Exploring Language Learning Strategies from the Perspective of Reciprocal Determinism

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ABSTRACT

Learning strategies refer to the approaches individuals use to complete learning tasks, which vary according to personal preferences. In learning German, the effective use of these strategies is essential for facilitating the learning process and enhancing students' performance. Despite increasing interest in language learning strategies, limited studies have examined these strategies within a social-cognitive learning framework in the context of German as a third language in Malaysia, making this study significant in providing empirical and contextual evidence. This study explores language learning strategies from the perspective of reciprocal determinism by examining undergraduate students' perceptions of the strategies they employ and the interrelationships among these strategies in achieving optimal learning outcomes in learning German at the main campus of Malaysia's largest public university. This study employed a quantitative approach using a 5-point Likert-scale survey distributed via Google Forms to 164 students enrolled in a third-language German course. It contained four sections, which were rooted in Bandura's (1978) concept of reciprocal determinism and the learning strategies proposed by Wenden & Rubin (1987). The instruments were divided into three sections, consisting of 42 items with 19 items on Power, 11 items on Affective and 12 items on Affiliation. The findings indicated that students demonstrated strong cognitive and metacognitive engagement, effective affective self-regulation, and appreciation for peer support, although their consistency in study routines and class attendance was limited. These results suggest that language instructors should design learning activities that not only foster cognitive and emotional engagement but also encourage consistent study habits and active participation to maximise students' learning outcomes in German. These findings highlight the importance of integrating cognitive, affective, and social dimensions in language learning strategies and offer new insights into the application of reciprocal determinism in learning German as a third language in Malaysia, contributing empirical evidence for more effective instructional practices.

Keywords: Learning Strategies, German Language, Cognitive Components, Metacognitive Self-Regulation and Resource Management, Reciprocal Determinism

INTRODUCTION

Background of Study

Language is an important tool of communication used to convey thoughts and ideas. Communication is considered effective when the presenter conveys a message clearly, and the listener or recipient can understand it accurately. The rapid development of information and communication technology has exposed societies to a borderless environment, allowing interaction among people from diverse linguistic and cultural backgrounds. Consequently, communication across different societies has increased, and reliance on a single language is no

longer sufficient. This situation has necessitated the learning of more than one foreign language to facilitate effective communication in academic, professional, and social contexts. This is in line with the statement mentioned by Mohammed & AbdAlla (2020), who reported that due to globalisation, many students have begun to learn English as a second or foreign language. Similarly, Salmona Madriñan (2014) emphasised that bilingualism is a key factor in becoming a successful professional and has therefore become an essential component of education.

Language learning strategies are essential for effective acquisition of a target language. Because learners differ in age, motivation, personality, learning style, and emotional conditions, no single strategy works for everyone (Hismanoglu, 2000). Effective English learning therefore requires strategies that match individual learner needs. Teachers play an important role in selecting strategies that support these differences, especially as modern English instruction focuses on developing listening, speaking, reading, and writing through varied and flexible approaches (Syahputra, 2014).

Language learning strategies are unique activities, behaviors, and approaches used by learners to improve their knowledge, acquisition, and use of a target language (Oxford, 1990). These strategies include cognitive, metacognitive, affective, and social elements, demonstrating the complexity and varied nature of foreign language learning. Within Bandura's concept of reciprocal determinism, defined as the dynamic, bidirectional interaction among personal factors, behavioural processes, and environmental conditions, learning is shaped by how these three elements continuously influence one another (Bandura, 1978). This theoretical lens helps explain how learners manage their own learning by making strategic decisions, regulating their emotions, and interacting with their learning environment. In the context of learning German as a third language at the tertiary level, reciprocal determinism highlights that learning outcomes depend not only on teaching but also on how students use learning strategies, how actively they take charge of their own learning, and how supportive their learning environment is.

Statement of Problem

Language learning strategies (LLSs) have long been recognised as an essential component of successful second and foreign language learning, as they influence learners' cognitive processing, affective regulation, and communicative development (Oxford, 2017). Recent studies show that EFL learners use multiple language learning strategies, yet their use is uneven: students rely most on metacognitive strategies, while affective strategies remain least used despite the presence of anxiety and emotional challenges in learning. This imbalance, along with variations influenced by learners' backgrounds and motivations, highlights the need to better understand what shapes students' strategy choices to support more effective instructional practices (Lestari and Wahyudin, 2020).

Bandura's Social Cognitive Theory says that learning happens when a person's beliefs, actions, and environment all influence each other (Bandura, 1986). Although this theory helps explain how learners behave, it has not been used much to study language learning strategies as a whole. Most studies look at only one part of the strategy used instead of seeing how different factors work together. Because of this, we still do not fully understand how students' sense of control, their emotions, and their interactions with friends combine to affect their foreign language learning. More research is needed to see how these factors connect and influence students' strategy use and learning results.

Objective of the Study and Research Questions

This study is conducted to explore language learning strategies and the relationship between all strategies in language learning. Specifically, this study answers the following questions;

- How do learners perceive their power in their language learning?
- How do learners perceive their affective components in their language learning?
- How do learners perceive their affiliation in their language learning?

- Is there a relationship between power and affective components?

(H1-There is no relationship between power and affective components)

- Is there a relationship between affective and affiliation?

(H2-There is no relationship between affective and affiliation)

- Is there a relationship between affiliation and power?

(H3-There is no relationship between affiliation and power)

- Is there a significant difference for all factors for learning across clusters?

