ISSN 1799-2591
Theory and Practice in Language Studies, Vol. 15, No. 7, pp. 2280-2289, July 2025
DOI: https://doi.org/10.17507/tpls.1507.20

Developing Metacognitive Awareness Through Mnemonic Strategy Training: A Study on Self-Regulated Learning Among Japanese Language Learners

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***Abstract*—This study investigates the impact of mnemonic methods on metacognitive development and autonomous learning in acquiring Japanese. We investigate how different memory techniques—such as visual aids, keyword strategies, and associative memory methods—affect the learning patterns and independent study habits of students studying Japanese using comprehensive interviews. The researchers' findings indicate that mnemonic approaches enhance students' capacity to retain vocabulary and kanji characters while fortifying their metacognitive skills, allowing them to assess learning progress and cultivate individualized learning strategies. Nevertheless, the researchers recognized some obstacles, notably the substantial time commitment to developing mnemonic devices and their restricted efficacy in understanding sentence structures and verbal fluency. We advocate combining systematic mnemonic education with practical language applications to enhance learning outcomes.**

***Index Terms*—mnemonic strategies, metacognitive awareness, self-regulated learning, Japanese language learning**

I. Introduction

Language acquisition and proficiency are contingent upon metacognitive awareness (Goh, 2008). Recent research indicates that metacognition enhances second or foreign language acquisition by cultivating learners' self-awareness, strategic thinking, and self-regulation skills (Tanaka et al., 2020). In second language acquisition (SLA), self-regulated learning (SRL) significantly contributes to learners' success by allowing them to manage their learning process via goal formulation, strategic implementation, and self-monitoring (Zimmerman, 2002). The essential element of self-regulated learning (SRL) is metacognitive awareness, an individual's capacity to reflect on, regulate, and modify their cognitive processes throughout the learning experience (Flavell, 1979). Enhancing metacognitive awareness has augmented language learning efficiency, as learners cognizant of their cognitive strengths and shortcomings can implement more successful tactics (Wenden, 1998). Despite its significance, numerous learners struggle to cultivate metacognitive awareness, frequently depending on unproductive learning habits and passive educational strategies (Oxford, 2017).

Mnemonic strategy training is a learning method that has demonstrated promise in enhancing metacognitive awareness. Mnemonics is a cognitive strategy that enhances memory retention by establishing associations that aid information retrieval (Atkinson & Raugh, 1975). Studies indicate that mnemonic procedures, including keyword mnemonics and imagery techniques, enhance vocabulary acquisition in foreign language learners (Ellis, 1995; Nation, 2001). Nonetheless, while the efficacy of mnemonics in memory retention is well established, its influence on learners' metacognitive growth and self-regulated learning remains a domain necessitating additional investigation (Boekaerts, 1999). Schneider (2019) illustrates a direct relationship between implementing strategic mnemonic strategies and enhancing metacognitive skills. Systematically taught and practised mnemonic methods are crucial in facilitating metacognitive development by allowing learners to monitor, control, and regulate their cognitive processes more (Baddeley, 2018).

Yamamoto and Suzuki (2016) demonstrated the efficacy of visual memory strategies for students acquiring character-based writing systems, such as Japanese. This method has demonstrated efficacy in enhancing memory recall by establishing meaningful connections between novel words and familiar topics (Wang, 2019). Further investigation by Tanaka et al. (2020) underscores the significance of integrating mnemonic techniques to enhance cognitive functions and provide enduring educational results. Numerous research studies have investigated mnemonic strategies for acquiring the

Japanese language. The significance of visual associations and context-dependent memory methods illustrates how this method aids learners in internalizing kanji's intricate visual and semantic structure. Memory Techniques in Japanese Language Acquisition: Secondly, evaluating the efficacy of the keyword approach for vocabulary retention among second language learners (Atkinson et al., 1975). Their research demonstrates that this mnemonic technique enhances memory by establishing connections between new words and existing topics. Metacognitive tactics and mnemonic techniques enhance memory retention and promote learners' self-awareness and self-regulation in the learning process. Nakamura's (2019) investigation into cognitive linguistics offers significant insights into efficient language learning practices, highlighting the role of image schemas and their neurological underpinnings in improving grammar and vocabulary acquisition for Japanese language learners.

