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A Quantitative Investigation into English Learners' Language Learning Strategies in an English-Medium Mainland-Hong Kong Cooperative University in China

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Abstract

As English-medium cooperative universities emerge in China, students' English learning strategies, which have long been documented as an important factor in their academic success, have gained increasing attention in second language acquisition. This study investigated students' English learning strategies in an English-medium cooperative university in China. Drawing on data collected using Oxford (1989)'s language learning strategy survey from Year-1 (N = 339) and Year-2 students (N = 207), an exploratory factor analysis was conducted. It suggested three main English learning strategies, including cognitive, metacognitive, and compensatory/evaluative/affective strategies. A 2 (study years) × 3 (strategies) ANOVA revealed a significant main effect of study years and that of strategies as well as a significant interaction effect. A structural equation model (SEM) indicated that students' use of language learning strategies served as a significant mediator between their English learning history and their self-rated English proficiency. The pedagogical implications of these findings are discussed.

Keywords: English learning strategies, English-medium cooperative universities, English as a foreign or second language

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Introduction

A learning strategy is defined as a set of learning methods and techniques that learners apply in order to achieve their expected learning outcomes (Tai & Tang, 2021; Zha & Liu, 2023). For language learners, a set of learning strategies especially refers to systematic learning methods that they adopt for attaining a certain level of language proficiency. In the field of second and foreign language acquisition, language learning strategies have long been a well-researched topic in light of a fast-growing population of bilingual and multilingual users, second and third language learners, and in the context of international cultural and scholarly communication (Tai & Tang, 2021; Zha & Liu, 2023). As the world is becoming an increasingly culturally diverse community and as ever greater importance is being attached to language learning, language learning strategies have attracted increasing attention from scholars and researchers from the interdisciplinary fields of linguistics, educational pedagogy, and other highly relevant areas (Habok et al., 2022; Tai & Tang, 2021; Zha & Liu, 2023). Considering its important position in educational psychology, the role of language learning strategies in the process of learning English by learners who are non-native English speakers has become important for research, especially in English-medium educational institutions, the number of which has been increasing in recent years.

English-medium instruction (EMI) or English-as-a-medium-of-instruction education indicates a means of teaching and learning using English as the main instructional language (Galloway & Ruegg, 2022). It happens in various situations, including international students learning in an English-speaking country (inner circle), institutions in a country where English is used officially as a second language or a Lingua Franca (outer circle), and institutions in a country where English does not have a formal or official status (expanding circle). EMI in a country of the expanding circle imposes challenges to both teachers and learners for various reasons, such as students' lack of English proficiency, a shortage of effective English support, a deficiency in English-speaking environment, and so forth (Galloway & Ruegg, 2022; Zhou et al., 2021). Since language learning strategies play a crucial role in students' learning of English, understanding how students of English-medium institutions in an expanding circle country appears to be of great importance and necessity.

English as a second language: Learning strategies

Previous research on L2 English learners' language learning strategies can be categorized into two types of study. One line of research focused on what strategies learners use. For example, Chen et al. (2020) identified three major language learning strategies among L2 English learners, namely metacognitive strategies, cognitive strategies, and compensating and memorizing strategies. They noticed that learners with a higher level of L2 proficiency were prone to deploying planning and preparatory learning strategies more frequently. Tai and Tang (2021) explored graduate-level L2 English users' English learning strategies by focusing on the relation between such strategies and their learning anxiety as well as learning avoidance in EMI programs. Results suggest that these learners manifested two major learning strategies, a self-regulated strategy and a critical thinking strategy. The self-regulated strategy was positively correlated with learners' willingness to participate in EMI learning, whereas the critical thinking strategy had a significant indirect effect on learners' willingness to participate, with learning anxiety serving as a mediator. Zha and Liu (2023) allocated successful L2 English learners' language learning strategies to four major categories, namely cognitive, affective, self-managing, and referencing strategies. They conclude that holistic learning strategies are more likely to lead to successful EFL learning. Mao and Peng (2024) investigated L2 English learners' learning strategies in an EMI program affiliated to a Chinese university and discovered that non-English-major students resorted to elaborating, organizing, and critical thinking learning strategies significantly more frequently than their English-major counterparts.