(H4-There is no significant all factors for learning across clusters)

LITERATURE REVIEW

Theoretical Framework of the Study

Language learning Strategies

Language learning strategies (LLSs) refer to purposeful thoughts and behaviours that learners employ to facilitate the second or foreign language acquisition. These strategies help learners self-regulate their learning, adapt their study methods based on task requirements, and enhance overall language performance (Oxford, 2017; Liu, 2023). Wenden and Rubin (1987) define language learning strategies (LLSs) as acts that directly stimulate the development of a learner's language system while allowing learners to cognitively manage their learning tasks. Although this definition originates from earlier work, it remains relevant in current research related to second or foreign language strategies (Liu, 2023). Recent studies further highlight that LLSs remain essential for learner autonomy and strategy-based instruction in modern second language acquisition settings (Ali, 2022). Taken together, these studies suggest that the use of LLSs allows learners to become more independent and effective in managing their language learning.

Scholars have commonly categorised LLSs into several interrelated types that support different aspects of the language learning process. The first category is cognitive strategies that involve direct language input through activities such as summarising, inferencing, and rehearsing, which help learners process, understand, and remember linguistic material effectively (Ali, 2022; Liu, 2023). In contrast, metacognitive strategies focus on higher-order thinking processes, including planning, monitoring, and evaluating one's learning (Anthonysamy et al. 2025). Research consistently shows that learners who employ metacognitive strategies are better able to regulate their learning behaviours, set clear goals, and reflect on their progress. Empirical studies by Habók et al. (2022) and Wang et al. (2025), for instance, demonstrate that metacognitive strategy use is strongly associated with higher levels of self-regulation, increased learner autonomy, and improved language proficiency.

Furthermore, affective strategies focus on managing emotions, motivation, and attitudes toward language learning, such as reducing anxiety and increasing self-encouragement (Ibrahim et al., 2024). Although these strategies are sometimes less frequently used than cognitive or metacognitive strategies, they are critical for sustaining engagement and motivation in language tasks (Ali, 2022). Lastly, social strategies involve interaction with peers or instructors, collaboration, and seeking feedback, which foster comprehension and communicative competence within social contexts (Habók et al., 2022).

Recent studies confirm that successful L2 learners strategically combine cognitive, metacognitive, affective, and social strategies depending on task complexity and learning objectives. For example, integrating metacognitive planning with social interaction has been shown to improve both language proficiency and learner confidence (Zhao et al., 2025). Moreover, psychometric analyses of strategy inventories, such as the Strategy Inventory for Language Learning (SILL), continue to validate these four categories as useful instruments used in modern language learning environments (Liu, 2023; Oxford, 2017).

In conclusion, LLSs are dynamic, complex tools that learners use to improve their learning. Cognitive strategies enable active input processing, metacognitive strategies support self-regulation, affective strategies sustain motivation and emotional balance, and social strategies facilitate interaction and collaborative learning. The relevance of these strategies in recent research emphasises their importance in achieving proficiency in a second or foreign language (Ali, 2022; Habók et al., 2022; Zhao et al., 2025).

Figure 1. Conceptual Overview of Language Learning Strategies (LLSs) and Their Role in Language Learning Outcomes

Reciprocal determinism and its relevance to the variables (strategies) in the study

According to Bandura's (1978) proposal of reciprocal determinism in Social Cognitive Theory, learning happens as a result of a dynamic interplay between individual characteristics, behavioral processes and environmental effects. Bandura (1986) emphasises that these three elements interact to shape human learning behavior rather than seeing learning as a straight cause and effect relationship. In line with Schunk and Zimmerman (2012) highlighted that students are active participants who control their thoughts, behaviors and learning environments rather than passive absorbers of knowledge. However, Schunk and Zimmerman expand this framework by concentrating more specifically on self-regulated learning, specifically learners' capacity to monitor, control, and assess their learning strategies, whereas Bandura's perspective mainly emphasises the reciprocal interaction among personal, behavioral and environmental factors. This expansion enhances Social Cognitive Theory's capacity for explanation.

Within Bandura's perspective (1986), behavioural factors are viewed as observable learning actions carried out by learners during instructional activities. In this study, these behavioural factors are represented by cognitive strategies within the behavioural domain, namely rehearsal, organisation, elaboration, and critical thinking. These strategies illustrate how learners actively process language input through repetition, structuring information, integrating ideas, and evaluating learning processes (Oxford, 2017). Behavioural engagement plays a crucial role in learning, as strategies such as repetition contribute to skill development and strengthen learners' self-beliefs and confidence (Schunk & DiBenedetto, 2020). In order to comprehend how learners actively control their learning processes and use language learning techniques during language learning activities, it is crucial to look at these behavioral methods.

Personal factors in reciprocal determinism consist of learners' internal cognitive and affective processes that guide learning behaviour (Bandura, 1986). In this study, the personal dimension is operationalised through metacognitive self-regulation, including learners' ability to plan, monitor and evaluate their learning processes. Metacognitive regulation enables learners to make decisions about strategy selection, adjust learning approaches in response to task difficulty and reflect on learning effectiveness (Schunk & Zimmerman, 2012; Oxford, 2017). Based on a reciprocal framework, personal factors influence behavioural engagement, while outcomes such as successful strategy use to reshape learners' beliefs and motivation regarding their learning capabilities (Bandura, 1997).

Furthermore, environmental factors represent the contextual conditions that support learning (Bandura, 1986). In this study, these factors comprise affiliation-based resource management strategies, namely environmental management, effort management, and help-seeking. These strategies demonstrate learners' ability to organise learning spaces and utilise social support (Schunk & Zimmerman, 2012). Within reciprocal determinism, learners actively shape their environment to facilitate learning (Schunk & DiBenedetto, 2020). Supportive environments promote behavioural engagement and strengthen personal regulation (Panadero & Jarvela et al., 2015). Hence, in order to understand how learners use social and contextual resources to enhance their language learning processes, it is important to look at these environmental aspects.