Although the efficacy of mnemonic strategies in vocabulary acquisition for foreign language learning is acknowledged (Kobayashi & Nakamura, 2019), research on their influence on the enhancement of metacognitive awareness and autonomous learning skills in Japanese language learners remains scarce (Hidayat & Suryani, 2019). This research gap is substantial due to the several hurdles associated with learning Japanese, including the mastery of the Kanji writing system and its intricate syntax (Kusrini et al., 2021). The existing literature inadequately examines strategies for systematically integrating mnemonic techniques in Japanese language education to enhance cognitive and metacognitive skills (Pratama & Widodo, 2022).

This study examines the correlation between mnemonic strategy training and enhancing metacognitive awareness in acquiring the Japanese language. The researchers employed a mixed-method approach that integrated quantitative analysis with semi-structured interviews to investigate:

1. various mnemonic strategies (visual mnemonics, keyword methods, and memory connections) impact learning behaviour and autonomous learning practices.
2. The effect of structured mnemonic training on metacognitive awareness and self-regulated learning.
3. The efficacy of combining mnemonic techniques with active language utilization.

Systematic mnemonic training can associate essential memorization skills with sophisticated metacognitive capacities, enhancing autonomy and learning efficacy (Mori et al., 2021). This work aimed to enhance understanding of the role of mnemonic strategies in information retention and the cultivation of independent learning, hence improving language acquisition results (Okumura, 2022). The researchers enhanced current studies on metacognitive development in language education and offered practical applications for Japanese language instruction (Diner et al., 2023).

II. Literature Review

A. Mnemonic Strategies

The examination of mnemonics dates back to ancient Greece, although contemporary scientific investigation commenced in earnest during the cognitive revolution of the 1960s and 1970s. Miller's (1956) seminal research on cognitive chunking establishes a theoretical framework for comprehending mnemonics' efficacy through organising information into significant pieces. Paivio's (1971) dual coding theory elucidates the efficacy of visual and verbal mnemonics, positing that information stored in both visual and verbal modalities generates more robust memory traces. Wang and Thomas (2000) demonstrate that spatial mnemonics yield superior recall compared to rote memorization, with effects persisting over extended retention spans. Their research indicates a 40-50% enhancement in retention rates with the application of spatial organization tactics. An initial investigation by Atkinson and Raugh (1975) demonstrates a notable enhancement in foreign language retention through keyword mnemonics. Recent research by Shapiro and Waters (2005) indicated that the keyword strategy is most effective when students generate their keywords instead of utilizing predetermined ones. A Putnam (2015) meta-analysis showed that mnemonic instruction in educational contexts yielded a substantial effect size ($d = 0.85$) across several disciplines. The study of science and foreign languages yields significant advantages. The effectiveness is contingent upon the student's age (more pronounced in secondary education than in primary), the complexity of the material (more practical for discrete facts than for conceptual comprehension), and the quality of execution (teacher training significantly influences outcomes). Wilson and Kapur (2008) reported a notable enhancement in daily memory performance among patients with mild cognitive impairment who underwent training in mnemonic strategies specifically designed for their situation. The most efficacious method integrates multiple tactics customized to specific needs and settings. Research repeatedly demonstrates the efficacy of mnemonics in second language acquisition (Cohen, 1987). Research indicates superior vocabulary retention relative to conventional approaches, enhanced acquisition of grammar rules when integrated with visual aids, and notable efficacy for abstract concepts. Cohen (1987) examined the efficacy of verbal and visual mnemonics in acquiring second language (L2) vocabulary. This study examines learners' use of mnemonic techniques, including the keyword approach and mental imagery, to enhance vocabulary retention. The research demonstrates empirical evidence that verbal mnemonics and images enhance vocabulary acquisition. Nonetheless, their efficacy fluctuates according to individual learner variances and the intricacy of the acquired vocabulary. Sagarra and Alba (2006) evaluated the efficacy of various vocabulary acquisition techniques for novice Spanish learners, emphasizing the keyword method in contrast to rote memorization and semantic processing. Their research investigated whether the method yielded superior retention and recall of novel words. The findings indicated that the keyword method, linking new vocabulary with phonetically similar keywords and mental imagery, markedly enhances vocabulary retention relative to conventional memorization techniques. Avila and Sadoski (1996)

