The Effect of Learner Background on the Use of Metacognitive Strategies in Mandarin and Arabic Learning

[1]Chan Yann Sheng, [2]Chong Oi Leng*, [3]Gan Kiat Chien, [4]Lai Yuh Ying, [5]Irene Yoke Chu Leong

[1, 2, 5]Academy of Language Studies, Universiti Teknologi MARA, Malacca Branch, Campus Bandaraya Melaka

[3, 4]Academy of Language Studies, Universiti Teknologi MARA, Malacca Branch, Campus Alor Gajah Melaka

***Corresponding Author**

DOI: https://doi.org/10.47772/IJRISS.2025.924ILEIID004

Received: 23 September 2025; Accepted: 30 September 2025; Published: 29 October 2025

ABSTRACT

This study examines the influence of learner background on the application of metacognitive learning methods among undergraduate students in Mandarin and Arabic language courses. The Strategy Inventory for Language Learning (SILL), a nine-item metacognitive questionnaire created by Oxford in 1990, was utilized to gather data. Specifically, it investigates whether prior exposure to the target language (e.g., through kindergarten, school, or tuition centres) influences learners' engagement in metacognitive practices. A quantitative survey was conducted among 137 undergraduates enrolled in Mandarin and Arabic courses in public university. Independent Samples t-tests revealed no statistically significant differences in the use of metacognitive strategies between learners with and without prior language exposure ($p > .05$ across all items). Descriptive statistics, however, indicated clear preferences in strategy use. The most commonly employed strategies were internally focused, such as reflecting on learning progress ($M = 4.09$), striving to become better learners ($M = 4.04$), and paying attention during conversations ($M = 3.97$). In contrast, externally oriented strategies such as seeking conversation partners ($M = 3.57$) and planning study schedules ($M = 3.62$) were less frequently used. These findings suggest that while learner background does not significantly impact metacognitive strategy use, learners prefer reflective and self-regulatory approaches over socially interactive strategies. The study highlights the importance of fostering interactive learning environments to balance metacognitive development in language acquisition.

Keywords: metacognitive learning strategies, learner background, Mandarin, Arabic

INTRODUCTION

Background

Research on language learning techniques has drawn more interest in recent decades, especially in the field of second language acquisition (SLA). Metacognitive methods, which encompass planning, monitoring, and evaluating one's learning, are often considered essential for successful language learning (O'Malley & Chamot, 1990; Oxford, 1990). Learners who effectively employ metacognitive strategies are better able to regulate their study habits, reflect on their progress, and adapt their approaches to improve learning outcomes.

Mandarin and Arabic, two languages with growing worldwide importance, provide unique challenges for students due to their various linguistic traits and cultural settings. In multilingual settings such as Malaysia, where students often have prior exposure to multiple languages, it is important to understand how learners approach these languages strategically. However, while previous studies have explored strategy use in common second languages such as English, there has been relatively limited research on strategy use in Mandarin and Arabic, particularly at the undergraduate level.

Problem Statement

Although learner background such as early exposure to the target language might be expected to influence strategy use, empirical evidence has been inconsistent. Some studies suggest that prior experience fosters more advanced strategic awareness, while others indicate little to no difference once learners enter formal instruction (Vandergrift & Goh, 2012). To date, there has been limited research examining whether prior exposure to Mandarin or Arabic shapes learners' adoption of metacognitive strategies in a higher education context. Addressing this gap is crucial for both theory and pedagogy, as it can inform how language programs support learners with diverse backgrounds.

Research questions

What is the overall level (mean scores) of metacognitive learning strategies used by undergraduates in Mandarin and Arabic courses?

What are the preferred patterns of metacognitive learning strategies among undergraduates in Mandarin and Arabic courses?

Are there significant differences in the use of metacognitive learning strategies between learners with and without prior exposure to Mandarin and Arabic?