In conclusion, reciprocal determinism provides an explanatory framework for understanding language learning strategies as an integrated system rather than linear processes (Bandura, 1986). The interaction among power, affective and affiliation illustrates how strategy use evolves through continuous reciprocal interaction in the language learning processes (Oxford, 2017; Schunk & DiBenedetto, 2020).

Past Studies on Language Learning Strategies

Many studies have investigated how learners employ language learning strategies (LLS) and how these strategies are influenced by various learner and contextual factors. Early research highlights that strategy use is closely related to learners' motivation, proficiency, and learning context. For instance, Oxford and Nyikos (1989) examined the types of strategies used by foreign language learners and the factors influencing their selection among 1,200 university students in the United States using the Strategy Inventory for Language Learning (SILL). Their findings showed that motivation, gender, and academic background significantly influenced learners' strategy use, with highly motivated learners employing a wider range of cognitive and metacognitive strategies. Similarly, Griffiths (2003) investigated the relationship between strategy use and language proficiency among 348 adult ESL learners in New Zealand through questionnaires and interviews. The study revealed that more successful learners tended to use strategies more frequently and more effectively than less successful learners. These findings suggest that learners' personal characteristics and behavioural engagement play an important role in shaping their strategy use.

Other studies emphasise the role of instructional and environmental factors in shaping language learning strategies. Chamot (2005) explored the effectiveness of explicit strategy instruction among secondary school language learners in the United States using classroom observations, think-aloud protocols, and learner journals. The findings indicated that students who received strategy instruction demonstrated greater awareness of their learning processes and improved academic performance. In a different context, Magogwe and Oliver (2007) examined strategy use among 480 secondary school students in Botswana learning English as a second language through questionnaires and interviews. Their results showed that learners' strategy choices were influenced by contextual factors such as classroom practices, teacher expectations, and cultural learning environments. Together, these studies indicate that both instructional practices and sociocultural context play a significant role in shaping how learners adopt and apply language learning strategies.

Overall, previous studies indicate that language learning strategies are influenced by a combination of personal, behavioural, and environmental factors such as motivation, proficiency, instructional practices, and sociocultural context (Chamot, 2005; Griffiths, 2003; Magogwe & Oliver, 2007; Oxford & Nyikos, 1989). However, many of these studies tend to examine these factors independently rather than considering their interactive relationship (Oxford, 2017; Griffiths & Oxford, 2014). In contrast, the present study adopts the perspective of reciprocal determinism, which emphasises the dynamic interaction between personal factors,

behaviour, and the learning environment. From this perspective, language learning strategies are not merely individual choices but are shaped through continuous interaction between learners' beliefs, learning behaviours, and the educational context. This approach therefore provides a more comprehensive understanding of how learners develop and sustain effective language learning strategies.

Conceptual Framework of the Study

Figure 1 below presents the conceptual framework of the study. Learning a language is a complex process; learners depend on several strategies to succeed. The study by Rahmat & Thasrabiab (2024) has shown a strong positive relationship between learners' cognition on their motivation. The study has also revealed that there is a strong positive relationship between learners' behavior and motivation. This study is done to extend the relationship to the use of language learning strategies. The concept of this study is rooted on Bandura's (1978) concept of reciprocal determinism which states that in the learning process, factors like the learner (person), the learners' behaviour and their learning environment all interact and influence one another. Hence, this study explores if there is a relationship between language learning strategies. According to Wenden and Rubin (1987), language learners depend on three strategies and they are cognitive components, metacognitive self-regulation and resource management. Additionally, cognitive components are supported by constructs such as (i) rehearsal, (ii) organisation, (iii) elaboration, and (iv) critical thinking. In addition to that, resource management is supported by the constructs such as (i) environment management, (ii) effort management and (iii) help-seeking.

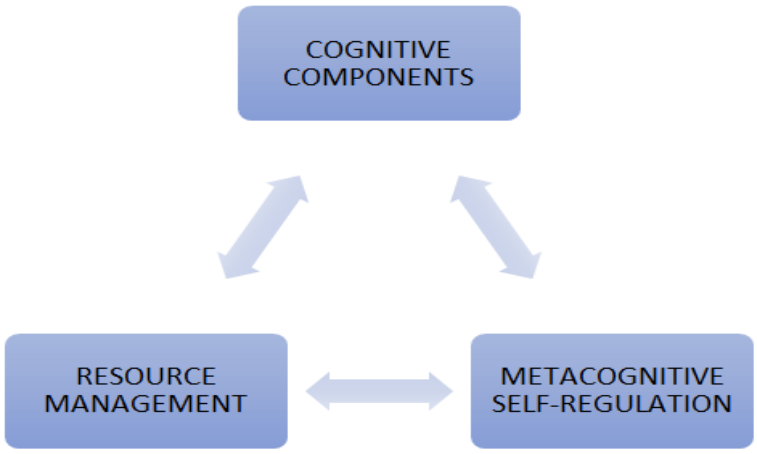

Figure 2- Conceptual Framework of the Study Relationship between all strategies in Language Learning

METHODOLOGY

This quantitative study is conducted to explore language learning strategies and the relationship between all strategies in language learning. A convenience sample of 164 participants was selected from undergraduate students enrolled in a third-language German course at a public university in Malaysia, who responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Wenden & Rubin (1987) to reveal the variables in table 3 below. The survey method was used to efficiently collect quantitative data on learners' perceptions of language learning strategies for statistical analysis of the variables. Table 1 below shows the categories used for the Likert scale; 1 is for Never, 2 is for Rarely, 3 is for Sometimes, 4 is for Very Often and 5 is for Always.

