004) & Zimmerman (1989) and adapted to the context of Arabic language learning. The instrument measured eight key dimensions: (1) learning planning, (2) Arabic language learning strategies, (3) self-monitoring, (4) regulation of motivation and perseverance, (5) time management and learning environment, (6) utilization of learning resources, (7) help-seeking and feedback, and (8) self-reflection and evaluation. Responses were measured using a five-point Likert scale. Prior to data analysis, the validity and reliability of the SRL instrument were rigorously assessed. Construct validity was examined using item–total Pearson correlation analysis, with a significance threshold of $p < .05$, indicating that each item adequately represented the SRL construct. The results demonstrated that all items showed positive and statistically significant correlations with the total score and were therefore considered valid. Instrument reliability was evaluated using Cronbach's alpha, yielding a coefficient of $\alpha = 0.947$, which indicates excellent internal consistency. Accordingly, the SRL instrument was deemed valid, reliable, and appropriate for research data collection.

Data collection was conducted through the distribution of an online questionnaire via Google Forms, disseminated through official communication channels of the study program, including WhatsApp groups. Participation in the study was voluntary, and informed consent was obtained from all respondents prior to questionnaire completion, ensuring compliance with ethical standards for social research. A total of 177 students from the Arabic Language Education program at Imam Syafii Islamic Institute of Indonesia completed the questionnaire.

Data analysis involved descriptive statistical techniques to examine students' SRL profiles and overall levels, as well as the Kruskal–Wallis test to identify SRL dimensions that require strengthening in order to enhance the effectiveness of Arabic language learning. All statistical analyses were conducted using IBM SPSS Statistics version 27.

RESULT AND DISCUSSION

Respondent Demographics

Based on table 1 respondent characteristics, a total of 177 students participated in this study. In terms of semester distribution, the largest proportion of respondents were from the fourth semester, comprising 56 students (31.6%), followed by the sixth semester with 53 students (29.9%) and the second semester with 51 students (28.9%). Students in the eighth semester constituted the smallest group, with 17 respondents (9.6%). This distribution indicates that the majority of participants were in the middle phase of their academic programs, a stage at which students typically have accumulated sufficient experience in Arabic language learning and have begun to develop self-regulated learning skills more independently.

Table 1 Respondent Demographics

Item	N	Percentage
Semester 2	51	28,9
Semester 4	56	31,6
Semester 6	53	29,9
Semester 8	17	9,6
Total	177	100
Male	49	27,7
Women	128	72,3
Total	177	100

With respect to gender, the sample was predominantly female, with 128 respondents (72.3%), while male students accounted for 49 respondents (27.7%). The predominance of female participants reflects the general demographic profile of students enrolled in Arabic Language Education programs and suggests that the findings on self-regulated learning may more strongly represent female students' learning experiences. Nevertheless, the substantial proportion of male respondents allows for comparative analysis to examine potential differences in self-regulated learning characteristics across gender.

Comparison of Self-Regulated Learning by Semester

The results of the Kruskal–Wallis rank-based analysis across academic semesters in table 2 revealed clear variations in self-regulated learning (SRL) score levels among student groups. The distribution of mean ranks indicates that eighth-semester students achieved the highest scores (Mean Rank = 118.12; $N = 17$), followed by fourth-semester students (Mean Rank = 98.21; $N = 56$). In contrast, second-semester students (Mean Rank = 79.53; $N = 51$) and sixth-semester students (Mean Rank = 79.04; $N = 53$) exhibited relatively lower and nearly equivalent mean rank values. The higher mean rank observed among eighth-semester students suggests that learners in the final stage of their academic programs demonstrate a more advanced level of self-regulated learning compared to those in the early and middle semesters. This pattern can be interpreted as the cumulative effect of extended learning experience, increased academic maturity, and sustained engagement in Arabic language learning activities throughout the study period. Students in the final semester have typically completed core coursework and learning practices that demand a high degree of autonomy, allowing self-regulation skills to develop more fully.

Table 2 Self-Regulated Learning by Semester

Semester	N	Mean Rank
Semester 2	51	79,53
Semester 4	56	98,21
Semester 6	53	79,04
Semester 8	17	118,12
Total	177	

Fourth-semester students occupied the second-highest position, reflecting a relatively strong mean rank. This finding indicates that during the middle stage of their academic trajectory, students begin to demonstrate notable progress in self-regulation, in line with increasing academic demands and the growing complexity of Arabic language materials. At this stage, learners tend to adopt more structured learning strategies, although these strategies may not yet be as stable or consistently applied as those observed among final-semester students. Conversely, second- and sixth-semester students

displayed comparatively lower and nearly identical mean ranks. For second-semester students, this outcome may be attributed to the transitional phase into higher education, during which students are still adjusting to the demands of autonomous learning and have not fully internalized self-regulated learning strategies. The absence of a marked improvement among sixth-semester students relative to fourth-semester students may indicate a phase of temporary stagnation, potentially influenced by increased academic workload, learning fatigue, or a stronger focus on fulfilling curricular requirements rather than engaging in reflective and strategic learning practices.

Overall, the pattern of mean ranks across semesters suggests that the development of self-regulated learning among Arabic Language Education students is non-linear and shaped by the dynamic nature of learning experiences at different stages of study. The most pronounced improvement was observed in the final semester, reinforcing the view that self-regulation is a skill that develops gradually through long-term learning processes (Higgins et al., 2023). These findings underscore the importance of implementing systematic pedagogical interventions from the early semesters, particularly to support second- and fourth-semester students in developing self-regulated learning skills in a more structured and intentional manner. Such efforts may help reduce achievement gaps across semesters and promote more balanced and sustained development of self-regulation throughout the academic program.

Comparison of Self-Regulated Learning by Gender

Based on table 3, the results of Levene's test yielded an F value of 1.349 with a significance level of $p = 0.247$ ($p > 0.05$), indicating that the variance of self-regulated learning (SRL) scores between male and female students was homogeneous. Accordingly, the assumption of equal variances was satisfied, and the results of the independent samples t-test under the equal variances assumed condition were appropriate for interpretation. The t-test results showed a t value of –1.388 with 175 degrees of freedom ($df = 175$) and a two-tailed significance value of 0.167 ($p > 0.05$). These findings indicate that there was no statistically significant difference in SRL scores between male and female students.

Table 3 Self-Regulated Learning by Gender

Variants	F (Levene)	Sig. Levene	t	df	Sig. (2-tailed)	Mean Difference	Std. Error	95% CI Lower	95% CI Upper
Equal variances	1,349	0,247	-1,388	175	0,167	-0,11272	0,08119	-0,27296	0,04753

assumed									
Equal variances not assumed	—	—	-1,303	77,249	0,196	-0,11272	0,0865	-0,28494	0,05951

The mean difference of –0.11272 suggests that, descriptively, female students exhibited slightly higher SRL scores than male students; however, this difference was minimal and statistically non-significant. This interpretation is further supported by the 95% confidence interval (–0.27296 to 0.04753), which includes zero, indicating that the mean difference cannot be considered meaningful. In addition, the results obtained under the "equal variances not assumed" condition similarly produced a non-significant outcome (p = 0.196), further confirming that gender does not constitute a significant distinguishing factor in the SRL levels of Arabic Language Education students in this sample.