examined a novel application of the keyword technique for acquiring English vocabulary. This study examines the adaptability of a mnemonic strategy that associates new words with familiar-sounding keywords and mental imagery across various learning environments. Their research investigated the efficacy of the keyword method relative to conventional vocabulary acquisition strategies, demonstrating that it markedly enhances recall and retention, particularly for learners with minimal English proficiency.

B. Metacognitive Awareness

Flavell (1979) initially developed the concept of metacognition, defining it as 'thinking about thinking'. This fundamental task comprises two primary elements: metacognitive knowledge and metacognitive regulation. Brown (1987) advanced this approach by highlighting the significance of executive control mechanisms in metacognitive functioning. Schraw and Dennison (1994) operationalized these notions via the Metacognitive Awareness Inventory (MAI), a commonly utilized evaluation instrument. Their concept differentiates between cognitive knowledge (declarative, procedural, and conditional knowledge) and cognitive regulation (planning, monitoring, and evaluation). Studies regularly demonstrate a robust association between metacognitive awareness and academic achievement. Veenman et al. (2006) determined that metacognition explains around 40% of the variance in learning outcomes, independent of intellectual capacity. Wang et al. (2020) similarly revealed a substantial positive correlation between metacognitive awareness and achievement across multiple academic subjects. Ohtani and Hisasaka (2018) investigated the correlation between metacognitive skills and academic success, moving past the conventional emphasis on IQ as the primary determinant of achievement. Their research integrated existing studies to investigate how metacognitive abilities—such as planning, monitoring, and evaluating one's learning—affect academic achievement across diverse subjects and educational levels. These data indicate that metacognitive abilities substantially influence learning outcomes, frequently surpassing the impact of intellect. The authors assert that instructing students in metacognitive methods can enhance their academic achievement, irrespective of their cognitive capabilities. Veenman et al. (2006) present a conceptual framework of metacognition and its significance in the learning process. Metacognition is the awareness and modulation of one's cognitive processes, differentiating it from general intelligence. The authors examine the primary elements of metacognition, encompassing metacognitive knowledge (awareness of one's learning techniques) and metacognitive skills (implementation and modification of these tactics).

C. Self-Regulated Learning

Self-regulated learning (SRL) emerged as a fundamental educational idea in the 1980s. Zimmerman (1989) characterized it as the metacognitive engagement, motivation, and conduct of learners in their educational process. Zimmerman's (2000) cyclical model comprises three phases: anticipatory thinking, execution, and self-evaluation. Zimmerman (2000) articulates a social cognitive framework for self-regulation, highlighting that self-regulated learning (SRL) is a cyclical process shaped by personal, behavioural, and contextual influences. Self-regulation refers to the capacity to manage one's thoughts, emotions, and behaviours to attain educational objectives. Posts that self-regulation is acquired by social modelling, direct instruction, and personal experience, with proficient learners actively participating in self-monitoring and strategic application. Boekaerts (1999) examines the current self-regulated learning (SRL) research and delineates significant advancements in the discipline. It thoroughly examines the notion of self-regulated learning (SRL), which is defined as a process wherein students actively manage their learning through goal establishment, monitoring, and reflection. Boekaerts underscores the crucial importance of motivation and metacognition in this process, asserting that self-regulated learning encompasses cognitive techniques, emotional management, and self-reflection. Oxford's (2011) study modified the self-regulated learning (SRL) model for language acquisition, delineating five primary components: strategic self-regulation, affective self-regulation, sociocultural-interactive self-regulation, cognitive self-regulation, and metacognitive self-regulation. These elements underscore the complex nature of language acquisition, wherein learners navigate cognitive processes and regulate emotions, social interactions, and cultural awareness. Pintrich (2004) examines the significance of motivation and self-regulated learning (SRL) in academic success. Pintrich underscores that comprehending the connection between motivation and self-regulated learning (SRL) might furnish educators with insights to enhance academic interventions and bolster student learning outcomes. This paper analyzes research gaps and proposes options for future studies regarding motivation, self-regulation, and their assessment within higher education. Winne and Hadwin (2008) examine the intricate connection between motivation and self-regulated learning (SRL), contending that both elements profoundly influence academic achievement.