Table 1- Likert Scale Use

1	Never
2	Rarely
3	Sometimes

4	Very Often
5	Always

Table 2- Distribution of Items in the Survey

NO	VARIABLE	STRATEGY		CONSTRUCT	ITEM	TO ITEM	Cronbach Alpha
B	POWER	COGNITIVE COMPONENTS	(a)	Rehearsal	4	19	.932
			(b)	Organisation	4		
			(c)	Elaboration	6		
			(d)	Critical Thinking	5		
C	AFFECTIVE	METACOGNITIVE SELF-REGULATION				11	.859
D	AFFILIATION	RESOURCE MANAGEMENT	(a)	Environment Management	4	12	.810
			(b)	Effort Management	4		
			(c)	Help-Seeking			
						42	.952

Table 2 shows the distribution of items in the survey, which was adapted from the learning strategies framework of Wenden and Rubin (1987). The survey comprised three main constructs. The **Power** construct, focusing on cognitive components, included a total of 19 items divided into Rehearsal (4 items), Organisation (4 items), Elaboration (6 items), and Critical Thinking (5 items). The **Affective** construct, addressing metacognitive self-regulation, consisted of 11 items. The **Affiliation** construct, targeting resource management, included 12 items divided into Environment Management (4 items), Effort Management (4 items), and Help-Seeking (4 items). Overall, the survey instrument demonstrated high internal consistency, with Cronbach's alpha values of .932 for Power, .859 for Affective, .810 for Affiliation, and .952 across all 42 items.

Table 3- Reliability Levels, Cronbach's Alpha Ranges, and Their Interpretations

Reliability Level	Cronbach's Alpha range	Interpretation
Excellent	0.9 and above	Indicates very high internal consistency
Good	0.80-0.89	Reflects strong internal consistency
Acceptable	0.70-0.79	Indicates acceptable internal consistency
Questionable	0.60-0.69	Reflects questionable internal consistency
Poor	Below 0.6	Indicates poor internal consistency

In order to determine the internal reliability of the instrument, reliability analysis is one. Table 3 above shows the distribution and interpretation of Cronbach Alpha range. According to Ahmad,et.al. (2024), Cronbach Alpha scores between 0.7 to 0.9 is considered acceptable to excellent.

Table 2 also shows the reliability of the survey. The analysis shows a Cronbach alpha of .932 for Power, .859 for Affective, .810 for Affiliation. The overall Cronbach alpha for all; 42 items is .952; thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

FINDINGS

Demographic Analysis

According to Zienefuss, et.al (2021), researchers report demographic data in percentages to establish sample representatives, and allow for generalisability to a larger population. The reporting also provides an overview of participants' characteristics. Percentages offer a clear and understandable picture of the sample makeup.

Table 4- Percentage for Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	46%
		Female	54%
2	Cluster	Science & Technology	62%
		Social Sciences & Business	38%
3	Level of German Course	TGC401	38%
		TGC451	34%
		TGC501	28%

Table 4 presents the demographic profile of the respondents involved in this study. In terms of gender, 54% of the respondents were female, while 46% were male, indicating a relatively balanced gender distribution. With regard to the academic cluster, the majority of the respondents were from the Science and Technology cluster at 62%, followed by the Social Sciences and Business cluster at 38%. In addition, respondents were enrolled in different levels of German language courses, with 38% taking TGC401, 34% enrolled in TGC451 and 28% registered for TGC501. This distribution reflects a diverse sample across clusters and levels of German language proficiency.

Descriptive Statistics

Why is there a need to report the mean and standard deviation? According to Vetter (2017), Mean (M) represents the average, or centre of a data set. Standard deviation (SD) indicates the typical distance of individual observations from the mean which shows the data's variability or spread. A low SD means the data points are clustered close to the mean whole a high. SD indicates they are more spread out. It is good to have a high SD.

Findings for Power

This section presents data to answer research question 1- How do learners perceive their power in their language learning? In the context of this study, this is measured by (i) rehearsal, (ii) organisation, (iii) elaboration, and (iv) critical thinking,

Table 5- Mean for Rehearsal (4 items)

ITEM	Mean	SD
LSCCRQ1When I study for the classes, I practice saying the material to myself over and over.	3.7	0.80
LSCCRQ 2When studying for the courses, I read my class notes and the course readings over and over again.	3.76	0.79
LSCCRQ 3I memorise key words to remind me of important concepts in this class.	3.72	0.80
LSCCRQ 4I make lists of important items for the courses and memorise the lists.	3.66	0.96

Table 5 presents the mean scores for rehearsal strategies, indicating a generally high level of use among the respondents. The highest mean was reported for repeatedly reading class notes and course readings (M = 3.76, SD = 0.79), followed closely by memorising key words to recall important concepts (M = 3.72, SD = 0.80) and practising saying the material aloud (M = 3.70, SD = 0.80). Making and memorising lists of important items recorded the lowest mean among the four items, although it remained relatively high (M = 3.66, SD = 0.96). Overall, the findings suggest that students frequently rely on repetition and memorisation techniques to reinforce their understanding and retention of course content.