In addition to the first line of research that focuses on the types of language learning strategy used, a second line of studies concentrates on how language learning strategies are related to learners' language proficiency. For instance, Tai and Zhao (2024) revealed that, for learners attending EMI universities in Hong Kong, the selection of learning strategy to apply, and the degree of learning motivation served as two important factors that affected their proficiency in English. Magyar et al. (2022) also found that, for Hungarian-speaking L2 English learners at university level, a controlling strategy functioned as the favored strategy, and that memorizing and elaborating strategies exerted significant direct effects on learners' learning outcomes. Similarly, Habok et al. (2022) found that Hungarian learners with higher

achievement demonstrated higher level of use of learning strategies than those counterparts with lower achievements. They also confirmed that learners' use of strategies had significant effects on their attitudes toward English learning. Yu et al. (2023) noticed that, relative to non-mobile learning, mobile learning helped learners achieve higher level of motivation, more chance to resort to language learning strategies, and improved learning achievement, suggesting a correlation between language learning strategies usage and language learning outcomes. Liu and Chen (2023) identified language learning strategies as a significant predictor of Chinese L2 English learners' attainment of English and as a significant mediator between learners' learning styles and their learning outcomes. Esmaeil Nejad et al. (2022) reported a strong relationship between learners' use of language learning strategies and their writing abilities as well as a strong connection between their critical thinking competences and their learning strategy usage. However, these EFL learners' critical thinking competence did not serve as a significant mediator between their writing abilities and their application of language learning strategies.

Some scholars specifically researched how self-regulated writing strategies affected L2 English learners' writing abilities. Sun and Wang (2020) measured 2nd-year Chinese university students' self-regulated writing learning strategy and found that such a strategy functioned as a significant predictor of learners' writing abilities in English. Bai and Wang (2021) investigated the self-regulated writing strategy and writing proficiency in English of 8th-grade students in Hong Kong and found that students having different levels of writing proficiency witnessed stratified levels of use of the self-regulated writing strategy and that this strategy constituted an important contributor to their writing abilities in English. They further reported that these students' writing motivation had a significant effect on to what degree they resorted to self-regulated writing strategy.

EMI in China: Students' challenges, success, support, and other factors

A wealth of literature has focused on EMI in Chinese universities. Some of these studies have investigated the challenges and difficulties faced by learners and instructors in EMI universities. For example, Galloway and Ruegg (2022) explored instructors' and learners' concerns regarding EMI education in China and Japan. Results suggested that, in these expanding circle countries, instructors' achievement of na-

tive-like English proficiency has gained increasing attention. Galloway and Ruegg (2022) further discuss whether it is imperative to require non-native English-speaking teachers to attain native-like proficiency. Similarly, Zhou et al. (2021) surveyed what difficulties students encounter in EMI universities and what support they receive. Zhou et al. (2021) identified three main types of support in these universities, including teacher-based assistance, pre-enrollment language enhancement programs, and learning-and writing-assistance programs. These forms of extra support play important roles in reducing instructors' stress and facilitate students' understanding of their course content.

Another branch of studies has concentrated on how EMI universities or programs can address the above-mentioned challenges. Galloway and Ruegg (2020) investigated EMI programs in China and Japan and found that neither instructors nor learners were satisfied with the teaching and learning support provided by the programs. As EMI-program students viewed English proficiency as a key to their academic success in EMI programs, Galloway and Ruegg (2020) encouraged such programs to offer more English learning-related assistance. Gay (2022) suggested technology-based support for English learning in EMI programs. Corbett, Yan, Yeoh and Lee (2023) collected a number of ways in which technology is leveraged in Chinese EMI institutions to offer students support. McKinley et al. (2021) claimed that EMI programs in China tended to provide English language assistance programs, such as general language support focusing on students' reading and writing skills, as well as discipline-based language support.