These findings suggest that self-regulated learning abilities among Arabic Language Education students are relatively comparable across gender. In other words, self-regulation in Arabic language learning appears to be influenced more strongly by factors such as academic experience, learning demands, learning strategies, and the learning environment than by gender differences. Both male and female students demonstrate similar capacities in developing learning planning skills, cognitive strategies, metacognitive awareness, motivational regulation, and self-reflection in Arabic learning. Consistent with these results, (Stanikzai, 2019) reported no significant gender differences in independent learning among university students in Afghanistan. Therefore, pedagogical interventions aimed at enhancing SRL may be designed in an inclusive manner without gender-based differentiation, with greater emphasis on addressing students' academic needs and learning characteristics.

Goal Setting & Planning

Based on table 4, the results of the goal setting and planning dimension of self-regulated learning (SRL) indicates that students enrolled in the Arabic Language Education program generally demonstrate self-study planning at a moderately high to high level, with mean scores ranging from 3.61 to 4.06. These findings are consistent with theoretical frameworks of SRL that position goal setting and planning as critical initial processes in self-regulated learning. Planning involves the deliberate and structured formulation of learning goals and strategies prior to engaging in learning activities (Zimmerman, 2015).

Table 4 Goal setting & planning

No.	Goal setting & planning	Mean	Std. Deviation
1	I set clear goals (e.g. vocabulary/theme/ability targets) before learning Arabic independently.	3,94	0,820
2	I put together a weekly study plan for Arabic language skills (istimā', kalām, qirā'ah, kitābah).	3,64	0,836
3	I determined the priority of the material I needed to master first.	4,06	0,755
4	I break down large targets (e.g. "proficient in reading text") becomes a small, measurable target.	3,61	0,860
5	I set up a special time schedule for independent Arabic learning.	3,73	0,943

Among the indicators examined, the highest mean score was observed for students' ability to determine the priority of learning materials that need to be mastered first (M = 4.06; SD = 0.755). This result suggests that students are capable of identifying strategically important learning elements before commencing learning activities, a skill commonly associated with metacognitive SRL indicators such as task analysis and goal specificity. In addition, setting clear learning objectives prior to independent learning also yielded a relatively high mean score (M = 3.94; SD = 0.820). This finding aligns with previous research demonstrating that clearly defined goals not only guide students' learning behaviors but also enhance motivation and self-efficacy within self-regulated learning processes (Wong et al., 2021; J. Xu et al., 2024; Zeiser, 2018).

Nevertheless, several aspects of planning were found to be at a more moderate level. In particular, the preparation of weekly study plans covering the four language skills (*istimāʿ*, *kalām*, *qirāʾah*, and *kitābah*) (M = 3.64; SD = 0.836), as well as the ability to break down broader learning goals into smaller, measurable targets (M = 3.61; SD = 0.860), demonstrated comparatively lower mean scores. These results indicate a gap between students' general capacity to set learning goals and their ability to operationalize those goals into systematic and structured learning plans. Within the SRL framework, the ability to decompose complex objectives into measurable, proximal goals is considered an advanced planning skill that enables learners to more effectively monitor and regulate their learning progress.

This pattern is consistent with previous studies reporting that although students are generally able to formulate learning goals, time management and the structuring of operational plans often represent the most challenging aspects of implementing self-

directed learning practices (Martins van Jaarsveld et al., 2025; Wolters & Brady, 2021). Another relevant aspect, the establishment of a dedicated schedule for independent Arabic learning, obtained a relatively high mean score (M = 3.73; SD = 0.943) but was accompanied by considerable variability in responses. This variability suggests differences in students' consistency in managing study time, which can be explained by SRL literature indicating that time management is strongly influenced by motivational factors and individual learning habits, resulting in uneven application across learners (Wolters et al., 2025).

Overall, these findings demonstrate that the learning planning dimension of SRL among Arabic Language Education students is well developed at the conceptual level, particularly with regard to goal setting and prioritization. However, there remains a need to strengthen the technical and implementation aspects of planning, including more detailed weekly planning, the formulation of measurable sub-goals, and greater consistency in time management practices to achieve more optimal learning outcomes. This conclusion aligns with SRL theory, which emphasizes that effective planning extends beyond goal formulation to include the development of operational and adaptive learning strategies for managing complex academic tasks.

Cognitive & language learning strategies

Based on table 5, the results of the Arabic learning strategies dimension, which encompasses a range of cognitive and language learning strategies, indicates that students enrolled in the Arabic Language Education program exhibit variation in their use of cognitive strategies during independent learning, with mean scores ranging from 3.23 to 4.10. These findings reflect differences in the implementation of advanced learning strategies, including both receptive and productive strategies, and are consistent with previous research emphasizing the central role of cognitive strategies in second language acquisition.

Table 5 Cognitive & language learning strategies

No.	Cognitive & language learning strategies	Mean	Std. Deviation
1	I use a vocabulary card (flashcard) or an app to memorize mufradāt regularly.	3,23	1,038
2	I took note of example sentences when learning new vocabulary to know how to use them.	3,99	0,776
3	When reading Arabic texts, I guess the meaning of words from context before opening the dictionary.	4,10	0,781
4	I summarized the content of the Arabic text in my own language (Arabic/Indonesian).	3,86	0,849

5	I practice kalām by making simple dialogues/monologues on a regular basis.	3,47	0,899

The most frequently employed strategy was inferring the meaning of unfamiliar vocabulary from contextual cues when reading Arabic texts before consulting a dictionary (M = 4.10; SD = 0.781). The high mean score for this indicator suggests that students demonstrate strong inferencing ability—that is, the capacity to deduce word meanings contextually without immediate reliance on external reference sources. This finding aligns with prior studies indicating that inferencing constitutes an advanced cognitive strategy that effectively supports vocabulary development and reading comprehension among foreign language learners (Dessenberger et al., 2023; Izmalkova & Blinnikova, 2024).

In addition, students reported frequent use of elaborative strategies, such as recording example sentences when learning new vocabulary (M = 3.99; SD = 0.776) and summarizing the content of Arabic texts in their own words, either in Arabic or Indonesian (M = 3.86; SD = 0.849). These results indicate that students are relatively accustomed to employing elaboration and organizational strategies to deepen language comprehension. Such practices are consistent with language learning strategy theories that identify elaboration as a key mechanism for facilitating information storage and retrieval in long-term memory (Bartsch et al., 2018; Bartsch & Oberauer, 2021; Loaiza & Lavilla, 2021).