III. Research Methodology

A. Participants

This study employed random sampling to choose research participants. By Creswell's (2014) proposal, stratified random sampling was employed to guarantee adequate representation among various population groupings. The sample comprised 110 Japanese language students from two Indonesian universities: 45 students (40.5% of the sample) from Manado State University and 65 students (59.5%) from Sariputra Indonesia University Tomohon. This sampling method provided a balanced representation of both educational institutions.

B. Instruments

This study included two primary assessment instruments. The initial instrument is the Metacognitive Awareness Inventory (MAI), developed by Schraw and Dennison (1994), comprising 52 items that assess two primary facets of metacognitive awareness. The second instrument is the Strategy Inventory for Language Learning (SILL), created by Rebecca Oxford in 1990, which is a well-recognized evaluation tool of 50 items designed to examine the utilization of language learning techniques. Both tests employ a 5-point Likert scale for the collection of responses. The SILL scale spans from 1 ('Never or seldom true for me') to 5 ('Always or almost always true for me'), with a midpoint indicating different levels of strategy utilization. Both questionnaires demonstrated adequate reliability as assessed by Cronbach's alpha coefficient. The survey instrument commenced with a consent form permitting participants to withdraw from the study if they so wished. Subsequently, participants submitted demographic data encompassing gender, prior Japanese language learning experience, and self-evaluated language competency level.

C. Procedure

This study employs a mixed-method research methodology integrating quantitative and qualitative analytical methodologies. The quantitative aspect employs the SPSS and Amos (version 29) statistical software applications. Data preparation adhered to known protocols (Hair et al., 2019), incorporating normality assessments via the Kolmogorov-Smirnov method, as Tabachnick and Fidell (2021) advised. The research team employed Confirmatory Factor Analysis (CFA) to evaluate the validity and reliability of the instrument (Brown, 2015). This investigation used Pearson's correlation coefficient to examine the link among three primary variables: metacognitive awareness, mnemonic strategy training, and self-regulated learning in Japanese language competence. The researchers subsequently performed a route analysis utilizing Amos to investigate the predicted link among these variables (Kline, 2016).

The qualitative phase entailed semi-structured interviews to obtain profound insights into students' learning experiences. Participants for the interview were chosen to guarantee broad representation in gender, academic performance, and utilization of mnemonic techniques.

IV. Results and Discussion

A. Results

The investigator evaluated the normal distribution of the three primary research variables (metacognitive awareness, mnemonic strategy training, and self-regulated learning) employing the Kolmogorov-Smirnov (K-S) test. The study yielded significance values over the crucial level of 0.05: metacognitive awareness (0.11), mnemonic strategy training (0.07), and self-regulated learning (0.09). The results presented in Table 1 affirm that all variables exhibit a standard distribution pattern (Field, 2018; Pallant, 2020).

Table 1
The Results of Kolmogorov-Smirnov Test

	Kolmogorov-Smirnova	
	Statistic	**sig**
Metacognitive Awareness	.09	.11
Mnemonic strategy training	.06	.07
Self-regulated learning	**.07**	**.09**

Table 2 indicates that the reliability analysis demonstrates that all instruments attain a Cronbach's alpha coefficient of 0.6 or higher, satisfying the acceptable internal consistency level (George & Mallery, 2019). Subsequently, Confirmatory Factor Analysis (CFA) was employed to assess the psychometric features of the questionnaire, explicitly focusing on composite reliability and discriminant validity (Brown, 2015). The findings of this investigation are displayed in Table 2.