Table 6- Mean for Organisation (4 items)

ITEM	Mean	SD
LSCCOQ1When I study the readings for the courses in the program, I outline the material to help me organise my thoughts.	3.63	0.83
LSCCOQ 2When I study for the courses, I go through the readings and my class notes and try to find the most important ideas.	3.88	0.80
LSCCOQ 3I make simple charts, diagrams, or tables to help me organise course materials in this program.	3.05	1.12
LSCCOQ 4When I study for the courses, I go over my class notes and make an outline of important concepts.	3.59	0.99

Table 6 shows the mean scores for organisation strategies, revealing moderate to high usage across the four items. Identifying the most important ideas from readings and class notes recorded the highest mean score (M = 3.88, SD = 0.80), indicating that students actively engage in prioritising key information during their studies. Outlining readings to organise thoughts (M = 3.63, SD = 0.83) and making outlines of important concepts from class notes (M = 3.59, SD = 0.99) were also commonly practised. In contrast, creating charts, diagrams, or tables showed the lowest mean (M = 3.05, SD = 1.12), suggesting less frequent use of visual organisation techniques. Overall, the results indicate that students tend to favour text-based organisational strategies over visual methods when managing course materials.

Table 7- Mean for Elaboration (6 items)

ITEM	Mean	SD
LSCCEQ1When I study for the courses in this program, I pull together information from different sources, such as lectures, readings, and discussions.	3.59	0.99
LSCCEQ 2I try to relate ideas in one subject to those in other courses whenever possible	3.31	0.96
LSCCEQ 3When reading for the courses, I try to relate the material to what I already know.	3.78	0.81
LSCCEQ 4When I study for the courses in this program, I write brief summaries of the main ideas from the readings and my class notes.	3.30	0.97
LSCCEQ 5I try to understand the material in the classes by making connections between the readings and the concepts from the lectures.	3.73	0.82
LSCCEQ 6I try to apply ideas from course readings in other class activities such as lecture and discussion.	3.35	0.82

As presented in the findings, the highest mean score was recorded for relating new reading materials to prior knowledge (LSCCEQ3), with a mean of 3.78 (SD = 0.81), showing that learners are strongly engaged with the new information with existing knowledge to enhance understanding. The item followed by making connections between readings and lecture content (LSCCEQ5), which received the second highest mean of 3.73 (SD = 0.82), indicating students' tendency to integrate information across different learning sources. In

contrast, writing summaries of the main ideas from the reading materials and notes received the lowest mean score at 3.30 (SD = 0.97), suggesting that summarisation was less frequently employed as an elaboration strategy. Overall, the findings demonstrate that learners were more inclined to engage in elaboration strategies that adopt connecting and integrating ideas rather than producing written summaries during the learning process.

Table 8 - Mean for Critical Thinking (5 items)

ITEM	Mean	SD
LSCCCTQ1I often find myself questioning things I hear or read in the courses to decide if I find them convincing.	3.61	1.02
LSCCCTQ 2When a theory, interpretation, or conclusion is presented in classes or in the readings, I try to decide if there is good supporting evidence.	3.35	0.90
LSCCCTQ 3I treat the course materials as a starting point and try to develop my own ideas about it.	3.57	0.89
LSCCCTQ 4I try to play around with ideas of my own related to what I am learning in the courses.	3.60	0.93
LSCCCTQ Whenever I read or hear an assertion or conclusion in the classes, I think about possible alternatives.	3.40	0.94

Table 8 showed the results for critical thinking, the highest mean score was recorded for item related to indicating that learners frequently questioned ideas encountered in course materials (LSCCCTQ1) to determine the validity, with a mean of 3.61 (SD =1.02), showing active engagement in evaluative and critical thinking processes. This was followed by exploring personal ideas related to course learning (LSCCCTQ 4), which received the second-highest mean of 3.60 (SD = 0.93), indicating students' tendency to engage with the course content by generating their own ideas. In contrast, the presence of supporting evidence for theories or interpretations received the lowest mean score at 3.35 (SD = 0.90), indicating moderate engagement in analytical and evidence-based thinking. Overall, learners demonstrated moderate engagement in critical thinking strategies, which actively make reflection and idea exploration about course content rather than rigorous evidence-based evaluation.

Findings for Affective components

This section presents data to answer research question 2- How do learners perceive their affective components in their language learning? In the context of this study, this is measured by metacognitive components.

Table 9- Mean for Metacognitive Self-Regulation (11 items)

ITEM	Mean	SD
MSSRQ1During class time, I often miss important points because I am thinking of other things.	3.00	1.07
MSSRQ 2When reading for the courses, I make up questions to help focus my reading.	3.26	0.95
MSSRQ 3When I become confused about something I am reading for the classes, I go back and try to figure it out.	3.86	0.85
MSSRQ 4If course readings are difficult to understand, I change the way I read the material.	3.47	0.87
MSSRQ 5Before I study new course material thoroughly, I often skim it to see how it is organised	3.39	0.96
MSSRQ 6I ask myself questions to make sure I understand the material I have been studying in this program.	3.57	0.86
MSSRQ7I try to change the way I study in order to fit any course requirements and the	3.45	0.91

instructors' teaching style.		
MSSRQ8I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying for the courses in this program.	3.42	0.92
MSSRQ 9 When studying for the courses in this program I try to determine which concepts I do not understand well.	3.85	0.80
MSSRQ 10When I study for the courses, I set goals for myself in order to direct my activities in each study period.	3.46	0.97
MSSRQ 11 If I get confused taking notes in classes, I make sure I sort it out afterwards.	3.66	0.90