By contrast, the use of vocabulary cards or flashcard applications to memorize *mufradāt* on a regular basis yielded the lowest mean score (M = 3.23; SD = 1.038), accompanied by a relatively large standard deviation. This substantial variability suggests considerable differences among students in the consistency with which repetitive strategies are applied. Although flashcards are widely recommended for strengthening both short-term and long-term memory, the findings indicate that students do not consistently integrate this repetitive strategy into their independent learning routines. The literature on language learning strategies suggests that combining higher-order cognitive strategies with repetitive strategies, such as flashcards, can produce synergistic effects on vocabulary acquisition (Boroughani et al., 2023). However, in self-directed learning contexts, the effective use of repetitive strategies often requires sustained self-discipline and time management, which may limit their regular implementation.

Similarly, strategies aimed at developing *kalām* skills through simple dialogues or monologues were reported at a moderate level (M = 3.47; SD = 0.899). These results indicate that although students demonstrate relatively strong engagement with receptive and reflective cognitive strategies, such as reading comprehension and text analysis, the use of productive strategies—particularly those involving sustained speaking practice—remains comparatively limited. Research in foreign language learning contexts consistently shows that speaking fluency is among the most challenging skills for

learners, as it requires active participation, immediate feedback, and structured practice opportunities ((Kakitani & Kormos, 2024; Y. Zhang et al., 2025), which are not always readily available in self-paced learning environments.

Overall, the findings suggest that Arabic learning strategies employed by students are more fully developed in cognitive and text-based domains, including contextual inferencing, summarization, and vocabulary organization through example sentences. In contrast, repetitive and productive strategies, such as consistent flashcard use and regular speaking practice, require further reinforcement within self-regulated learning practices. From an SRL perspective, these patterns indicate that while students exhibit strong strategic awareness and cognitive capacity in managing learning strategies, additional support is needed to enhance sustained execution and self-regulatory control, particularly for productive and repetitive strategies that demand high levels of self-discipline and consistency.

Self-Monitoring & Metacognition

Based on table 6, the results of the self-monitoring and metacognition dimension indicates that students enrolled in the Arabic Language Education program demonstrate a relatively high level of metacognitive awareness in independent Arabic learning, with mean scores ranging from 3.73 to 4.41. These findings suggest that students are not only cognitively engaged in the learning process but are also capable of reflecting on and monitoring their own thinking processes and learning strategies, which are core characteristics of self-regulated learners

Table 6 Self-monitoring & metacognition

No.	Self-monitoring and metacognition	Mean	Std. Deviation
1	I check my understanding while studying (e.g. asking "do I understand?").	3,90	0,788
2	I realized which parts of Arabic were the most difficult for me (nahwu, sharaf, mufradāt, etc.).	4,41	0,764
3	If I don't understand, I pause and change my learning strategy.	3,80	0,868
4	I monitor my learning progress over time (e.g. from notes/recaps).	3,74	0,879
5	I evaluate whether my learning method is in accordance with the goals I have set.	3,73	0,914

The highest mean score was observed for students' ability to identify the most challenging aspects of Arabic learning for themselves, such as *nahwu*, *ṣarf*, or *mufradāt* (M = 4.41; SD = 0.764). This very high score indicates strong academic self-awareness of individual learning strengths and weaknesses. Within the self-regulated learning framework, awareness of specific learning difficulties constitutes a critical prerequisite for strategic decision-making, as it enables learners to allocate attention and learning resources more effectively. In addition, the practice of checking comprehension during the learning process (M = 3.90; SD = 0.788) and the ability to adjust learning strategies when encountering difficulties (M = 3.80; SD = 0.868) were also rated at a high level. These findings indicate that students are not only reflective in recognizing their learning conditions but are also capable of exercising adaptive cognitive control. When strategies prove ineffective, students tend to make adjustments, either by modifying their learning approaches or by seeking alternative ways to understand the material. Such adaptive behavior reflects advanced metacognitive functioning, which plays a crucial role in sustaining the effectiveness and continuity of self-directed learning processes (Dörrenbächer-Ulrich et al., 2024; Schuster et al., 2020).

Nevertheless, several aspects of self-monitoring exhibited relatively lower mean scores accompanied by greater variability in responses. Systematic monitoring of learning progress over time (M = 3.74; SD = 0.879) and evaluation of the alignment between learning methods and predetermined goals (M = 3.73; SD = 0.914) remained within the moderately high category but were less robust than indicators related to reflective awareness. This pattern suggests that although students possess strong metacognitive awareness, continuous, structured, and data-informed monitoring practices have not yet been consistently implemented by all learners.

Overall, these findings reveal a gap between internal metacognitive awareness and formal self-monitoring practices. While students are generally able to recognize learning difficulties and evaluate comprehension intuitively during the learning process, they have not fully developed habits of systematic and planned evaluation. In the context of the complex and multidimensional nature of Arabic language learning, such formal monitoring skills are essential to ensure alignment between learning processes and both short-term and long-term learning objectives. In sum, the results confirm that the self-monitoring dimension among Arabic Language Education students can be categorized as strong, particularly in terms of metacognitive awareness and adaptive cognitive control. However, further reinforcement of formal monitoring and systematic evaluation practices remains necessary to enable students not only to reflect on their learning but also to manage and assess their learning progress in a more measurable, comprehensive, and sustainable self-regulated learning framework.

Motivation Regulation & Perseverance

Based on table 7, the results of the motivation and perseverance regulation dimension indicates that students enrolled in the Arabic Language Education program exhibit a

generally positive motivational profile, with mean scores ranging from 3.18 to 4.49. These findings suggest that, overall, students are able to regulate their internal motivation to remain engaged in independent Arabic learning despite facing relatively high levels of material difficulty. The highest mean score was observed for the belief that Arabic language proficiency can be improved through consistent practice ($M = 4.49$; $SD = 0.641$). This very high score reflects the presence of a strong growth mindset, characterized by the belief that language ability is not fixed but can be developed through sustained effort and perseverance. In foreign language learning contexts, a growth mindset plays a crucial role in maintaining learning sustainability, as it encourages learners to perceive difficulties as an integral part of the learning process rather than as permanent barriers (Ba et al., 2025; K. M. Xu et al., 2025).

Table 7 Motivation regulation & perseverance

No.	Motivation regulation & perseverance	Mean	Std. Deviation
1	I continued to learn Arabic even though I was not in the mood.	3,18	1,040
2	I am able to motivate myself when I have difficulty understanding the material.	3,85	0,862
3	I believe my Arabic skills can improve if I practice consistently.	4,49	0,641
4	I "reward" myself after achieving a certain learning goal.	4,16	0,847
5	I still try to get to the bottom of it when I find Arabic texts/exercises difficult.	4,01	0,746

In addition, the practice of rewarding oneself after achieving specific learning goals also received a high mean score ($M = 4.16$; $SD = 0.847$). This finding indicates that students have adopted adaptive motivation regulation strategies, in which both intrinsic and extrinsic reinforcement are used to sustain commitment to learning objectives. Such self-reward strategies are particularly effective in maintaining medium- and long-term motivation in independent learning contexts that require a high degree of self-discipline. Another indicator that demonstrated a high mean score was perseverance in continuing to work through difficult Arabic texts or exercises ($M = 4.01$; $SD = 0.746$). This result suggests that students possess a strong level of persistence, reflected in their willingness to confront cognitive challenges on an ongoing basis. Perseverance of this nature constitutes a core component of self-regulated learning, as it enables learners to maintain engagement even when the learning process demands sustained mental effort.