LITERATURE REVIEW

Research on language learning strategies (LLS) has played a key role in understanding how learners approach the process of acquiring a new language. Early foundational studies (Rubin, 1975; Stern, 1983) emphasized the behaviors of "good language learners," leading to the development of formal strategy taxonomies. Oxford's (1990) Strategy Inventory for Language Learning (SILL) remains one of the most widely used instruments, classifying strategies into six categories: cognitive, metacognitive, memory, compensation, affective, and social. Among these, metacognitive strategies are considered particularly influential because they enable learners to regulate their learning processes by planning, monitoring, and evaluating progress (O'Malley & Chamot, 1990).

Metacognitive strategies include planning study activities, monitoring comprehension, and reflecting on learning outcomes (Anderson, 2002). Students that utilize these tactics tend to be more independent and proficient in self-directed learning. Previous research has shown that metacognitive awareness enhances performance in listening (Vandergrift, 2005), reading (Zhang & Wu, 2009), and speaking (Goh, 1998). Moreover, metacognitive strategy use has been linked to improved learner motivation, autonomy and persistence (Wenden, 1998). Although significant, research indicates that learners often fail to utilize these tactics systematically, necessitating formal instruction to promote their application (Chamot, 2005).

While the majority of LLS research has focused on English as a Second Language (ESL), studies on Mandarin and Arabic have gradually increased. Research in Mandarin learning contexts (Gao, 2006; Raoofi, 2012) indicates that learners frequently depend on memorization strategies but increasingly benefit from metacognitive practices such as goal-setting and reflection. Similarly, studies in Arabic learning contexts (Al-Buainain, 2010; Khaldieh, 2000) highlight challenges due to diglossia and orthographic complexity, with learners turning to metacognitive strategies to monitor progress and overcome difficulties. The findings indicate that metacognitive methods may provide a compensatory role when linguistic complexity increases.

Learner background, especially previous exposure to the target language, has been suggested as a factor influencing strategy use. Certain research contend that early exposure augments metacognitive awareness and promotes more effective plan implementation (Victori & Lockhart, 1995). For instance, Vandergrift (2005) reported that learners with more exposure demonstrated greater use of planning and monitoring strategies. Nevertheless, other studies (Griffiths, 2003; Peacock & Ho, 2003) revealed no significant differences, indicating that the use of strategies may be more reliant on current learning contexts and instructional practices than on past exposure. However, newer studies on Mandarin learners provide updated insights. For instance, Boon (2023) and Gan et al. (2022) highlight how learner background and learning mode (face-to-face vs. online) can influence the strategies adopted, underscoring the need to consider contemporary educational settings when analysing strategy use. This mixed evidence highlights the need to investigate whether prior language exposure influences strategy utilization in understudied languages like Mandarin and Arabic.

METHODOLOGY

This study involved 137 undergraduate students who were enrolled in Mandarin and Arabic language courses at a public university in Malaysia. Of these, 46 students reported having no prior exposure to the target language, whereas 91 students reported having prior exposure (via kindergarten, primary/secondary school, or tutoring centres). The sample size was deemed adequate for the use of independent samples t-tests, which require reasonably balanced groups.

Data were collected using the metacognitive strategies subscale of Oxford's (1990) Strategy Inventory for Language Learning (SILL). The adapted questionnaire consisted of nine items designed to measure learners' use of reflective, self-regulatory, and interactive strategies in language learning. Responses were evaluated using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

The instrument has demonstrated reliability in diverse contexts (Green & Oxford, 1995). However, as a self-report measure, it may introduce response bias. Data were analyzed using descriptive statistics and independent samples t-tests. In addition, Cohen's d was calculated to assess practical significance, and a post-hoc power analysis was conducted to evaluate the adequacy of the sample size.

RESULTS AND DISCUSSION

This section provides the background information and analysis of the participants' experiences with the use of metacognitive learning strategies by undergraduate students enrolled in Mandarin and Arabic language departments. Oxford (1990) developed the Strategy Inventory for Language Learning (SILL), which is a reliable instrument for evaluating metacognitive strategies due to its excellent internal consistency. Previous research that has employed the SILL in a variety of language learning contexts is in line with this dependability finding (Green & Oxford, 1995).