A third category of research has focused on understanding what factors contribute to students' academic success in EMI programs or universities in China. Xie and Curle (2022) found that students' "perceived success" serves as a robust predictor of their academic achievements (p. 585). Yu et al. (2021) found that an EMI-program student's degree of prowess in using translation strategies when encountering English materials affected their academic achievement. Xiao and Qiu (2022) reported a significant relationship between EMI university students' global perspective and their willingness to speak English, which further closely related to their academic success in the EMI context. In addition, EMI students' learning motivation and learning attitudes both served as important predictors of their academic achievement (Hu & Wu, 2020; Zhang & Pladevall-Ballester, 2023).

Research on cooperative universities

Studies regarding cooperative universities mainly focused on students' on-campus life and their future development. For example, Hang and Zhang (2022) studied how students adapted themselves when transitioning from a traditional non-EMI educational environment to an EMI cooperative university. They suggest that 'Student Initiative', defined as students' motivation and willingness, served as a pivotal factor for their successful transition. Zhang (2023) explored students' evaluation of cooperative institutions and found that, in cooperative universities, they are most satisfied with the advantages afforded by an innovative combination of both domestic and international education, which are manifest in materials development and other aspects of the educational culture. Zuo et al. (2022) investigated first-year cooperative university students' socializing patterns and found that their prior English learning environment, willingness to socialize, goal setting, and English proficiency played important roles in shaping their social life patterns. Han (2023) investigated how an EMI-based cooperative university shaped students' motivation and learning experiences. In such cooperative universities, students' learning motivation and language proficiency played important roles; their learning processes were enhanced by instruction that facilitated this aspect of their development. Students in cooperative institutions benefit from targeted, supplementary language assistance.

Another category of research has focused on students' subsequent development. Zou et al. (2022) investigated the relationship between attending cooperative universities and students' later academic achievement. They maintain that EMI-based cooperative universities in China help their undergraduate students obtain more advantages in relation to academic success in their future postgraduate programs, compared to students from non-EMI, non-cooperative universities. In addition, based on students' employment and development reports, published by six cooperative universities in China, Wu et al. (2022) noticed that students who graduated from such institutes attained distinct advantages in the job market and in pursuit of graduate studies than their counterparts in non-cooperative universities.

The Current Study

Based on the above literature review, we identified the following research gaps: First, English-medium institutions in an expanding circle nation, such as those of cooperative universities in China, pres-

ent unique features in terms of language usage as English is the main language for instruction but not the language of daily usage. Which English language strategies used by students in such universities remain uninvestigated? Second, in such universities, the relationship between students' English learning strategies and their English proficiency is a topic that has not been fully addressed. As a result, the following three research questions guided the present study:

RQ1: What English language learning strategies do non-English speaking students adopt in an EMI university in China?

RQ2: What characterizes non-English-speaking university students' English learning strategies in an EMI university in China?

RQ3: How do non-English-speaking university students' English learning strategies correspond to their English learning history, and their English proficiency?

Methodology

Research Instrument

The present study used the Strategy Inventory for Language Learning (SILL, version 7.0) published by Oxford (1989) as the data collection instrument. SILL has long been used as the major data collection tool for collecting English language learners' language learning strategies, especially for those who learn English as a second language (ESL) or as a foreign language (EFL). The survey consists of six parts, containing 50 questions in total. The first part, Part A, focuses on the effectiveness of learners' memory (9 questions). The second and third parts evaluate learners' "mental process" (14 questions) and "compensation for missing knowledge" (6 questions) respectively. The remaining three parts investigate learners "organization and evaluation of learning (9 questions)," "emotional management (6 questions)," and "cooperative learning (6 questions)" respectively. All questions are measured on a 5-point scale with score 1 indicating "never or almost never true or me" and 5 meaning "always or almost always true of me".