However, not all indicators of motivational regulation exhibited the same level of strength. The ability to continue learning Arabic when experiencing an unfavorable emotional state (e.g., feeling unmotivated or "not in the mood") yielded the lowest mean score (M = 3.18; SD = 1.040), accompanied by substantial variability in responses. This variation indicates that emotion regulation remains a challenge for some students in maintaining consistent learning engagement. Negative affective states such as fatigue, stress, or boredom may interfere with concentration and motivation, particularly in language learning activities that require sustained focus and repetitive practice. Meanwhile, the ability to motivate oneself when encountering difficulties in understanding learning materials was rated as moderately high (M = 3.85; SD = 0.862), although responses were not evenly distributed across participants. This finding suggests that while most students are able to reengage their motivation when facing cognitive obstacles, a subset of learners may require additional support to develop more effective and consistent motivation regulation strategies.

Overall, these findings indicate that Arabic Language Education students possess strong long-term motivational beliefs and perseverance, particularly with respect to growth mindset, self-reward practices, and persistence in confronting academic challenges. Nevertheless, the regulation of situational motivation—especially under negative emotional conditions—remains an area requiring further development. Therefore, efforts to enhance self-regulated learning among Arabic Language Education students should not only focus on strengthening long-term motivational beliefs and perseverance but also on developing short-term emotional regulation and motivational strategies to support more consistent and sustainable learning engagement.

Time & Environment Management

Based on table 8, the results of the time management and learning environment dimension indicates that students enrolled in the Arabic Language Education program demonstrate a level of learning context management ranging from moderately adequate to high, with mean scores between 3.51 and 4.27. These findings suggest that, in general, students are able to regulate external learning conditions that support independent Arabic learning, although consistency in time management remains a challenge for some learners. The highest mean score was observed for the selection of learning environments that support concentration, such as quiet spaces with minimal distractions (M = 4.27; SD = 0.778). This result indicates strong awareness of the role of the physical learning environment in enhancing learning effectiveness, particularly in Arabic language learning, which requires sustained concentration to process linguistic structures, vocabulary, and textual meaning. Such awareness reflects effective environment structuring, a key component of self-regulated learning that enables learners to create conducive learning conditions independently.

Table 8 Time & environment management

No.	Time & environment management	Mean	Std. Deviation
1	I set the time so that I learned Arabic independently without being distracted by other activities.	3,68	0,893
2	I choose a study place that helps me focus (calm, minimal distractions).	4,27	0,778
3	When studying, I reduce distractions (cellphone notifications, social media, etc.).	3,97	0,862
4	I consistently study according to the schedule I have made.	3,51	0,840
5	If my schedule is messed up, I immediately rearrange my study plan.	3,76	0,873

In addition, efforts to minimize distractions during learning, such as limiting mobile phone notifications and reducing exposure to social media, were also rated at a high level (M = 3.97; SD = 0.862). These findings indicate that students are relatively capable of controlling external sources of distraction that may disrupt learning focus. The ability to manage external distractions constitutes an important indicator of self-regulation (Deng et al., 2024), as it supports sustained attention and learning engagement, particularly in independent learning contexts with minimal direct supervision. However, adherence to self-established learning schedules yielded the lowest mean score (M = 3.51; SD = 0.840). This result suggests that while students are able to plan and organize learning contexts conceptually, consistently implementing a regular learning schedule remains challenging. The discrepancy between planning ability and disciplined execution highlights a gap between planning and action control within self-regulated learning practices.

Other indicators, including scheduling learning activities to avoid interference from competing commitments (M = 3.68; SD = 0.893) and the ability to reorganize study plans when schedules become disrupted (M = 3.76; SD = 0.873), were rated at a moderate to moderately high level. These results suggest that students exhibit a degree of flexibility in managing their time and are relatively adaptive when responding to changes in their schedules, although consistency varies across individuals. The moderate variability in responses indicates that while some students are able to adjust their time management strategies situationally, others continue to experience difficulties in maintaining regular and structured learning routines.

Overall, the findings indicate that the time management and learning environment dimension among Arabic Language Education students is relatively strong in terms of

environmental regulation and distraction control, reflecting contextual awareness and effective management of learning spaces. However, the aspect of time discipline and consistent adherence to learning schedules requires further strengthening. Within the self-regulated learning framework, effective environmental management must be balanced with sustained time commitment and routine maintenance to ensure that independent learning processes are carried out optimally and sustainably.

Resource Management

Based on table 9, the results of the learning resource management dimension indicates that students enrolled in the Arabic Language Education program demonstrate a high level of resource utilization in independent Arabic learning, with mean scores ranging from 3.85 to 4.24. These findings suggest that students exhibit a strong degree of autonomy in accessing, selecting, and utilizing various learning resources in accordance with the demands and characteristics of Arabic language learning. The highest mean score was observed for students' ability to select learning resources that align with their current level of proficiency ($M = 4.24$; $SD = 0.769$). This result indicates that students possess effective evaluative skills in matching the difficulty level of learning materials to their individual competencies. Such resource selection ability is a defining characteristic of self-regulated learners, as it enables students to avoid excessive cognitive load while optimizing learning effectiveness through the use of relevant and appropriately challenging materials.

Table 9 Resource management

No.	Resource Management	Mean	Std. Deviation
1	I use a variety of learning resources (books, videos, podcasts, apps, websites) to learn independently.	4,21	0,728
2	I choose learning resources that match my ability level.	4,24	0,769
3	I use dictionaries (Arabic–Indonesian/Arabic–Arabic) effectively, not completely dependent.	3,85	0,856
4	I look for additional material when the material I have is not clear enough.	3,98	0,859
5	I use technology (LMS, YouTube, Anki, Duolingo/Memrise, etc.) to support learning.	4,19	0,794

Furthermore, the use of diverse learning resources, encompassing both print-based and digital materials, also yielded very high mean scores ($M = 4.21$; $SD = 0.728$). These findings indicate that students do not rely on a single type of learning resource but are able to diversify their resources according to specific learning objectives and contexts.

This diversification reflects learning flexibility and an understanding that Arabic language learning—covering phonological, morphological, syntactic, and semantic dimensions—requires support from multiple types of instructional materials and media. In addition, the use of learning technologies such as Learning Management Systems (LMS), YouTube, and language learning applications (e.g., Duolingo, and Memrise) was also rated highly (M = 4.19; SD = 0.794). These findings underscore the significant role of digital technologies in facilitating independent Arabic language learning. Digital platforms enable flexible access to learning materials (Jain et al., 2024; Lomellini et al., 2025; Zou et al., 2025), support repeated practice, and provide opportunities for exposure to more authentic language input. Within the self-regulated learning framework, the use of such technologies functions as learning scaffolding that strengthens self-regulation, particularly in terms of time management, material repetition, and personalized learning pathways.