Reliability Test

A reliability analysis we conducted on the nine-item metacognitive strategy scale. The instrument showed great internal consistency, with a Cronbach's alpha of .916 (Table 1). Cronbach's alpha values for the instruments in table 1 are greater than 0.70. Therefore, the scale of all the items in this study can be considered as having high reliability and validity.

Table 1
Case Processing Summary

		N	%
Cases	Valid	137	100.0
	Excluded[a]	0	.0
	Total	137	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.916	9

Table 2: Overall metacognitive learning strategies used by the Degree Students

Descriptive Statistics

	N	Mean	Std. Deviation
1. I try to find as many ways as I can to use my Mandarin/ Arabic.	137	3.59	.887
2. I notice my Mandarin/ Arabic mistakes and use that information to help me do better.	137	3.92	.832
3. I pay attention when someone is speaking Mandarin/ Arabic .	137	3.97	.848
4. I try to find out how to be a better learner of Mandarin/ Arabic.	137	4.04	.808
5. I plan my schedule so I will have enough time to study Mandarin/ Arabic.	137	3.62	.841
6. I look for people I can talk to in Mandarin/ Arabic.	137	3.57	.938
7. I look for opportunities to read as much as possible in Mandarin/ Arabic.	137	3.78	.953
8. I have clear goals for improving my Mandarin/ Arabic skills.	137	3.90	.868
9. I think about my progress in learning Mandarin/ Arabic.	137	4.09	.827
Valid N (listwise)	137		

Descriptive statistics showed that participants used more internally focused techniques than externally oriented ones (see Table 2). The most frequently used strategies included thinking about learning progress (M = 4.09, SD = 0.83), trying to become a better learner (M = 4.04, SD = 0.81), and paying attention when someone was speaking (M = 3.97, SD = 0.85). In contrast, the least frequently used strategies were looking for people to converse with (M = 3.57, SD = 0.94) and planning study schedules (M = 3.62, SD = 0.84).

Table 3: Metacognitive Learning Strategies used by Degree students

Group Statistics

	Q2. Do you learn Mandarin/Arabic before? (Kindergarden, primary school, tuition centre, college, university) 1 : No 2: Yes	N	Mean	Std. Deviation	Std. Error Mean
1. I try to find as many ways as I can to use my Mandarin/ Arabic.	1	46	3.61	.856	.126
	2	91	3.58	.908	.095
2. I notice my Mandarin/ Arabic mistakes and use that information to help me do better.	1	46	3.76	.899	.133
	2	91	4.00	.789	.083
3. I pay attention when someone is speaking Mandarin/ Arabic .	1	46	3.91	.890	.131
	2	91	4.00	.830	.087
4. I try to find out how to be a better learner of Mandarin/ Arabic.	1	46	4.07	.904	.133
	2	91	4.02	.760	.080
5. I plan my schedule so I will have enough time to study Mandarin/ Arabic.	1	46	3.48	.836	.123
	2	91	3.69	.839	.088
6. I look for people I can talk to in Mandarin/ Arabic.	1	46	3.67	.920	.136
	2	91	3.52	.947	.099
7. I look for opportunities to read as much as possible in Mandarin/ Arabic.	1	46	3.72	1.004	.148
	2	91	3.81	.930	.097
8. I have clear goals for improving my Mandarin/ Arabic skills.	1	46	3.96	.868	.128
	2	91	3.87	.872	.091
9. I think about my progress in learning Mandarin/ Arabic.	1	46	3.93	.929	.137
	2	91	4.16	.764	.080

Table 4: Independent T-Test for Equality of Means for Metacognitive Learning Strategy