In addition to the 50 SILL questions (Oxford, 1989), additional questions pertaining to learners' background and English learning history were asked including age, gender, English scores in *Gaokao* (University Entrance Examination in China), at what age they started learning English, total number of years of learning English, total number of months of staying in English-speaking countries, and self-rat-

ed English proficiency in speaking, listening, reading, and writing (measured on a 10-point scale with 1 meaning minimal proficiency and 10 indicating very proficient).

Participants

A total of 546 undergraduate students from a Mainland China-Hong Kong cooperative university located in southern China were invited to participate in this study. Among them, 389 participants were Year 1 student who just started attending this English-medium university whereas 207 participants were Year 2 student who have experienced English-medium education in this university for 1 year. Participants demographic information is demonstrated in Table 1.

Table 1

Participants' Information (Means, SDs in parentheses, and Ranges)

	Year 1 Participants (N = 339)	Year 2 Participants (N = 207)	t-test results
Gender	Female (65.19%) Male (34.81%)	Female (73.91%) Male (26.09%)	NA
Age	18.01 (0.44) 16 - 20	19.17 (0.81) 18 - 23	t = -19.10, p < .0001
English score in *Gaokao*	123.91 (10.44) 95 - 144	127.28 (9.27) 103 - 146	t = -3.70, p < .001
Starting age of learning English	6.12 (2.08) 1 - 13	6.57 (2.27) 2 - 13.5	t = -2.30, p = .02
Years of learning English	11.74 (2.05) 6 - 18	12.43 (2.41) 3 - 17.5	t = -3.38, p < .001
Months of staying in English-speaking countries	1.97 (5.08) 0 - 60	2.13 (6.36) 0 - 72	t = -.27, p = .79
Self-rated speaking score	5.50 (1.92) 1 - 9	5.42 (1.57) 1 - 9	t = .52, p = .61
Self-rated listening score	5.88 (1.68) 1 - 10	5.81 (1.66) 1 - 10	t = .46, p = .65
Self-rated reading score	6.37 (1.56) 1 - 10	6.37 (1.39) 2 - 10	t = -.002, p = 1.00
Self-rated writing score	5.37 (1.65) 1 - 9	5.42 (1.47) 1 - 9	t = -.43, p = .67

Procedures

Data collection on Year 1 students took place during the English Enhancement Program that was designed for freshman students. The purpose of this program was to familiarize new entry students with the English-medium teaching and learning environment and to improve their English reading, writing, listening, and speaking skills. In other words, Year 1 students had no learning experiences in the EMI context. Data collection on Year 2 students, on the other hand, occurred during the regular teaching periods. Participants were from an English for academic purposes course in the university. Year 2 students had at least 1 year of learning experience in the EMI context.

For both groups of participants, printed questionnaires were printed on A-4 size paper and were distributed to them during class time. It took the participants approximately 10 to 20 minutes to finish the questionnaire.

Data Analysis

Exploratory factor analysis (EFA) was first conducted to demonstrated the relation between item questions and possible latent variables. Based on the results, items that cross loaded with more than 1 factors or had no significant loading results were deleted. Also, based on the EFA results, the number of factors and their scores were calculated.

Factor scores were compared between Year 1 and Year 2 students using a two-way ANOVA analysis with a 3 (strategies) × 2 (Year1/Year2) mixed factorial design. Students' years of study served as the between-subject factor whereas strategies scores served as the within-subject factor.

In addition to EFA and ANOVA, a structural equational model (SEM) was used to analyze the relation between participants' strategies, English learning history, and their self-related English proficiency.

Results

Descriptive Statistics

Missing data was dealt with using mean imputation. A total of 78 data points were missing, which accounted for 0.29% of the complete data set. According to Watkins (2018), "mean imputation is acceptable when <10% of the data are missing" (p. 225).