Table 9 shows the mean scores for the Metacognitive Self-Regulation strategy, comprising 11 items adapted from the MSLQ. Overall, the findings indicate a moderate to high level of metacognitive engagement among the respondents, with mean scores ranging from 3.00 to 3.86. The highest mean is recorded for Item MSSRQ3 (M = 3.86, SD = 0.85), suggesting that learners are particularly proactive in monitoring their understanding and taking steps to clarify concepts when they encounter difficulties while reading course materials Similarly, relatively high means are observed for MSSRQ9 (M = 3.85, SD = 0.80) and MSSRQ11 (M = 3.66, SD = 0.90), reflecting learners' recognition of areas they find challenging and their proactive efforts to resolve misunderstandings, such as reviewing unclear concepts or clarifying notes after class. In contrast, MSSRQ1 shows the lowest mean (M = 3.00, SD = 1.07), suggesting that some learners still experience difficulty maintaining sustained attention during lessons. Overall, these results indicate that respondents exhibit a fair degree of metacognitive control - planning, monitoring, and evaluating their learning - but there is still room for improvement in maintaining focus and consistency throughout classroom activities.

Findings for Affiliation

This section presents data to answer research question 3- How do learners perceive their resource management in their language learning? In the context of this study, this is measured by (i) environment management, (ii) effort management and (iii) help-seeking.

Table 10- Mean for Environment Management (5 items)

ITEM	Mean	SD
RMCEMQ1 I usually study in a place where I can concentrate on my course work.	3.73	0.85
RMCEMQ 2 I make good use of my study time for the courses in this program.	3.63	0.87
RMCEMQ3 I have a regular place set aside for studying	3.69	0.90
RMCEMQ4 Imake sure that I keep up with the weekly readings and assignments for the courses.	4.50	0.72
RMCEMQ5 I attend the classes regularly in this program.	3.55	0.99

Table 10 presents the mean scores for environment management strategies. Overall, the findings indicate a moderate to high level of environmental management among the respondents. RMCEMQ4 obtained the highest mean score (M = 4.50, SD = 0.72), showing that students have good control over their learning responsibilities. This is followed by RMCEMQ1 (M = 3.73, SD = 0.85) and RMCEMQ3 (M = 3.69, SD = 0.90), suggesting that learners are generally able to manage their learning environment effectively. In contrast, RMCEMQ2 (M = 3.63, SD = 0.87) and RMCEMQ5 (M = 3.55, SD = 0.99) showed relatively lower mean scores. These findings imply that although students exhibit a respectable awareness of environmental management techniques, they may still need to make improvements in terms of attendance consistency and effective study time management.

Table 11- Mean for Effort Management (4 items)

ITEM	Mean	SD
RMCEMQ1 I have a regular place set aside for studying	3.55	0.99
RMCEMQ2 I work hard to do well in the classes in this program even if I do not like what we are doing.	3.76	0.87
RMCEMQ3 When course work is difficult, I either give up or only study the easy parts.	3.70	1.13
RMCEMQ4 Even when course materials are dull and uninteresting, I manage to keep working until I finish.	3.88	0.83

The average scores for effort management techniques are displayed in Table 11. Overall, the results show that respondents had a moderate to high level of effort management. The highest mean score was reported for RMCEMQ4 (M = 3.88, SD = 0.83), indicating that students tend to persist in their learning tasks even when faced with challenges. This is followed by RMCEMQ2 (M = 3.76, SD = 0.87), reflecting a generally positive level of effort and commitment toward academic performance. However, RMCEMQ3 recorded a relatively lower mean score (M = 3.70, SD = 1.13), suggesting that some students may experience difficulties sustaining effort when tasks become more demanding. The lowest mean was observed for RMCEMQ1 (M = 3.55, SD = 0.99), indicating variability in students' consistency in maintaining structured study routines.

Table 12- Help-Seeking (2 items)

ITEM	Mean	SD
RMCHSQ1When I cannot understand the material in a course, I ask another student in the class for help.	3.45	1.03
RMCHSQ 2I try to identify students in the classes whom I can ask for help if necessary.	408	0.91
RMCHSQ 3 When I cannot understand the course material, I ask my friends from other class for help	3.34	1.28
RMCHSQ 4 When I cannot understand the course material, I ask my seniors who have taken the course previously for help	2.62	1.34

Table 12 displays the average scores for the help-seeking strategies employed by students encountering challenges in their courses. The findings indicate that students moderately employ help-seeking strategies when facing academic difficulties, with a stronger preference for seeking assistance from classmates and close peers rather than seniors. The high mean score for identifying classmates who can provide help (M = 4.08) and asking classmates directly for assistance (M = 3.45) suggests that students value immediate peer support within their learning environment. This result is consistent with previous studies emphasising the importance of social strategies in language learning, where interaction with peers promotes knowledge sharing, collaboration, and improved comprehension (Habók et al., 2022; Ali, 2022). Similarly, the moderate tendency to seek help from friends in other classes (M = 3.34) shows that students are willing to extend their support networks beyond the classroom, although familiarity with classmates may make them the preferred source of help. In contrast, the lower mean score for seeking assistance from seniors (M = 2.62) suggests that students may perceive seniors as less accessible or may feel hesitant to approach individuals outside their immediate peer group. Overall, these findings align with previous literature highlighting that learners often rely more on peers within their immediate social and academic circles, reinforcing the role of social interaction and collaboration as key components of effective learning strategies.

Exploratory Statistics

According to He (2024), correlation is a statistical technique that shows how strongly two variables are related to each other or the degree of association between the two. It's a common tool for describing simple relationships without making a statement about cause and effect. This section presents data to answer research

questions on correlation.

Findings for Relationship between power and affective components

This section presents data to answer research question 4- Is there a relationship between power and affective components?