The practice of seeking additional learning materials when core resources are insufficiently clear was also rated at a relatively high level (M = 3.98; SD = 0.859). This finding reflects students' proactive learning orientation and their willingness to take initiative when confronted with limitations in primary instructional materials. Such behavior is indicative of a learner-centered approach, in which students actively construct knowledge through the exploration of supplementary resources. However, the effective use of Arabic–Indonesian and Arabic–Arabic dictionaries without excessive dependence received a comparatively lower mean score (M = 3.85; SD = 0.856). This result suggests that although dictionaries remain an essential tool in Arabic language learning, some students experience challenges in optimizing dictionary use strategies independently. Excessive reliance on direct translation may hinder the development of contextual comprehension and inferencing skills; therefore, dictionary use should be oriented toward a supportive function rather than serving as the sole source of understanding.

Overall, these findings indicate that the learning resource management dimension among Arabic Language Education students can be categorized as strong, particularly with respect to selecting appropriate resources, diversifying learning materials, and utilizing digital technologies. Nevertheless, further strengthening of strategies for using traditional reference tools, such as Arabic–Indonesian and Arabic–Arabic dictionaries, is necessary to ensure that students can maximize the pedagogical value of these resources within a comprehensive and sustainable self-regulated learning framework.

Help-Seeking & Feedback

Based on table 10, the results of the help-seeking and feedback dimension indicates that students enrolled in the Arabic Language Education program demonstrate a positive tendency to utilize external support as part of their self-regulated learning strategies, with mean scores ranging from 3.63 to 4.12. These findings suggest that students do not conceptualize Arabic language learning as a purely individual endeavor but rather as a process that can be strengthened through social and academic interactions with others.

The highest mean score was observed for the practice of asking questions of lecturers or peers when encountering difficulties in learning Arabic (M = 4.12; SD = 0.857). This result indicates that students exhibit an open attitude toward academic assistance and perceive learning challenges as a natural component of the learning process. Within the self-regulated learning framework, such adaptive help-seeking behavior reflects a mature level of self-regulation, as learners are able to recognize their limitations and proactively seek relevant support to address them (Adams et al., 2024; Fan & Lin, 2023).

Table 10 Help-seeking & feedback

No.	Help-seeking & feedback	Mean	Std. Deviation
1	I asked my lecturer/friend when I had difficulty learning Arabic.	4,12	0,857
2	I joined a community/additional class/study partner to improve my Arabic language skills.	3,63	0,986
3	I requested corrections to my Arabic writing from someone else (lecturer/friend/app).	3,90	0,905
4	I use feedback/correction to correct my next mistake.	3,89	0,832
5	I use practice questions/self-quizzes to check my abilities.	3,86	0,807

In addition, the practice of requesting feedback or corrections on Arabic writing—whether from lecturers, peers, or through learning applications—was rated at a relatively high level (M = 3.90; SD = 0.905). These findings indicate that students recognize the importance of external feedback in enhancing the accuracy and quality of language production, particularly in productive skills such as *kitābah*. Furthermore, the use of feedback and corrective input to address errors in subsequent learning activities (M = 3.89; SD = 0.832) suggests that students do not merely receive feedback passively but actively incorporate it into ongoing learning improvement. This responsiveness to feedback reflects a strong connection between help-seeking strategies and reflective processes within self-regulated learning. Another indicator—the use of practice questions or self-quizzes to evaluate one's own competence—was also rated at a moderately high level (M = 3.86; SD = 0.807). This result highlights students' evaluative awareness, as they employ formative self-assessment to monitor progress and identify areas requiring further development. Such practices reinforce the role of internal feedback in self-regulation, complementing external feedback obtained from lecturers or peers.

However, participation in learning communities, supplementary classes, or learning partnerships received the lowest mean score (M = 3.63; SD = 0.986), accompanied by relatively high variability in responses. This variability indicates that

students' engagement in sustained collaborative learning environments beyond formal classroom settings is uneven. While some students actively participate in learning communities or discussion forums, others tend to rely on situational and short-term assistance when encountering specific learning difficulties. Overall, these findings suggest that Arabic Language Education students demonstrate strong situational and immediate help-seeking strategies, such as consulting lecturers or peers and utilizing feedback for improvement. Nevertheless, the dimension of sustained engagement in learning communities requires further strengthening. Within the self-regulated learning framework, the development of learning networks and supportive academic communities plays an important role in fostering socially shared regulation, enabling students not only to respond to immediate challenges but also to engage proactively in collaborative learning environments that support the sustainable development of Arabic language competencies.

Self-reflection and Self-Evaluation

Based on table 11, the results of the reflection and self-evaluation dimension indicates that students enrolled in the Arabic Language Education program demonstrate relatively strong reflective abilities in independent Arabic language learning. The mean scores across all items ranged from 3.71 to 4.12, suggesting that self-reflection has become an integral component of students' self-regulated learning processes, although the intensity and depth of reflection vary across aspects. The highest mean score was observed for students' ability to identify the learning strategies that are most effective for themselves ($M = 4.12$; $SD = 0.785$). This finding indicates that students engage not only in descriptive reflection on learning activities but also in evaluative reflection, enabling them to draw conclusions about the effectiveness of the strategies they employ. Such capacity reflects an advanced stage of reflection in self-regulated learning, wherein learners use prior learning experiences as a basis for strategic decision-making in subsequent learning cycles.

Table 11 Self-reflection and Self-Evaluation

No.	Self-reflection and Self-Evaluation	Mean	Std. Deviation
1	After studying, I reflect on what I have learned and what I have not.	3,88	0,778
2	I noted the Arabic mistakes I often make (e.g. i'rāb, fi'il forms, sentence structure).	3,71	0,894
3	I compare my learning outcomes with the goals I set.	3,81	0,903
4	If my learning results are not as expected, I make a plan for improvement.	3,94	0,844

5	I can deduce which learning strategies are most effective for me.	4,12	0,785

Furthermore, the ability to formulate improvement plans when learning outcomes do not meet expectations also yielded a relatively high mean score ($M = 3.94$; $SD = 0.844$). This result suggests that students adopt an improvement-oriented mindset, moving beyond mere awareness of shortcomings to actively implementing corrective actions based on reflective insights. In the context of the complex nature of Arabic language learning, this ability is particularly important for addressing recurring difficulties in structural components such as *iʿrāb*, morphology, and syntax. The practice of reflecting on what has and has not been learned after completing learning activities obtained a mean score of 3.88 ($SD = 0.778$), indicating that most students regularly engage in post-learning reflection. This behavior reflects metacognitive awareness of learning outcomes and areas requiring further development and serves as a bridge between the learning process and self-evaluation, informing decisions in subsequent learning phases.

Meanwhile, comparing learning outcomes with previously established goals was rated at a moderately high level ($M = 3.81$; $SD = 0.903$). These findings indicate that students are generally capable of conducting goal-referenced evaluations, although consistency in applying this practice varies across individuals. The observed variability suggests that not all students systematically use learning goals as benchmarks for self-evaluation. The lowest relative mean score was associated with the practice of documenting frequently occurring Arabic language errors, such as mistakes in *iʿrāb*, verb forms, and sentence structure ($M = 3.71$; $SD = 0.894$). Although still within the moderately high category, this result indicates that detailed and documented reflective practices have not yet become habitual for all students. Systematic error recording, however, constitutes an important reflective strategy for minimizing repeated errors and enhancing linguistic accuracy.