Exploratory Factor Analysis

Exploratory factor analysis (EFA) was performed using the Principal Axis Factoring extraction method and the Promax rotation method. Results suggest a 4-factor model as 10 items were significantly loaded on Factor 1 (Cronbach's alpha = 0.82), 11 items on Factor 2 (Cronbach's alpha = 0.82), 7 items on Factor 3 (Cronbach's alpha = 0.79), and 3 items on Factor 4 (Cronbach's alpha = 0.44). The other items

with insignificant loadings were excluded from any further analysis. The EFA result is shown in the Appendix. Based on previous research, Factor 1 was interpreted as cognitive strategies (i.e., Strategy 1), Factor 2 as metacognitive strategies (i.e., Strategy 2), and Factor 3 as compensatory/evaluating/affective strategies (i.e., Strategy 3), and Factor 4 as translation strategy (i.e., Strategy 4) (Chen et al., 2020).

ANOVA Analysis

Since the 4th factor (i.e., translation strategy) showed a poor internal consistency, it was not included in the following data analysis. As a result, an ANOVA analysis focusing on the first three types of strategies was performed. The average score of these three strategies are presented in Table 2. A 3 (strategies) × 2 (study years: Year1/Year2) mixed-factorial ANOVA was performed.

ANOVA results indicate that the main effect of study years was significant ($F(1, 544) = 16.24$, $p < .001$, $\eta^2 = .020$). Year 1 students demonstrated significantly higher scores for strategy usage than their Year 2 counterparts. The main effect of strategies was also significant $F(2, 1088) = 415.23$, $p < .001$, $\eta^2 = .20$). Pairwise comparisons using Bonferroni correction suggested significant differences in scores between strategy 1 and strategy 2 ($p < .001$), between strategy 2 and strategy 3 ($p < .001$), and between strategy 1 and strategy 3 ($p < .001$). Among them, strategy 3 achieved the highest score, followed by strategy 1, whereas strategy 2 had the lowest score.

ANOVA analysis further suggested a significant interaction effect between the study years and the strategies ($F(2, 1088) = 4.21$, $p = .015$, $\eta^2 = .003$). Pairwise comparisons using Bonferroni correction indicated significant differences between Year-1 and Year-2 students in their use of strategy 2 (i.e., metacognitive strategy; $p < .0001$) and in that of strategy 3 (i.e., compensatory/evaluating/affective strategy; $p < .001$) as Year-1 students demonstrated significantly higher scores in these two strategies than Year-2 students did. However, there was no significant difference between Year-1 and Year 2 students in their use of strategy 1 (i.e., cognitive strategy; $p = .066$).

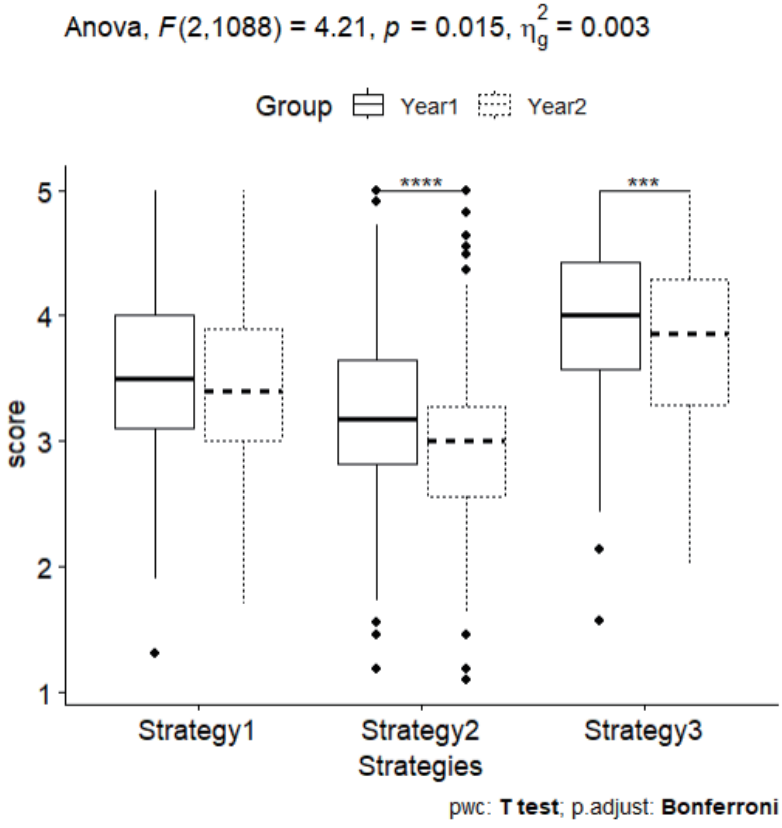
Table 2

Descriptive statistics of the mean scores and SDs (in parentheses) of the three strategies