(H1-There is no relationship between power and affective components)

To determine if there is a significant association in the mean scores between power and affective components, data is analysed using SPSS for correlations. Results are presented separately in table 13 below.

Table 13- Correlation between power and affective components

		POWER	AFFECTIVE
POWER	Pearson (Correlation	1	.805**
	Sig (2-tailed)		<.001
	N	164	164
AFFECTIVE	Pearson (Correlation	.805**	1
	Sig (2-tailed)	<.001	
	N	164	164

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

Table 13 shows there is an association between power and affective components. Correlation analysis shows that there is a high significant association between power and affective components (r=.805**) and (p=.000). According to He (2024), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between power and affective components. Null hypothesis is rejected.

Findings for Relationship between affective and affiliation

This section presents data to answer research question 5- Is there a relationship between affective and affiliation?

(H2-There is no relationship between affective and affiliation)

To determine if there is a significant association in the mean scores between affective and affiliation, data is analysed using SPSS for correlations. Results are presented separately in table 14 below.

Table 14- Correlation between affective and affiliation

		AFFECTIVE	AFFILIATION
AFFECTIVE	Pearson (Correlation	1	.734**
	Sig (2-tailed)		<.001
	N	164	164
AFFILIATION	Pearson (Correlation	.734**	1
	Sig (2-tailed)	<.001	
	N	164	164

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

Table 14 shows there is an association between affective and affiliation. Correlation analysis shows that there is a high significant association between affective and affiliation (r=.314**) and (p=.000). According to He (2024), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between affective and affiliations. Null hypothesis is rejected.

Findings for Relationship between resource management and cognitive components

This section presents data to answer research question 6- IIs there a relationship between affiliation and power?

(H3-There is no relationship between affiliation and power)

To determine if there is a significant association in the mean scores between affiliation and power, data is analysed using SPSS for correlations. Results are presented separately in table 3, 4, 5 and 6 below.

Table 14- Correlation between affiliation and power

		AFFILIATION	POWER
SOCIAL SUPPORT	Pearson (Correlation	1	.707**
AFFILIATION	Sig (2-tailed)		<.001
	N	164	164
POWER	Pearson (Correlation	.707**	1
	Sig (2-tailed)	<.001	
	N	164	164

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

Table 14 shows there is an association between affiliation and power. Correlation analysis shows that there is a high significant association between affiliation and power (r=.707**) and (p=.000). According to He (2024), coefficient is significant at the .05 level and a positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between affiliation and power.Null hypothesis is rejected.

Inferential Statistics

According to He (2024), there are three main functions of a T-test and ANOVA. Firstly, both are done to compare means. This test is also done to determine if the average scores (mean) or values of two groups, or one group against a known value, are different enough to be considered statistically meaningful and are not just due to random chance. Secondly, T-test and ANOVA are done to test hypotheses. Researchers use t-tests and ANOVA to test hypotheses about means, such as whether a new treatment significantly impacts a variable or if there's a difference in performance between two distinct groups. Lastly, T-test and ANOVA are done to identify significant differences. The output of a t-test provides a p-value (significance value). If this p-value is below a predetermined threshold (often 0.05), it indicates a statistically significant difference, allowing researchers to draw conclusions about the populations from which their samples were drawn.

Findings for Significant Difference for all factors across Clusters

This section presents data to answer research question 7: Is there a significant difference for all components for learning across clusters?

(H4-There is no significant all components for learning across clusters)

Table 15- T-test for significant difference all components for learning across clusters)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance		Mean	Std. Error	95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Difference	Difference	Lower	Upper
POWER	Equal variances assumed	.000	.983	-2.681	162	.004	.008	-.25638	.09563	-.44521	-.06754
	Equal variances not assumed			-2.689	132.952	.004	.008	-.25638	.09535	-.44497	-.06778
AFFECTIVE	Equal variances assumed	.906	.343	-2.087	162	.019	.038	-.19599	.09391	-.38144	-.01055
	Equal variances not assumed			-2.116	137.571	.018	.036	-.19599	.09263	-.37915	-.01284
AFFILIATION	Equal variances assumed	1.007	.317	-1.495	162	.068	.137	-.13497	.09027	-.31323	.04329
	Equal variances not assumed			-1.448	118.240	.075	.150	-.13497	.09319	-.31951	.04956

With reference to table 15, a T-test was conducted to examine the effects of all components for learning across clusters. The analysis shows there is no significant difference between power (F=0.00, p=0.008), and affiliation (F=1.007, p=0.137) across clusters. Null hypothesis is accepted.

However, there is a significant difference for affective components (F=0.906, p=0.038) across clusters. Null hypothesis is rejected.

FINDINGS AND DISCUSSIONS

The findings show that students' perceived power in language learning is reflected in their use of cognitive strategies. Students actively employed rehearsal strategies such as repeated reading, memorisation, and practicing aloud, indicating responsibility for managing their learning, which is linked to self-efficacy (Mohamed Adnan & Ghazali, 2011). In terms of organisation**,** students focused more on identifying key ideas than using visual tools, consistent with previous research (Masbirorotni & Fajaryani, 2020). For elaboration, students commonly connected new information to prior knowledge, supporting self-directed learning and better understanding (Fan, 2020; Teng, 2023). In critical thinking, students frequently questioned information and explored their own ideas, aligning with studies showing that active questioning enhances critical thinking skills (Wale & Bishaw, 2020). These findings indicate that students actively control their learning process, demonstrating a strong sense of power in language learning.

