Strategies for Third-Language Learning Employed by Tertiary Thai Learners in an International Program (English-Medium Instruction) Studying Mandarin Chinese or French

Woralak Bancha, Kesinee Chaisri[*], Sureerat Jittasatian and Sudrudee Bamrung

Faculty of International Studies, Prince of Songkla University, Phuket 83120, Thailand

(*Corresponding author's e-mail: kesinee.c@phuket.psu.ac.th)

Abstract

Language learning strategies should strengthen multilingualism. This study addresses this gap by examining the common language learning approaches adopted by Thai university students enrolled in an international program (taught in English) while also studying Mandarin Chinese and French as third languages (L3). It compares the strategies for learning Mandarin Chinese (an L3 of the Sino-Tibetan language family) and French (an L3 of the Roman: Indo-European language family). The study surveyed 101 university students taking a Mandarin Chinese or French program in southern Thailand. Researchers gathered quantitative data using a questionnaire based on the Strategy Inventory for Language Learning (Oxford, 1990), and collected qualitative insights through semi-structured interviews. Researchers used descriptive statistics and an independent sample t-test to analyze the questionnaire responses, and applied thematic analysis to the interview data. The findings revealed that social strategies were commonly employed by students from both programs, as indicated by the questionnaire data. However, the interview data suggested a preference for cognitive strategies. Despite the linguistic differences between Mandarin Chinese and French, Thai university students in both programs shared similar learning strategies. The study discusses these results and offers implications for language educators.

Keywords: Language learning strategies, Third or additional language (L3), Thai university students, French learners, Mandarin Chinese learners, English-medium instruction

Introduction

Multilingualism, or individual pluralism, is one of the most desirable qualities of individuals in the globalization era (Pawlak & Kiermasz, 2018). Communication worldwide is essential, especially in multilingual societies where "coexistence, contact, and interaction of different languages at the societal or individual level" (Wei, 2013, p. 26). Therefore, many educational institutions worldwide, including those in Thailand, promote both English as a second language (L2) and a third or additional language (L3) to prepare their students to meet this professional requirement.

According to Kachru (1985), English, used by the Expanding Circle, including Thailand, is considered a foreign language. English is considered a prestigious foreign language, essential for Thailand to become a modern country (Fry & Bi, 2013). Therefore, English is the first foreign language that all Thai students must learn in school and at university (Padermprach, 2017). Despite being a foreign language in Thailand, English is regarded as a second language (L2), while French or Mandarin Chinese is considered a third language (L3). This positioning reflects the importance and prioritization of English in educational and professional contexts and the recognition of French and Chinese as additional languages of interest and study. This study recognizes English as a second language (L2), and considers other foreign languages as third languages (L3).

Learning a foreign language is not a simple task, and it takes a lot of effort and determination. Third languages (Mandarin Chinese or French) are very popular and chosen by the majority of the students in the faculty. Learning a foreign language is a complex task, and it takes much effort and determination. Thus, Multilingual learners require much more effort than other learners (Pawlak & Kiermasz, 2018).

One pedagogical approach to enhancing foreign language competence is to understand learners' learning strategies and be able to provide teaching techniques and activities that match most students' learning styles. Providing teaching and learning tasks that learners are interested in can lead to a more positive attitude and higher motivation, which are keys to successful language learning (Gardner & Lambert, 1959, as cited in Záborská, 2020). Therefore, it is essential to investigate what language learning strategies they prefer.

While a large number of previous studies have focused on the language learning strategies of L2, research on the strategies of learners who learn two or more foreign languages is scant (Jessner & Török, 2017; Pawlak & Kiermasz, 2018; Saez-Fajardo, 2023). However, more attention has recently been paid to language learners who speak two or three languages, focusing on bilingualism and trilingualism (Cenoz, 2013; Edele et al., 2018; Saez-Fajardo, 2023). More studies on multilingualism are crucial for unraveling the complex interplay between metalinguistic and cross-linguistic awareness, and can provide valuable insights for future studies (Jessner & Török, 2017).

While previous studies on multilingual learners have primarily focused on bilingual and trilingual learners (Dmitrenko, 2017; Edele et al., 2018) or have compared differences between learners of English and other closely related languages (Korkmaz, 2013), it is worth investigating whether multilingual learners from different language families share similarities or differences in their language learning. For instance, examining learners of languages from the Sino-Tibetan family, which includes literary languages like Chinese and over 400 modern languages spoken in China (Sagart et al., 2019), alongside learners of languages from the Romance branch of the Indo-European family, such as French, could provide new insights.

In particular, there were three main purposes of the study. First, it aims to investigate what language learning strategies that Thai EFL university students taking Mandarin Chinese (L3) frequently use to acquire their foreign languages. Second, it aims to explore the language learning strategies Thai EFL university students taking French (L3) frequently use to acquire their foreign languages. Last, it aims to compare whether Sino-Tibetan language (Chinese) learners share similar learning strategies with learners of the Roman: Indo-European language (French).