Overall, these findings suggest that the reflection and self-evaluation dimension among Arabic Language Education students can be categorized as strong, particularly with respect to strategic evaluation and improvement planning. Nevertheless, further reinforcement is required in more technical and documented forms of reflection, such as consistent error recording and systematic goal-based evaluation. Within the self-regulated learning framework, effective reflection should extend beyond intuitive and global judgments to include structured and systematic evaluative practices that support continuous improvement in Arabic language proficiency.

Comparison across Self-Regulated Learning Dimensions

The results of the comparative analysis using the Kruskal–Wallis test revealed significant differences across the dimensions of self-regulated learning among Arabic Language Education students. These differences are reflected in variations in mean rank values

across dimensions, indicating the relative dominance and strength of each self-regulation component in independent Arabic language learning.

Table 12 Self-Regulated Learning Dimensions

No	Item	Mean Rank
1	Goal setting & planning	655,02
2	Cognitive & language learning strategies	587,99
3	Self-monitoring & metacognition	737,33
4	Motivation regulation & perseverance	736,51
5	Time & environment management	675,47
6	Resource Management	853,22
7	Help-seeking & feedback	706,01
8	Self-reflection and Self-Evaluation	716,45

Based on table 12, the dimension with the highest mean rank was learning resource utilization (resource management), with a mean rank of 853.22. This finding indicates that students demonstrate particular strength in managing and utilizing a wide range of learning resources, both print-based and digital, as part of their self-directed learning strategies. The dominance of this dimension suggests that students have become accustomed to accessing learning resources flexibly, selectively, and adaptively, especially with the support of digital technologies. In the context of Arabic language learning, this competence is particularly important given limited face-to-face instructional time and the complexity of linguistic materials that require independent exploration of supplementary resources.

The dimensions of self-monitoring and metacognition, and motivation regulation and perseverance ranked next, with nearly identical mean ranks of 737.33 and 736.51, respectively. These results indicate that students possess relatively strong metacognitive awareness and motivational regulation, enabling them to monitor their learning processes and sustain long-term learning efforts. Strength in these dimensions suggests that students are not only cognitively engaged but are also capable of managing affective and reflective aspects of Arabic language learning, such as recognizing learning difficulties, adjusting strategies, and persisting in the face of academic challenges. The reflection and self-evaluation dimension followed with a mean rank of 716.45, while the seeking help and feedback dimension obtained a mean rank of 706.01. This pattern indicates that students are reasonably active in evaluating their learning outcomes and utilizing external support

when encountering difficulties. However, the placement of these dimensions below self-monitoring and motivational regulation suggests that reflective and collaborative learning practices are often applied situationally rather than being systematically and continuously integrated into the self-learning cycle.

The time management and learning environment dimension occupied a middle position, with a mean rank of 675.47. This finding indicates that although students are relatively effective in managing physical learning environments and minimizing distractions, consistency in time management and adherence to structured learning schedules remains challenging. The position of this dimension highlights a gap between students' ability to regulate learning contexts and their discipline in implementing regular learning routines. Meanwhile, goal setting and planning obtained a mean rank of 655.02, and cognitive and language learning strategies ranked lowest with a mean rank of 587.99. The comparatively low ranking of Arabic learning strategies suggests that although students demonstrate strong metacognitive, motivational, and resource management capacities, the systematic application of cognitive and linguistic strategies—particularly productive and repetitive strategies—remains suboptimal. Similarly, the relatively low position of learning planning indicates that students' ability to translate learning objectives into structured and operational plans requires further strengthening.

Overall, the mean rank pattern reveals that the self-regulated learning profile of Arabic Language Education students is strongest in the areas of resource management, metacognition, and motivation, while initial planning and cognitive-linguistic strategy implementation remain comparatively weaker. These findings suggest that students tend to be adaptive and reflective learners but are not yet fully systematic in designing and executing Arabic language learning strategies in a planned and structured manner. Consequently, the development of Arabic language learning in higher education should prioritize strengthening learning planning and cognitive-linguistic strategies, while maintaining and building upon students' strengths in metacognitive, motivational, and resource management dimensions. Such an approach would support more balanced and mutually reinforcing development across all dimensions of self-regulated learning, ultimately fostering independent, effective, and sustainable Arabic language learning.

CONCLUSION

The findings indicate that the self-regulated learning (SRL) levels of Arabic Language Education students can be categorized as moderately high to strong; however, notable imbalances exist across SRL dimensions, along with variations in development across academic semesters. Demographically, respondents were predominantly students in semesters 2–6, with female students comprising 72.3% of the sample. The semester-based comparison using the Kruskal–Wallis test revealed that the highest level of SRL was observed among eighth-semester students (Mean Rank = 118.12), followed by fourth-semester students (98.21), while second- and sixth-semester students demonstrated

relatively lower and nearly equivalent SRL levels (79.53 and 79.04, respectively). This pattern suggests that SRL development is non-linear, with the most substantial strengthening occurring in the final stage of study, while potential stagnation may occur during the middle semesters.

Gender-based analysis revealed no statistically significant differences in SRL between male and female students ($p > 0.05$), indicating that SRL development in this sample is more strongly influenced by academic experience and learning demands than by gender. At the dimensional level, resource management emerged as the most dominant component of SRL (Mean Rank = 853.22), followed by self-monitoring and metacognition, as well as motivation regulation and perseverance. In contrast, cognitive and language learning strategies (Mean Rank = 587.99) and goal setting and planning (Mean Rank = 655.02) were identified as relatively weaker dimensions.

Item-level analysis further revealed that students excel in recognizing learning difficulties (metacognitive awareness), holding strong beliefs in the potential for skill improvement through consistent effort (growth mindset), and creating supportive learning environments. Nevertheless, challenges persist in maintaining learning consistency according to schedules, sustaining learning engagement under unfavorable emotional conditions, regularly applying repetitive strategies such as flashcards, and engaging in continuous *kalām* practice. Overall, this study confirms that students' SRL is well developed in adaptive and reflective dimensions—particularly metacognitive, motivational, and resource management aspects—but requires further strengthening in operational planning and systematic cognitive-linguistic strategy implementation. Addressing these areas is essential to achieving more balanced SRL development and to supporting the sustained improvement of Arabic language proficiency.

REFERENCES

Abadikhah, S., Aliyan, Z., & Talebi, S. H. (2018). EFL students' attitudes towards self-regulated learning strategies in academic writing. *Issues in Educational Research*, *28*(1), 1–17.