Another variable tested was Affective. In Metacognitive Self-Regulation, students mainly resolved confusion by revisiting reading materials and clarifying unclear concepts, while missing important points in class was less common. This shows that students perceive their affective components positively, as they are aware of their learning difficulties and take steps to regulate their understanding. These findings are supported by Amini, Anhari, and Ghasemzadeh (2020), who found that higher awareness and use of metacognitive strategies are associated with stronger self-regulated learning, and by Siregar, Lengkanawati, and Damayanti (2024), who showed that metacognitive strategy use enhances learners' awareness and control of their cognitive processes.

The third variable examined how Affiliation influences language learning through students' resource management strategies, including environment management, effort management, and help-seeking. Students perceive affiliation positively, as they rely on peer support when seeking help and collaborating on tasks. They demonstrate strong commitment to learning by keeping up with readings and assignments and by persevering with learning tasks. However, they are less consistent in attending classes, maintaining a regular study environment, and seeking assistance from senior students. These results align with previous research, indicating that learners value peer support while still needing to improve study environment management, routines, and broader support utilisation (Amini, Anhari, & Ghasemzadeh, 2020; Siregar & Lengkanawati, 2021; Smith & Johnson, 2022; Lee, 2023).

The analyses revealed that the relationships among all three variables are positive, significant, and strong. The findings indicate significant interrelationships among the components of learning. Strong positive correlations were observed between power and affective**,** affective and affiliation**,** as well as affiliation, and power**.** This suggests that students' cognitive control, emotional and metacognitive self-regulation, and social interaction strategies mutually reinforce one another**.** These results align with previous research showing that different language learning strategy components — including metacognitive, affective, and social strategies — are significantly related to learners' use of strategies and outcomes (Rasit & Ismail, 2024).

The analysis of all components of learning across clusters revealed no significant differences in power and affiliation, with mean scores similar across clusters. In contrast, a significant difference was found in the affective component, indicating that some clusters demonstrated higher levels of emotional and metacognitive self-regulation than others. This suggests that students' cognitive control and social collaboration are relatively consistent across clusters, whereas their affective strategies vary. Previous research, however, has reported significant differences in strategy use between learners of different proficiency levels, with higher-proficiency learners using metacognitive, affective, and social strategies more frequently than lower-proficiency learners (Ho & Ng, 2017; Habók, Magyar & Molnár, 2022). Overall, the difference is that the current study found variation only in the affective component, while power and affiliation were similar across clusters, unlike previous studies that reported significant differences in all strategy components based on students' proficiency levels.

CONCLUSION

Summary of Findings and Discussions

Overall, the findings show that German language students' learning strategies play an important role in supporting their language learning. The students demonstrated strong use of cognitive strategies, indicating active and self-regulated learning behaviour, which reflects their sense of power and self-efficacy. For the affective component, students showed positive metacognitive self-regulation by monitoring their learning difficulties and reviewing learning materials to improve their understanding

For the affiliation component, students showed positive attitudes toward peer support and collaboration, although improvements are needed in maintaining consistent study habits, class attendance, and help-seeking behaviours. The results also showed significant positive relationships among the power, affective, and affiliation components, supporting the reciprocal determinism framework. In addition, no significant differences were found in power and affiliation across clusters, while significant differences were observed in the affective component.

In conclusion, the study highlights the importance of integrating cognitive, affective, and social strategies to support effective language learning, particularly in the context of learning German as a third language.

Implications and Suggestions for Future Research

Theoretical and Conceptual Implications

The study demonstrates strong positive relationships among cognitive, metacognitive, and resource management strategies, indicating that students' thinking processes, self-regulation, and use of learning resources work together to support language learning. Variations in the metacognitive and affective components suggest that emotional and self-regulation strategies are particularly sensitive in reflecting differences between learners. Overall, the findings confirm that learners' cognition, strategy use, and engagement are interconnected, highlighting that effective language learning involves multiple, interacting dimensions. This supports Bandura's (1978) concept of reciprocal determinism, emphasizing that learners' strategies, behaviours, and learning environment mutually influence one another. The study underscores the importance of designing language learning interventions that simultaneously address cognitive, metacognitive, and resource management strategies.

Pedagogical Implications

The findings indicate that teaching should develop cognitive, metacognitive, affective, and social strategies together rather than separately. Language teachers can integrate strategy instruction into everyday lessons, encourage reflection through activities such as learning journals or self-assessment, and provide planned opportunities for peer interaction and collaborative learning. Additional and differentiated support should be offered to students who need help with emotional regulation or self-monitoring. Overall, language classrooms should promote holistic and self-regulated learning, where students actively manage their thinking, emotions, and learning resources.

Suggestions for Future Research

Future research should move beyond correlational findings by conducting intervention-based studies to examine how explicit instruction in cognitive, metacognitive, affective, and social strategies influences students' self-regulated learning and language achievement. In addition, researchers should investigate how differences in learners' affective regulation contribute to variations in learning outcomes across groups, as this component showed the greatest variation in the present study. Future studies may also consider using qualitative or longitudinal approaches to gain deeper insights into learners' strategy development over time.

This study is impactful both theoretically and practically as it provides empirical evidence on the relationship between cognitive, affective, and social learning strategies in learning German as a third language. The findings offer important pedagogical implications for language instructors in designing learning activities that promote cognitive engagement, emotional regulation, and peer collaboration to enhance learning effectiveness. The novelty of this study lies in its comprehensive analysis of multidimensional language learning strategies within the reciprocal determinism framework in the context of German as a third language in Malaysia. Unlike previous studies that examined learning strategies in isolation, this study provides a more holistic understanding of how cognitive, affective, and social dimensions interact to influence self-regulated learning and student achievement.

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