Research questions

This study aims to answer the following questions:

1. What language learning strategies do Thai EFL university students learning English as a second language (L2) commonly use to acquire Mandarin Chinese as their third language (L3)?

2. What language learning strategies do Thai EFL university students learning English as a second language (L2) commonly use to acquire French as their third language (L3)?

3. Do Sino-Tibetan language (Mandarin Chinese) learners share similar learning strategies with Roman-Indo-European language (French) learners?

Hypothesis

Students taking Mandarin Chinese employed different language learning strategies from those taking French.

Literature review

Language learning strategies for L2 or L3

Language learning strategies are considered essential for successful language learning, and many studies confirm a strong relationship between language learning strategies and language competence (Habók & Magyar, 2018; Jaekel, 2020). Learners who know multiple foreign languages use more language learning strategies than single-language learners (Dmitrenko, 2017). Successful learners are more likely to use strategies appropriately for specific tasks (Shi, 2017). Many researchers have defined language learning strategies. O'Malley and Chamot (1990, p. 1) describe them as "special thoughts or behaviors to help individuals comprehend, learn, or retain new information.' Rubin (1987) refers to them as "facilities

students use to receive, modify, and store information, including plans, routines, and activities". Stern (1992, p. 261) describes them as "a broad-based approach and deliberate learning techniques for achieving goals through joint activity". These definitions suggest that language learning strategies are defined techniques that individual learners deliberately practice to acquire a new language.

Similarly, many scholars have classified language learning strategies (such as Shi, 2017; Stern, 1975). Oxford (1990) developed the most frequently used taxonomy, which appears in many studies, such as those by Kean (2018), Pawlak and Kiermasz (2018), and Saputro and Fauziati (2019). Oxford (1990) proposed six categories of language learning strategies: memory, cognitive, compensation, metacognitive, affective, and social. The first three are categorized as direct strategies which learners use directly to learn the target language, while the others are categorized as indirect strategies, as learners employ them to manage their learning effort rather than to learn.

Oxford (1990) then further explains all six categories. Memory strategies refer to techniques to enhance memory storage and retrieval, such as repetition, mnemonic devices (relating a mental picture to a situation), organizing information, reviewing and using visual aids, grouping, or imagery. These strategies help learners memorize the target language in the short- and long-term. Cognitive strategies involve actively processing language to understand and produce it by analyzing and manipulating structures and content. This includes summarizing, reasoning, creating mental links, using imagery, planning, monitoring, and evaluating. For example, learners may watch media, practice pronunciation, relate new words to their native language, and use words in various contexts. Compensation strategies help learners manage gaps in knowledge or challenging communication by asking for help, guessing, and using communication strategies. Metacognitive strategies allow learners to control their learning process through planning, monitoring, and evaluating activities. This includes setting goals, arranging practice, reflecting on progress, and managing their learning strategies. Affective strategies aid learners in managing their emotions and attitudes to reduce anxiety and boost motivation and confidence. Techniques include setting realistic goals, rewarding

achievements, positive self-talk, stress management, seeking emotional support, and using humor. Social strategies emphasize learning through interaction, such as asking questions, seeking correction from native speakers, collaborating with peers, and creating supportive learning environments. These strategies enhance learning by leveraging social interactions.

A few previous studies relate to language learning strategies deployed by students who learn two foreign languages simultaneously (Korkmaz, 2013; Pawlak & Kiermasz, 2018; Sung, 2011), but their results are inconclusive. For instance, a study by Korkmaz (2013) investigated if there were any differences in strategies used by university students of English (L2) and German (L3) compared to those of learners of English (L2) and French (L3). The Strategy Inventory for Language Learning (SILL, Oxford, 1990) results indicated parallels between the most-employed cognitive strategies and the least-employed affective strategies used by these two groups of students. Pawlak and Kiermasz (2018) used the SILL (Oxford, 1990) and interviews to investigate language learning strategies. The findings indicated that Polish university students who learned English (L2) and another additional language (L3) used language learning strategies more frequently with L2 than with L3, with memory being the most frequently deployed strategy. A study by Sung (2011) shows that Chinese learners who learned two languages before starting their L3 more frequently used metacognitive, cognitive, affective, and social strategies than those who knew only one language.

A few studies have been written to date about learners taking English as a second language (L2) and an additional language (L3). This study aims to understand tertiary Thai students who want to master or at least attain competence in two foreign languages during their tertiary studies and to compare whether learners of a Romance-Indo-European language (French) use similar or different learning strategies compared to learners of a Sino-Tibetan language (Mandarin Chinese).