Table 2
Reliability and Validity of the Scales

Questionnaires	**CR**	**AVE**
Metacognitive Awareness	0.757	0.654
Mnemonic strategy training	0.543	0.752
Self-regulated learning	0.834	0.855

Table 3 illustrates that the composite reliability analysis yields satisfactory values for all three instruments: metacognitive awareness, mnemonic strategy training, and self-regulated learning. The Average Variance Extracted (AVE) values above the suggested threshold of 0.50 for all questionnaire components, substantiating the assessment instrument's discriminant validity (Hair et al., 2019; Fornell & Larcker, 1981). The correlation analysis results in Table 3 illustrate the relationship among the primary variables of the study. The results indicate a moderate positive connection between metacognitive awareness and mnemonic strategy training (r = .42). A robust positive correlation exists between

metacognitive awareness and self-regulated learning (r = .61). Conversely, mnemonic strategy training exhibits a moderate positive connection with self-regulated learning (r = .33). Table 4 elucidates the relationships among the subscales of these constructs.

TABLE 3
THE OUTCOMES OF PEARSON CORRELATION

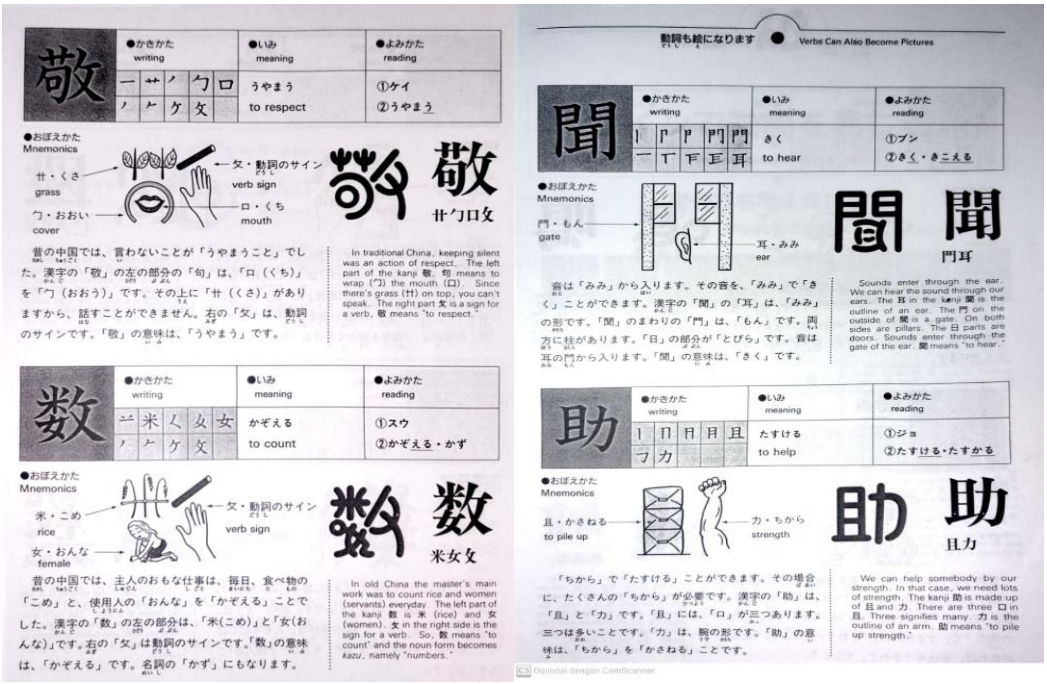
	Metacognitive	Mnemonic	Self-regulated learning
Metacognitive	1		
Mnemonic	.42**	1	
Self-regulated learning	.61**	.53**	1

Note. **Correlation is significant

TABLE 4
THE RESULTS OF PEARSON CORRELATION

	Memory retention	Self-awareness	Cognitive linguistics
Metacognitive	.541**	.612**	.434**
Self-regulated learning	.545**	.635**	.412**

Table 4 illustrates that correlation analysis indicates a substantial positive link between mnemonic strategy training and self-regulated learning across all metacognitive awareness subscales. The self-awareness dimension exhibits a strong correlation, demonstrating a moderate positive association with self-regulated learning (r = .42) and credibility (r = .37), surpassing other elements of metacognitive awareness (Warner, 2021; Tabachnick & Fidell, 2021).