	Strategy 1 (cognitive)	Strategy 2 (metacognitive)	Strategy 3 (compensatory/evaluating/affective)
Year 1	3.55 (0.67)	3.22 (0.65)	3.99 (0.60)
Year 2	3.44 (0.63)	2.95 (0.66)	3.80 (0.63)

Figure 1

ANOVA result



Structural Equation Model (SEM)

Before conducting a path analysis using SEM to understand the relationship between EMI-university students' English learning history, English learning strategy, and self-rated English proficiency, a confirmatory factor analysis (CFA) to confirm whether the manifested composite scores of the three strategies are significantly loaded on the latent variable of students' language learning strategy usage. The composite score of Strategy 1 (β = .75, p < .001), Strategy 2 (β = .70, p < .001), and Strategy 3 (β = .71, p < .001) were all significantly loaded on the latent variable of language learning strategy usage.

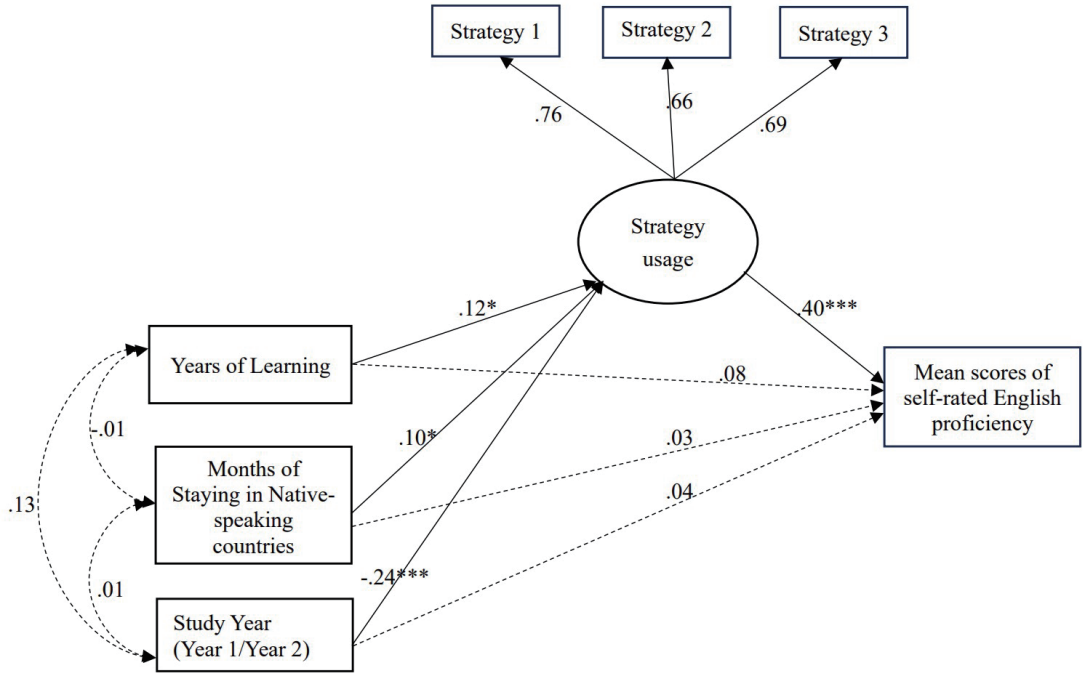
The model (Figure 2) demonstrated a mediocre model fit (CFI = 0.932; RMSEA = 0.088; χ^2 (df = 8) = 38.53, p < .001). Firstly, learners' English learning history

had significant effects on their language learning strategy. To be more specific, years of learning English (β = .12, p = .02), length of staying in English-speaking countries (β = .10, p = .045), and which study year they were in (β = -.24, p < .001) all had significant effects on their use of language learning strategy.