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
					Significance				95% Confidence Interval of the Difference	
	F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
1. I try to find as many ways as I can to use my Mandarin/ Arabic.	.793	.375	.163	135	.435	.871	.026	.161	-.292	.345
			.166	95.309	.434	.868	.026	.158	-.287	.340
2. I notice my Mandarin/ Arabic mistakes and use that information to help me do better.	2.139	.146	-1.598	135	.056	.112	-.239	.150	-.535	.057
			-1.531	80.727	.065	.130	-.239	.156	-.550	.072
3. I pay attention when someone is speaking Mandarin/ Arabic .	.763	.384	-.565	135	.286	.573	-.087	.154	-.391	.217
			-.552	85.037	.291	.582	-.087	.157	-.400	.226
4. I try to find out how to be a better learner of Mandarin/ Arabic.	1.653	.201	.295	135	.384	.769	.043	.147	-.247	.333
			.278	77.883	.391	.781	.043	.155	-.266	.352
5. I plan my schedule so I will have enough time to study Mandarin/ Arabic.	.050	.823	-1.411	135	.080	.160	-.214	.152	-.514	.086
			-1.413	90.712	.081	.161	-.214	.151	-.515	.087
6. I look for people I can talk to in Mandarin/ Arabic.	.077	.782	.928	135	.178	.355	.157	.170	-.178	.493
			.936	92.786	.176	.352	.157	.168	-.176	.491
7. I look for opportunities to read as much as possible in Mandarin/ Arabic.	.557	.457	-.554	135	.290	.580	-.096	.173	-.438	.246
			-.541	84.568	.295	.590	-.096	.177	-.448	.257
8. I have clear goals for improving my Mandarin/ Arabic skills.	.151	.698	.561	135	.288	.576	.088	.158	-.223	.400
			.562	90.789	.288	.576	.088	.157	-.224	.401
9. I think about my progress in learning Mandarin/ Arabic.	.024	.877	-1.546	135	.062	.124	-.230	.149	-.524	.064
			-1.450	76.577	.076	.151	-.230	.159	-.546	.086

Independent Samples t-tests revealed no statistically significant differences in metacognitive strategy use between learners with and without prior exposure (all $p > .05$, Cohen's $d < 0.20$). A post-hoc power analysis indicated that while the study was adequately powered to detect medium effects, it may not have been sufficient for small effects.

The findings indicated that learners, regardless of prior exposure, consistently preferred reflective and self-regulatory strategies over socially interactive ones. This preference aligns with previous research showing that students often prioritize self-directed regulation—such as evaluating their progress and setting goals—rather than seeking conversation partners (O'Malley & Chamot, 1990; Zhang & Goh, 2006).

Contrary to studies suggesting that early exposure enhances strategic awareness (e.g., Vandergrift, 2005), our data showed no significant differences between groups. A possible explanation is that metacognitive strategies are transferable across contexts, and learners without prior exposure may quickly acquire them once engaged in structured university courses. This highlights the influence of institutional contexts in Malaysia, where structured instruction, individual study, and examinations dominate, potentially leading to limited emphasis on collaborative strategies.

CONCLUSION

This study demonstrates that background factors such as prior exposure are less decisive than current learning contexts in shaping strategy use. The key implication is that educators should foster a balance between reflective and interactive strategies, ensuring that learners not only monitor and evaluate their progress but also engage actively with peers. Designing collaborative classroom tasks and integrating explicit strategy training can help cultivate more versatile and independent learners.

Future research should extend this work by using longitudinal designs, contrasting learners at different proficiency levels, and examining cultural factors that shape metacognitive preferences. Employing multivariate analyses that control for variables such as proficiency, age, and motivation would also deepen understanding of strategy use in multilingual contexts. This would enrich our knowledge of how learners confront the challenges of mastering complex languages like Mandarin and Arabic.