Conceptual framework

The diagram below shows the conceptual framework of the study. The framework illustrates the relationship between the use of language learning strategies and their direct impact on success in learning

foreign languages. It highlights that students' choice of strategies, whether most or least frequently used, is shaped by various underlying reasons. These choices, in turn, significantly influence their language learning outcomes.
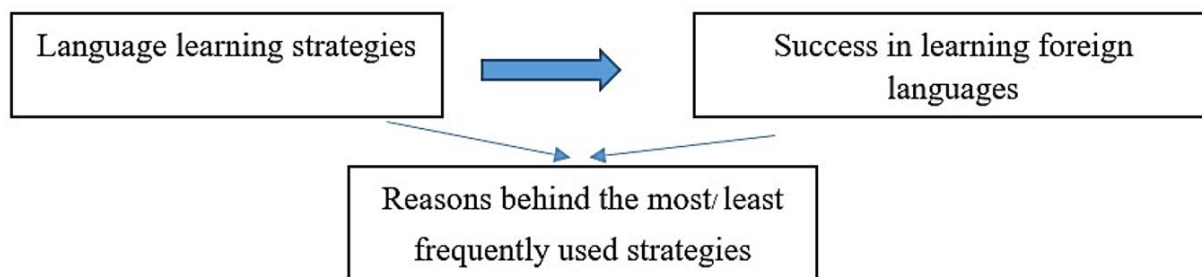

Figure1 Conceptual framework

Research methodology

Participants

The study included 101 Thai university students from the first to the fourth year at a public university. The researchers chose the university because it offers English- medium or international programs and third-language options from various language families. The study aimed to investigate the language learning strategies employed by the students and compare whether these strategies were similar or different between the two groups. The participants were students from two English programs, namely Chinese Studies (CNS for the Mandarin Chinese language) and European Studies (ES for the French language). The researchers applied a purposive sampling method to select a population based on the requirement for students who had learned an additional (L3) language, either Mandarin Chinese or French, through an English (L2) medium of instruction. The study included students from these two programs because their content and language course credits were similar. The sizes of samples were derived using Krejcie and Morgan's (1970) method, as presented in Table 1.

Table 1 Population and sample numbers of questionnaire participants

Programs	Gender	N	n	Total
Chinese Studies (CNS)	Male	8	77	65	
	Female	57			101
European Studies: French (ES: F)	Male	7	40	36	
	Female	29			

A semi-structured interview was conducted with 44 students to validate the findings.

Table 2 Samples of interview participants

Programs	n	Gender		Total
Chinese Studies (CNS)	26	Male	6	
		Female	20	44
European Studies: French (ES: F)	18	Male	2	
		Female	16	

Research instruments

The two research instruments used in the study were an online questionnaire of students' third language learning strategies and a semi-structured interview. The researchers adapted the questionnaire from Oxford's (1990) Strategy Inventory for Language Learning (SILL), version 7, as it is widely accepted by many researchers, including Kiermasz (2018) and Korkmaz

support the quantitative data. The researchers constructed the interview questions to focus primarily on which third-language learning strategies were applied, which strategies were perceived as effective, and why participants thought so.

Research procedures

The researchers constructed both the questionnaire and interview questions in Thai and English to accommodate the presence of both Thai and non-Thai students. The questionnaire was constructed by adapting Oxford's (1990) SILL version 7. The questionnaire items were written both in Thai and English. A teacher of English checked them for validity or clarity, while a native English-speaking teacher checked them for grammatical accuracy. A five-point Likert scale was employed to understand strategies' frequence. The researchers administered a pilot questionnaire to 30 students who were not the study's target participants to assess the test's reliability using Cronbach's alpha (a = 0.943). Before target participants completed the online questionnaire, verbal consent for the questionnaire was obtained, and the study's purposes and procedures were explained to the students.

The semi-structured interview questions were constructed and checked for clarity by a Thai teacher of English and grammatical accuracy by a native English-speaking teacher. The researchers explained the study's purposes and procedures to the interview participants. After the same group of students completed the questionnaire, the researchers asked if they could allocate 10-20 minutes for an interview. Other students who were not in the pilot group and were willing to participate in the interview were requested to read the information sheet and sign the consent form before the interview. The interview was conducted in Thai and held individually with 44 students (CNS: 26, ES: F: 18). Each interview lasted about 15-20 minutes. Spoken data

(2013). The questionnaire was the main source of data. It consisted of two main parts: demographic information and third-language learning strategies. The findings from the closed-ended questionnaire provided data on students' perceptions of language learning strategies that they frequently use.

To substantiate the results, the findings derived from the semi-structured interview were employed to derived from the semi-structured interview was translated from Thai into English. After that, the researchers asked a Thai teacher of English to translate English into Thai. Back-translation was applied to confirm the validity of the translated transcripts. Both translated versions were compared and checked to ensure they conveyed the same meanings.