Secondly, participants' language learning strategy usage demonstrated a significant effect on their self-rated proficiency in English (β = .71, p < .001). However, participants' English learning history, including years of learning (β = .08, p = .07), length of staying in English-speaking countries (β = .03, p = .53), and their study years (β = .04, p = .33), had no significant direct effect on their self-rated English proficiency. Nevertheless, length of learning (β = .05, p = .02) and their study year (i.e., Year 1 vs. Year 2) (β = -.10, p < .001) had significant indirect effects on their self-rated English proficiency with participants' language learning strategy usage being a significant mediator.

Figure 2

Structure equation model result



Discussion

Summary of the results and responses to research questions

Using multiple statistical data analysis techniques, the three research questions have been addressed. For the first and second research questions, the present study found that non-English-speaking students in an EMI-based cooperative university in China mainly adopted three types of language learning strategies: cognitive, metacognitive, and compensatory/ evaluating/ affective strategies. Based on the EFA results, questions pertaining to learners' mental and cognitive processes were significantly loaded on the cognitive strategies (i.e., Strategy 1). Moreover, learners' goal setting, self-supervision, and strategy adjustment learning methods were significantly loaded on metacognitive strategies (i.e., Strategy 2). Lastly, learners' self-evaluation and emotion-related learning methods were closely related to Strategy 3. The use of strategies and their categorization based on the EFA results were consistent with previous researchers' classification of learning strategies. As Chen et al. (2020) have discussed, some scholars have categorized learning strategies as "metacognitive, cognitive, and social/affective strategies" (p. 240) whereas some other researchers classified language learning strategies as "cognitive, memory, and compensatory" (p. 240).

It is worth noting that, for both Year 1- and Year 2 participants, the compensatory/ evaluating/affective strategies (i.e., Strategy 3) were resorted to the most, followed by the cognitive strategies (i.e., Strategy 1), and the metacognitive strategies (i.e., Strategy 2) were used the least. This ranking of the three categories of language learning strategies was identical between Year 1- and Year 2 students attending this EMI-based cooperative university. That Strategy 3 was used the most could be attributed to the fact that both Year 1 and Year 2 students were still immature in terms of cognitive development and emotional management. For these young learners, learning-related stress is becoming increasingly challenging to deal with, due to difficulties in transitioning to EMI from traditional Chinese-medium education and because of their increasingly stressful pursuit of competitive academic goals, such as a high GPA. Affective strategies, such as self-relaxation and self-encouragement appear to be very important for students' adaptation to and success in an EMI-centered learning context. As a results, students tended to use Strategy 3 more than the other two categories of strategies. It is also worth discussing the finding that Strategy

2 (i.e., metacognitive strategies) was resorted to the least. This may due to the fact that metacognitive strategies require students to possess the ability to set reasonable goals, effectively supervise their own learning process, accurately evaluate their own learning outcomes, and properly adjust their learning methods. Such strategies require a higher level of cognitive development, self-regulation, and self-evaluation for learners, qualities that are generally lacking among university-level English learners. As a consequence, this type of strategy was used the least.

Another interesting finding of the present study is that Year 2 students used language learning strategies significantly less than their Year 1 counterparts. This could be because Year 2 students had already had 1 year of learning experiences in an EMI-based cooperative university and had somewhat adapted to English-medium teaching and the learning environment. In this case, learning the English language itself is no longer a goal; rather, using English as a medium or a tool to acquire content knowledge is of great importance for them. As a result, they may have paid less attention to how to learn English, compared to freshmen students, as more attention and time should be paid to content knowledge learning. This finding echoes that of Hu and Wu (2020) who observed that Chinese university students prefer to focus more on content knowledge than on English learning.