REFERENCES

1. Al-Buainain, H. (2010). Language learning strategies employed by English majors at Qatar University: Questions and queries. Asian EFL Journal, 12(2), 115–153.
2. Anderson, N. J. (2002). The role of metacognition in second language teaching and learning. ERIC Digest. ERIC Clearinghouse on Languages and Linguistics. https://files.eric.ed.gov/fulltext/ED463659.pdf
3. Boon, E. S., Soo, Y. P., Lai, Y. Y., & Gan, K. C. (2023, September). Learning strategies of non-science and science undergraduates in learning Mandarin. In International Conference of Research on Language Education. European Proceedings of Educational Sciences, EpES, 23097, 659–669. https://doi.org/10.15405/epes.23097.59
4. Chamot, A. U. (2005). Language learning strategy instruction: Current issues and research. Annual Review of Applied Linguistics, 25, 112–130. https://doi.org/10.1017/S0267190505000061
5. Gan, K. C., Lai, Y. Y., Soo, Y.-P., Eng, S. B., & Yeap, C. K. (2022). Indirect Learning Strategies of Mandarin as A Foreign Language Learners During Online Learning in COVID-19 Pandemic Period. International Journal of Academic Research in Progressive Education and Development, 11(3), 1509–1519. https://doi.org/10.6007/ijarped/v11-i3/14992
6. Gao, X. (2006). Understanding changes in Chinese students' uses of learning strategies in China and Britain: A socio-cultural re-interpretation. System, 34(1), 55–67. https://doi.org/10.1016/j.system.2005.04.003
7. Goh, C. C. M. (1998). How ESL learners with different listening abilities use comprehension strategies and tactics. Language Teaching Research, 2(2), 124–147. https://doi.org/10.1177/136216889800200203
8. Green, J. M., & Oxford, R. L. (1995). A closer look at learning strategies, L2 proficiency, and gender. TESOL Quarterly, 29(2), 261–297. https://doi.org/10.2307/3587625
9. Griffiths, C. (2003). Patterns of language learning strategy use. System, 31(3), 367–383. https://doi.org/10.1016/S0346-251X(03)00048-4
10. Khaldieh, S. A. (2000). Learning strategies and writing processes of proficient vs. less-proficient learners of Arabic as a foreign language. Foreign Language Annals, 33(5), 522–533. https://doi.org/10.1111/j.1944-9720.2000.tb01995.x
11. O'Malley, J. M., & Chamot, A. U. (1990). Learning strategies in second language acquisition. Cambridge University Press, 99-100.
12. Oxford, R. L. (1990). Language learning strategies: What every teacher should know. Heinle & Heinle, 135-144.
13. Peacock, M., & Ho, B. (2003). Student language learning strategies across eight disciplines. International Journal of Applied Linguistics, 13(2), 179–200. https://doi.org/10.1111/1473-4192.00043
14. Raoofi, S., Chan, S. H., Mukundan, J., & Rashid, S. M. (2012). Metacognition and second/foreign language learning. English Language Teaching, 5(7), 188–197. https://doi.org/10.5539/elt.v5n7p188
15. Rubin, J. (1975). What the "good language learner" can teach us. TESOL Quarterly, 9(1), 41–51. https://doi.org/10.2307/3586011
16. Stern, H. H. (1983). Fundamental concepts of language teaching. Oxford: Oxford University Press, 405-410.
17. Vandergrift, L. (2005). Relationships among motivation orientations, metacognitive awareness and proficiency in L2 listening. Applied Linguistics, 26(1), 70–89. https://doi.org/10.1093/applin/amh039
18. Vandergrift, L., & Goh, C. C. M. (2012). Teaching and learning second language listening: Metacognition in action, Routledge, 28-29.
19. Victori, M., & Lockhart, W. (1995). Enhancing metacognition in self-directed language learning. System, 23(2), 223–234. https://doi.org/10.1016/0346-251X(95)00010-H

20. Wenden, A. L. (1998). Metacognitive knowledge and language learning. Applied Linguistics, 19(4), 515–537. https://doi.org/10.1093/applin/19.4.515
21. Zhang, D., & Goh, C. C. M. (2006). Strategy Knowledge and Perceived Strategy Use: Singaporean Students' Awareness of Listening and Speaking Strategies. Language Awareness, 15(3), 199-219.
22. Zhang, L. J., & Wu, A. (2009). Chinese senior high school EFL students' metacognitive awareness and reading-strategy use. Reading in a Foreign Language, 21(1), 37–59.