Yoshiaki Takebe (1993)

Picture 1. Kanji Material Using Mnemonic Technique

The material in the image illustrates the use of visual mnemonics to aid in remembering the shape and meaning of kanji. For example, the character 聞 (kiku, "to hear") is analyzed by connecting its constituent elements: 門 (mon, "gate") and 耳 (mimi, "ear"), which logically depict sound entering the ear through the gate. This approach supports the hypothesis that visual associations and meaningful concepts enhance learners' metacognitive awareness in recognizing kanji patterns and expedite the memorization process. Mnemonics in images assist learners not only in memorizing kanji but also in understanding their own learning processes. Learners who utilize this strategy tend to become more aware of their strengths and weaknesses when recognizing new kanji. The analysis results show that the visual-based mnemonic strategies illustrated in this image can serve as an effective method within the kanji learning curriculum. In addition to improving the efficiency of character memorization, this approach also aids learners in developing more reflective and systematic thinking strategies, thereby supporting the achievement of optimal self-regulated learning.

The researchers performed a path analysis to examine the impact of metacognitive awareness and mnemonic technique training on self-regulated learning, as depicted in Figure 1. Both characteristics were identified as substantial positive predictors of self-regulated learning. By the principles of structural equation modelling (Kline, 2016), the researchers

assessed the model utilizing various goodness-of-fit indices (GFI, CFI, NFI, RM). Table 5 demonstrates that these indices surpassed the prescribed criteria, affirming the model's structural integrity (Byrne, 2020).

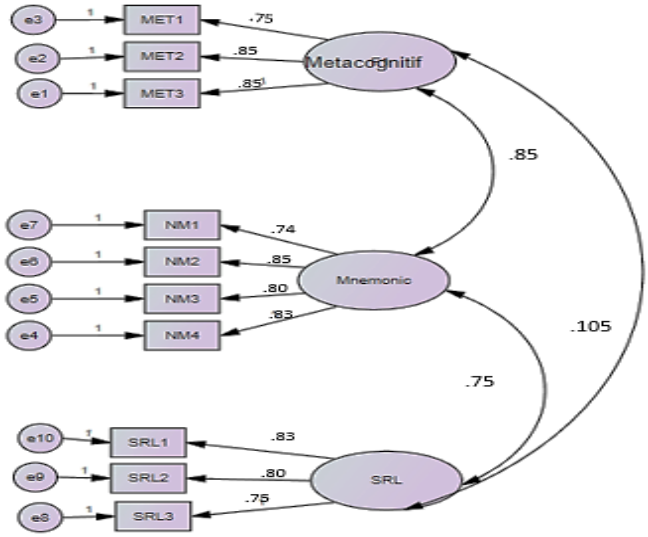


Figure 1. Path Analysis Between Metacognitive Awareness, Mnemonic Strategy Training, and Self-Regulated Learning

TABLE 5
THE GOODNESS OF FIT INDICES

	GFI	CFI	NFI	RMSEA
Acceptable fit	>80	>80	>80	<07
Model	.84	.83	.85	.06

The researchers performed comprehensive interviews with 20 selected students chosen to exemplify varied characteristics in mnemonic usage, gender, and academic standing. The interviews sought to comprehend students' viewpoints regarding mnemonic techniques and implementing these learning tactics. The pupils indicated significant success using mnemonic strategies, particularly in memorizing Japanese characters and language. They provided explicit examples of visual associations, such as reading the kanji character 森 (mori, forest) as a composite of three trees and 食 (shoku, eating) as a visual depiction of an individual consuming food with chopsticks. A systematic learning plan encompassed defined vocabulary, grammar, and reading objectives. Daily acquisition of 10-15 new vocabulary words was achieved through flashcards and spaced repetition techniques. Grammar was acquired by examining one grammatical concept daily and practising sentence composition. Reading activities include daily engagement with NHK Easy News stories. Furthermore, pupils indicate that mnemonic procedures have enhanced their awareness of optimal learning methods. Mnemonic techniques promote autonomous learning by diminishing reliance on textbooks and educators. Developing individualized mnemonics helps enhance learning methodologies.