Adams, D., Chuah, K.-M., Devadason, E., & Azzis, M. S. A. (2024). From novice to navigator: Students' academic help-seeking behaviour, readiness, and perceived usefulness of ChatGPT in learning. *Education and Information Technologies*, *29*(11), 13617–13634. https://doi.org/10.1007/s10639-023-12427-8

Ahmid, M. H., & Abdullah, M. K. (2020). Self-Regulated Learning Among Non-Arab Students: Contribution Of Students'motivational Beliefs In Learning Arabic Language. *Quantum Journal of Social Sciences and Humanities*, *1*(2), 28–37.

Albantani, A. M., Madkur, A., & Rozak, A. (2022). Student Self Regulated Learning Strategy In Online Arabic Learning. *Ijaz Arabi Journal of Arabic Learning*, *5*(1).

Ba, Y., Ming, W., & Zhang, H. (2025). Unlocking academic success: How growth mindset interventions enhance student performance through self-belief and effort regulation. *Acta Psychologica*, *256*, 104977. https://doi.org/10.1016/j.actpsy.2025.104977

Bartsch, L. M., & Oberauer, K. (2021). The effects of elaboration on working memory and long-term memory across age. *Journal of Memory and Language*, *118*, 104215. https://doi.org/10.1016/j.jml.2020.104215

Bartsch, L. M., Singmann, H., & Oberauer, K. (2018). The effects of refreshing and elaboration on working memory performance, and their contributions to long-term memory formation. *Memory & Cognition*, *46*(5), 796–808. https://doi.org/10.3758/s13421-018-0805-9

Boroughani, T., Behshad, N., & Xodabande, I. (2023). Mobile-assisted academic vocabulary learning with digital flashcards: Exploring the impacts on university students' self-regulatory capacity. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1112429

Chen, J. (2022). The effectiveness of self-regulated learning (SRL) interventions on L2 learning achievement, strategy employment and self-efficacy: A meta-analytic study. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.1021101

Chong, S. W., & Reinders, H. (2025). Autonomy of English language learners: A scoping review of research and practice. *Language Teaching Research*, *29*(2), 607–632. https://doi.org/10.1177/13621688221075812

Deng, L., Zhou, Y., & Broadbent, J. (2024). Distraction, multitasking and self-regulation inside university classroom. *Education and Information Technologies*, *29*(18), 23957–23979. https://doi.org/10.1007/s10639-024-12786-w

Dent, A. L., & Koenka, A. C. (2016). The Relation Between Self-Regulated Learning and Academic Achievement Across Childhood and Adolescence: A Meta-Analysis. *Educational Psychology Review*, *28*(3), 425–474. https://doi.org/10.1007/s10648-015-9320-8

Dessenberger, S., Wang, K., Jordan, E., & Sommers, M. (2023). Lexical inferencing as a generation effect for foreign language vocabulary learning. *Memory & Cognition*, *51*(2), 273–289. https://doi.org/10.3758/s13421-022-01348-5

Di, X., Ismail, W. M., & Zailani, M. A. (2022). Non-native Arabic Learner's self-regulated learning and social media usage influence learning of Arabic language. *Ijaz Arabi Journal of Arabic Learning*, *5*(2).

Dörrenbächer-Ulrich, L., Dilhuit, S., & Perels, F. (2024). Investigating the relationship between self-regulated learning, metacognition, and executive functions by focusing on academic transition phases: a systematic review. *Current Psychology*, *43*(18), 16045–16072. https://doi.org/10.1007/s12144-023-05551-8

Fan, Y.-H., & Lin, T.-J. (2023). Identifying university students' online academic help-seeking patterns and their role in Internet self-efficacy. *The Internet and Higher Education*, *56*, 100893. https://doi.org/10.1016/j.iheduc.2022.100893

Finn, A., Fitzgibbon, C., Fonda, N., & Gosling, C. M. (2025). Self-directed learning and the student learning experience in undergraduate clinical science programs: a scoping review. *Advances in Health Sciences Education*, *30*(3), 973–1005. https://doi.org/10.1007/s10459-024-10383-7

Garcia, R., Falkner, K., & Vivian, R. (2018). Systematic literature review: Self-Regulated Learning strategies using e-learning tools for Computer Science. *Computers & Education*, *123*, 150–163. https://doi.org/10.1016/j.compedu.2018.05.006

Greene, J. A., Bolick, C. M., Jackson, W. P., Caprino, A. M., Oswald, C., & McVea, M. (2015). Domain-specificity of self-regulated learning processing in science and history. *Contemporary Educational Psychology*, *42*, 111–128. https://doi.org/10.1016/j.cedpsych.2015.06.001

Higgins, N. L., Rathner, J. A., & Frankland, S. (2023). Development of self-regulated learning: a longitudinal study on academic performance in undergraduate science. *Research in Science & Technological Education*, *41*(4), 1242–1266. https://doi.org/10.1080/02635143.2021.1997978

Irawan, B. (2023). Developing Arabic Teaching Materials Based on Local Culture to Enhance Reading Skills And Its Implications on Self-Regulated Learning. *IJIE International Journal of Islamic Education*, *2*(2), 57–72.

Ismail, S. M., Nikpoo, I., & Prasad, K. D. V. (2023). Promoting self-regulated learning, autonomy, and self-efficacy of EFL learners through authentic assessment in EFL classrooms. *Language Testing in Asia*, *13*(1), 27. https://doi.org/10.1186/s40468-023-00239-z

Izmalkova, A., & Blinnikova, I. (2024). Cognitive Strategies of Second Language Vocabulary Inferencing: An Eye Tracking Study. *Education Sciences*, *14*(5), 490. https://doi.org/10.3390/educsci14050490

Jain, S., Prabha, C., Nandan, D., & Bhosale, S. (2024). Comparative analysis of frequently used e-learning platforms. *Frontiers in Education*, *9*. https://doi.org/10.3389/feduc.2024.1431531

Kakitani, J., & Kormos, J. (2024). The effects of distributed practice on second language fluency development. *Studies in Second Language Acquisition*, *46*(3), 770–794. https://doi.org/10.1017/S0272263124000251

Kong, S.-C., & Lin, T. (2023). Developing self-regulated learning as a pedagogy in higher education: An institutional survey and case study in Hong Kong. *Heliyon*, *9*(11). https://doi.org/10.1016/j.heliyon.2023.e22115

Linur, R., & Mubarak, M. R. (2022). Students' perceptions on using the flipped classroom method to support their self-regulated learning in Arabic speaking skills: exploratory study. *Al-Ta'rib: Jurnal Ilmiah Program Studi Pendidikan Bahasa Arab IAIN Palangka Raya*, *10*(1), 1–12.