Research question 3 regarding the relationship between students' English learning history, strategy usage, and their self-rated proficiency in English has also been well answered. The structural equation model results suggest that students' English learning history, including how many years they have learned English and how long they have stayed in native-English-speaking countries had no direct effect on students' self-rated English proficiency. Also, students' study year (i.e., Year 1 vs. Year 2) had no direct effect on their self-rated English proficiency. However, the length of learning English and study year had significant indirect effects on their self-rated proficiency with language learning strategies being significant mediators. In other words, language learning strategies play an important role in the English learning process among the students who study in this EMI-based cooperative university as they mediated learners' learning experiences and their language proficiency.

Pedagogical implications for EMI universities and cooperative universities in China

A number of pedagogical implications follow from this study. Teachers are en-

couraged to provide a more immersive English environment for learners in EMI universities or cooperative institutes. Despite their English-medium teaching and learning, learners' L1s may still play an important role in daily-life conversation with their peers or even between them and nonnative-English-speaking teaching staff (e.g., native-Chinese speakers), which might be a factor that undermines students' learning outcomes. Albeit that there is heated discussion regarding translanguaging in the process of second language acquisition, the present study suggests significant direct effect of length of stay in a native-speaking environment on learners' language learning strategies. EMI universities should therefore give serious consideration to the formulation of language usage policies that attempt to provide richer English-speaking contexts for students.

Considering the lower level of usage of the cognitive and the metacognitive strategies, teaching staff could consider providing more training programs, sharing sessions, lectures, and activities targeting at improving students' self-regulation and self-evaluation, as well as their self-adjusting strategies.

Limitations and future directions

The current study has attempted to investigate how an EMI cooperative university in southern China shapes language learners' English learning strategies. Our results indicate that this type of university setting might well play a role in diminishing students' reliance on certain types of language learning strategy. However, this interpretation might be inaccurate as the present research did not compare results from a set of EMI-based cooperative universities and those from a corresponding group of traditional Chinese-medium universities. Future research should consider involving more Chinese-medium institutes in similar studies.

The present study only involved quantitative research methods. Investigation into the reasons behind the quantitative findings could be realized by conducting qualitative research methods (e.g., in-depth interview) or by conducting mixed-methods research. Future research studies could consider diversify their research methods, data collection methods, and data analysis methods.

Conclusion

This study investigated English as a foreign language (EFL) learners' English language learning strategies in an English-medium cooperative university in China. It also explored the relationship between students' English learning strategies, their English learning history, and their

self-rated English proficiency. The results revealed that students in this kind of EMI university setting mainly used cognitive, metacognitive, and compensatory/evaluating/ affective strategies. Results also showed that Year 2 students resorted to language learning strategies less frequently than their Year 1 counterparts. Finally, learners' learning strategies mediated their English learning history and their self-rated English proficiency. Suggestions were put forward to improve students' English learning by providing more immersive English-speaking context and by improving their cognitive and metacognitive skills.

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Appendix

Exploratory Factor Analysis Results

Items	Factor 1 (cognitive)	Factor 2 (meta-cognitive)	Factor 3 (compensatory/ evaluating/ affective)	Factor 4 (translation)
Cronbach's alpha	0.82	0.82	0.79	0.44
Item1	0.48			
Item11	0.74			
Item12	0.65			
Item13	0.59			
Item14	0.70			
Item15	0.46			
Item16	0.69			
Item17	0.53			
Item30	0.42			
Item50	0.50			
Item8		0.46		
Item34		0.63		
Item35		0.60		
Item36		0.44		
Item37		0.55		
Item41		0.50		
Item43		0.62		
Item44		0.50		
Item46		0.46		
Item47		0.49		
Item48		0.59		
Item24			0.57	
Item29			0.55	
Item32			0.58	
Item33			0.74	
Item38			0.47	
Item39			0.44	
Item40			0.41	
Item19				0.43
Item21				0.54
Item25				0.42

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