The mnemonic technique fosters greater independence in language acquisition among students. Mnemonics have fostered autonomy by facilitating the recollection of words and characters without continual reference. Customized mnemonics facilitate the development of a distinctive learning methodology rather than relying on rote memorization. The benefits encompass enhanced engagement, motivation, and memory of intricate kanji and abstract terminology. Mnemonics establish significant associations that enhance memory retention. The drawbacks encompass the time required to develop successful mnemonics and their restricted phrase structure and fluency utilization. Mnemonic tactics are supplemented by active exercises like speaking and writing to achieve equilibrium.

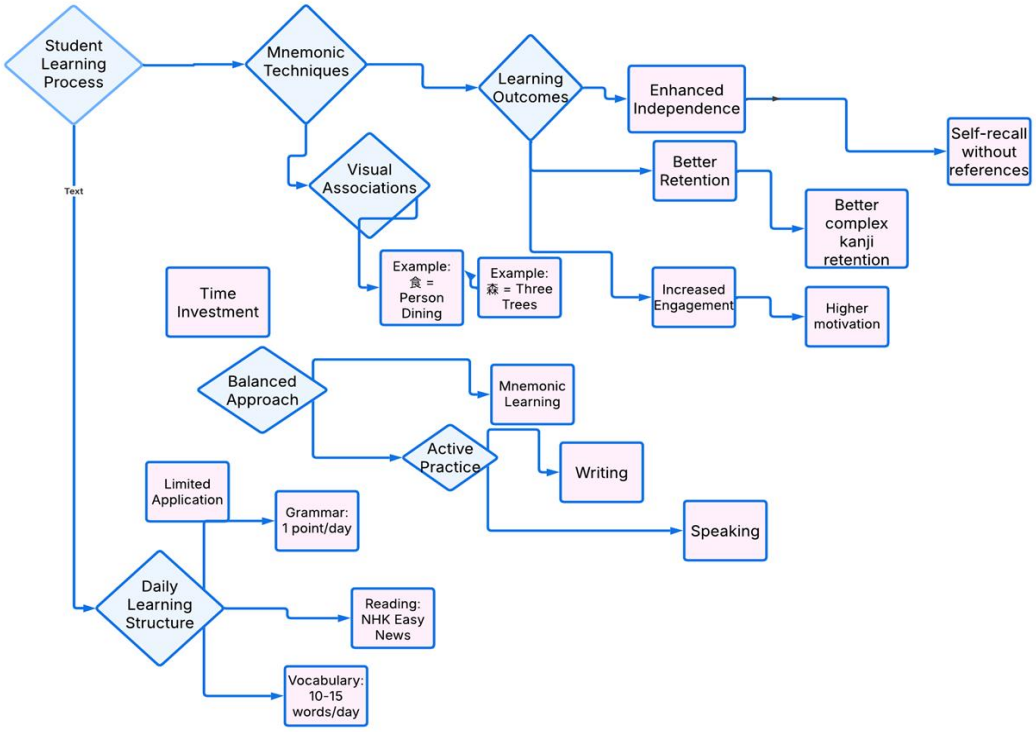


Figure 2. Student Learning Process

B. Discussion

The Kolmogorov-Smirnov (K-S) test analysis of the primary variables confirmed the normality of the data distribution, yielding significance values of 0.09 for metacognitive awareness, 0.12 for mnemonic strategy training, and 0.06 for self-regulated learning, all surpassing the 0.05 threshold. This offered statistical validity for parametric analysis (Field, 2018). Descriptive statistics reveal significant trends: metacognitive awareness had the highest mean (M = 102.13), followed by mnemonic strategy training (M = 87.45), while self-regulated learning exhibited the lowest average (M = 71.67). Reliability analysis indicates robust internal consistency, as evidenced by Cronbach's alpha coefficients surpassing 0.6 across all instruments (George & Mallery, 2019). Subsequent confirmation by confirmatory factor analysis demonstrated acceptable composite reliability, and Average Variance Extracted (AVE) values over 0.50, signifying robust discriminant validity (Hair et al., 2019). Association analysis reveals three significant relationships: a substantial positive association between metacognitive awareness and self-regulated learning (r = .61) and a moderate positive correlation between metacognitive awareness and mnemonic strategy training (r = .42). A moderate positive connection exists between mnemonic strategy training and self-regulated learning (r = .53). These findings align with the research conducted by Tanaka et al. (2020), which demonstrates the interrelatedness of metacognitive development and mnemonic learning procedures. The study's findings emphasize the significant impact of memory enhancement approaches in fostering learning awareness and independent learning skills among Japanese language learners. Research participants consistently report that memory aids, such as visual tactics, keyword strategies, and associative methods, significantly enhance their retention of Japanese words and characters. These methods facilitate establishing significant educational connections and enhance memory retention and learning involvement. These findings corroborate prior studies regarding the efficacy of mnemonic approaches in acquiring a second language, particularly those employing a character-based writing system like Japanese. The research data indicates that memory approaches promote enhanced learning autonomy. Students said that employing personalized memory procedures diminished their reliance on traditional content and instructor assistance, reinforcing the tenets of self-directed learning. Students demonstrated heightened awareness of their learning strategies by establishing explicit learning objectives, tracking their progress using digital tools like Anki, and customizing memory approaches to suit their preferences. This behaviour exemplifies metacognitive awareness via planning, observation, and