Loaiza, V. M., & Lavilla, E. T. (2021). Elaborative strategies contribute to the long-term benefits of time in working memory. *Journal of Memory and Language*, *117*, 104205. https://doi.org/10.1016/j.jml.2020.104205

Lomellini, A., Lowenthal, P. R., Snelson, C., & Trespalacios, J. H. (2025). Accessible and inclusive online learning in higher education: a review of the literature. *Journal of Computing in Higher Education*, *37*(3), 1306–1329. https://doi.org/10.1007/s12528-024-09424-2

Ma, L., & She, L. (2024). Self-Regulated Learning and Academic Success in Online College Learning. *The Asia-Pacific Education Researcher*, *33*(3), 519–533. https://doi.org/10.1007/s40299-023-00748-8

Martins van Jaarsveld, G., Wong, J., Baars, M., Specht, M., & Paas, F. (2025). Goal setting in higher education: how, why, and when are students prompted to set goals? A systematic review. *Frontiers in Education*, *9*. https://doi.org/10.3389/feduc.2024.1511605

Namaziandost, E., Çakmak, F., Heydarnejad, T., & Rezai, A. (2024). The predictive effects of learner autonomy and academic engagement on willingness to communicate, foreign language learning self-esteem, and L2 grit in an EFL context. *Acta Psychologica*, *250*, 104528. https://doi.org/10.1016/j.actpsy.2024.104528

Nejabati, N. (2015). The Effects of Teaching Self-regulated Learning Strategies on EFL Students' Reading Comprehension. *Journal of Language Teaching and Research*, *6*(6), 1343. https://doi.org/10.17507/jltr.0606.23

Ng, D. T. K., Tan, C. W., & Leung, J. K. L. (2024). Empowering student self-regulated learning and science education through ChatGPT : A pioneering pilot study. *British Journal of Educational Technology*, *55*(4), 1328–1353. https://doi.org/10.1111/bjet.13454

Omar, S., Hussein, N. H., Hanapi, N. H., Abdullah, Y. S., Mohd Noor, A. L., & Saidi, B. (2023). Self-Efficacy and Self-Regulated Learning Among Undergraduate in Learning Arabic as a Foreign Language Via Online. *Issues in Language Studies*.

Oxford, R. L. (2016). *Teaching and Researching Language Learning Strategies*. Routledge. https://doi.org/10.4324/9781315719146

Öztürk, M., & Çakıroğlu, Ü. (2021). Flipped learning design in EFL classrooms: implementing self-regulated learning strategies to develop language skills. *Smart Learning Environments*, *8*(1), 2. https://doi.org/10.1186/s40561-021-00146-x

Pintrich, P. R. (2004). A Conceptual Framework for Assessing Motivation and Self-Regulated Learning in College Students. *Educational Psychology Review*, *16*(4), 385–407. https://doi.org/10.1007/s10648-004-0006-x

Samin, S. M., Akzam, I., & Supriady, H. (2022). Strategies of Arabic Students' Self-Regulated Learning Improvement in Language Proficiency in The Disruption Era. *Arabiyat: Journal of Arabic Education & Arabic Studies/Jurnal Pendidikan Bahasa Arab Dan Kebahasaaraban*, *9*(2).

Schuster, C., Stebner, F., Leutner, D., & Wirth, J. (2020). Transfer of metacognitive skills in self-regulated learning: an experimental training study. *Metacognition and Learning*, *15*(3), 455–477. https://doi.org/10.1007/s11409-020-09237-5

Seker, M. (2016). The use of self-regulation strategies by foreign language learners and its role in language achievement. *Language Teaching Research*, *20*(5), 600–618. https://doi.org/10.1177/1362168815578550

Sinkkonen, M., & Tapani, A. (2024). Review of the Concept "Self-Regulated Learning": Defined and Used in Different Educational Contexts. *International Journal on Social and Education Sciences*, *6*(1), 130–151. https://doi.org/10.46328/ijonses.640

Stanikzai, M. (2019). Self-regulated learning: an exploratory study (Level and gender difference). *Research Review International Journal of Multidisciplinary*, *3085*, 57–62.

Teng, L. S., & Zhang, L. J. (2020). Empowering learners in the second/foreign language classroom: Can self-regulated learning strategies-based writing instruction make a difference? *Journal of Second Language Writing*, *48*, 100701. https://doi.org/10.1016/j.jslw.2019.100701

Theobald, M. (2021). Self-regulated learning training programs enhance university students' academic performance, self-regulated learning strategies, and motivation: A meta-analysis. *Contemporary Educational Psychology*, *66*, 101976. https://doi.org/10.1016/j.cedpsych.2021.101976

Wolters, C. A., & Brady, A. C. (2021). College Students' Time Management. *Educational Psychology Review*, *33*(4), 1319–1351.

Wolters, C. A., Brady, A. C., & Lee, H. J. (2025). Time Management and Achievement Motivation: A Review of What We Know and Directions for Where to Go. *Educational Psychology Review*, *37*(2), 58. https://doi.org/10.1007/s10648-025-10032-4

Wong, J., Baars, M., He, M., de Koning, B. B., & Paas, F. (2021). Facilitating goal setting and planning to enhance online self-regulation of learning. *Computers in Human Behavior*, *124*, 106913. https://doi.org/10.1016/j.chb.2021.106913

Xu, J., Li, J., & Yang, J. (2024). Self-regulated learning strategies, self-efficacy, and learning engagement of EFL students in smart classrooms: A structural equation modeling analysis. *System*, *125*, 103451. https://doi.org/10.1016/j.system.2024.103451

Xu, K. M., Leferink, J., & Wijnia, L. (2025). A review of the relationship between student growth mindset and self-regulated learning. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1539639

Xu, L., Duan, P., Padua, S. A., & Li, C. (2022). The impact of self-regulated learning strategies on academic performance for online learning during COVID-19. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.1047680

Yaraghi, E., & Shafiee, S. (2018). Roles of Learner Autonomy and Willingness to Communicate in Communication Strategy Use of EFL Learners. *International Journal of English Language and Literature Studies*, *7*(3), 55–74. https://doi.org/10.18488/journal.23.2018.73.55.74

Zeiser, K. (2018). Student goal setting: An evidence-based practice. *Midwest Comprehensive Center*.

Zhang, Y., Fauzi, W. J., & Kassim, H. (2025). Input-based instruction as a teaching strategy for enhancing EFL speaking skills: a systematic review. *Discover Education*, *4*(1), 534. https://doi.org/10.1007/s44217-025-01008-1

Zhang, Z., Zhou, S., & Bai, B. (2025). A Systematic Scoping Review of Self-Regulated Learning With AI in Language Education. *International Journal of Applied Linguistics*, *26*. https://doi.org/10.1111/ijal.70030

Zhao, Y., Li, Y., Ma, S., Xu, Z., & Zhang, B. (2025). A meta-analysis of the correlation between self-regulated learning strategies and academic performance in online and blended learning environments. *Computers & Education*, *230*, 105279. https://doi.org/10.1016/j.compedu.2025.105279

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, *81*(3), 329–339. https://doi.org/10.1037/0022-0663.81.3.329

Zimmerman, B. J. (2015). Self-Regulated Learning: Theories, Measures, and Outcomes. In *International Encyclopedia of the Social & Behavioral Sciences* (pp. 541–546). Elsevier. https://doi.org/10.1016/B978-0-08-097086-8.26060-1

Zou, Y., Kuek, F., Feng, W., & Cheng, X. (2025). Digital learning in the 21st century: trends, challenges, and innovations in technology integration. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1562391