evaluation of the learning strategy. Nevertheless, the researchers recognized multiple impediments to the execution of memory methods. While these strategies enhance student recall and motivation, some participants observed the time-consuming aspect of developing good memory connections, particularly for intricate grammatical structures. Furthermore, while memory techniques predominantly enhance information retention, they are less effective in fostering total language fluency, underscoring the necessity of integrating these strategies with active language engagement in speaking and writing tasks.

This study demonstrates that memory technique training substantially enhances Japanese language students' learning

awareness and autonomous learning capabilities. Further study options encompass investigating more systematic memory technique training programs and their enduring impacts on language proficiency. This work corroborates other research (Kusrini et al., 2021) about the correlation between memory methods and metacognitive development, demonstrating particular advantages for Japanese language learners (Pratama & Widodo, 2022) while also recognizing implementation difficulties (Diner et al., 2023). The study's findings underscore the integration of memory strategies with active language practice, consistent with contemporary developments in Japanese language pedagogy (Mori et al., 2021).

V. Conclusions

This study demonstrates that mnemonic strategies are crucial for enhancing Japanese students' self-awareness and autonomous learning abilities. The utilization of visual memory aids, a keyword-centric strategy, and associative learning techniques have shown efficacy in vocabulary acquisition and fostering autonomous learning habits. These findings indicate that memory enhancement strategies yield maximum outcomes when using practical language, such as conversational practice and written exercises. Quantitative studies indicate a substantial association between the employment of mnemonic methods, metacognitive awareness (r = .42), and self-regulated learning (r = .61). Qualitative interview results corroborate these findings, indicating that students experience enhanced retention and autonomy in learning via mnemonic strategies.

This study's findings indicate that memory augmentation strategies should be a fundamental element of Japanese language instruction programs to promote autonomous learning. Educators can develop systematic memory enhancement techniques to augment information retention and self-directed learning awareness. Moreover, digital learning platforms and applications must incorporate memory-based learning activities to foster self-directed learning habits. This study emphasizes memorising Japanese language and kanji while emphasising listening and verbal communication abilities less. Future studies may explore the impact of memory strategies on comprehensive language proficiency. Researchers should examine the enduring impacts of memory methods on language fluency and comprehension in the future. Subsequent research may investigate the efficacy of other mnemonic strategies, including narrative-based and auditory ones, on educational results. Furthermore, investigating the potential of technology to enhance memory-based training may create more effective language-learning tools.

Acknowledgements

We would like to express our sincere gratitude to the Directorate of Research, Technology, and Community Service (DRTPM), Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia (Kemdikbudristek), for their invaluable support and funding in facilitating the writing of this article.

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