Data analysis

The results derived from the close-ended questionnaire were analyzed using the mean and percentage for research question 1. Oxford's (1990) guidelines for interpreting the frequency of language learning strategies guided the interpretation of the mean scores in this study.

Then, an independent sample t-test was applied to determine whether there were any significant differences between each category of strategies used by the two groups.

Spoken data were analyzed using a thematic approach to search, analyze, and report themes that emerged from the data (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). Thematic analysis was adopted in this study because it does not adhere to any pre-existing theoretical framework, allowing its application within various theoretical frameworks (Braun & Clarke, 2006, p. 81). The researchers conducted thematic analysis in this study by following the five stages suggested by Braun and Clarke (2006). The first stage involved familiarizing with the data. During this phase, the researchers read the transcriptions repeatedly to gain an overall understanding of the data and identify themes. In the second stage, they generated initial codes. A code is a name or label assigned to a text segment containing a specific idea or piece of information (Cohen et al., 2013). Coded were labeled with different colors. Then, similar responses were grouped under categories or themes, placing differing

opinions into others. The researchers used questions as guiding themes for the study.

An inter-rater technique was applied to confirm the reliability of the themes. The researchers asked two English teachers to check the codes, sub-themes, and themes. Negotiations for the coding and sub-theme agreement led to adjustments to reconcile the differences. The interview responses revealed three major themes, including the most frequently used third language learning strategies and the reasons for those particular learning strategies.

Table 3 Result interpretation

Level	Interpretation	Score range
High	the most frequently used	4.5 to 5.0
	frequently used	3.5 to 4.4
Medium	moderately used	2.5 to 3.4
	rarely used	1.5 to 2.4
Low	the least frequently used	1.0 to 1.4

Table 4 Examples of codes, sub-themes, and themes

Student	Excerpts	Codes	Sub-themes	Themes
S27	I always listen to music and watch films or series on the internet or YouTube.	Internet, YouTube	Learning through media	The most frequently used learning strategies
S31	I learn from educational programs on YouTube.	YouTube	Learning through media	The most frequently used learning strategies
S40	I can always learn languages and search for knowledge on Google including vocabulary.	Google	Learning through media	The most frequently used learning strategies

Table 5 Strategy use of learners with English as L2 and Mandarin Chinese as L3

Strategy Categories by English (L2) and Mandarin Chinese (L3)	N	M	SD	Level	Interpretation
Memory	65	3.67	0.91	High	Frequently used
Cognitive		3.40	0.95	Moderate	Moderately used
Compensation		3.83	0.94	High	Frequently used
Metacognitive		3.89	0.89	High	Frequently used
Affective		3.83	0.91	High	Frequently used
Social		4.03	0.80	High	Frequently used
Overall LLS used		3.78	0.99	High	Frequently used

Results

RQ1: Strategy use of learners learning English as L2 and Chinese as L3

Findings from the questionnaire
As shown in Table 5, the reported overall use of language learning strategies for learners with English (L2) and Chinese (L3) proved to be at a high level (mean = 3.78). Applying the criteria suggested by Oxford (1990), LLS of L3 could be classified as frequently used. Considering all six categories, the most highly used strategy was social (mean = 4.03), whereas cognitive strategies (mean = 3.40) were the least frequently used by these Chinese program students. However, the other four categories had about the same

level of frequently used strategies (metacognitive strategy (mean = 3.89), compensation strategy (mean = 3.83), affective (mean = 3.83), and memory (mean = 3.67)).

Findings from the interview

The main findings from the interview responses indicated that cognitive strategies of watching TV series and listening to music (10 students) were the most frequently used learning strategies perceived by Chinese program students. The following excerpts represent students' responses to the question, "Which language learning strategies do you frequently use the most in learning L3?". The following statements from S4 and S12 shed light on their strategies and reasons.

Listening to music and watching movies or TV series YouTube because it is fun and relaxing. It is not stressful. I think it is effective because it helps me learn the target language. (S4)

I always follow Chinese programs on YouTube, watch Chinese series, and listen to Chinese musi. I think it works because I don't feel too stressed, and I enjoy watching or listening to music. (S12)

Regarding the extracts above, the findings indicate that cognitive strategies, such as learning in a relaxing atmosphere, are the most preferred self-study learning method. As a result, the data suggest that the stress-free condition is effective for their target language learning.

Apart from the entertaining way of learning languages, two students (S10 and S18) point out the reasons for engaging in multiple exposures (repeatedly engaging or interacting with the target language). S10 expressed, "It familiarizes me with the language and accents of native speakers." Similarly, S18 expressed that "this method of learning allows me to acquire speaking vocabulary and familiarize myself with accents." The findings indicate that students know the advantages of learning through movies and music. The data suggest that watching series and listening to music

help learners learn how words are used in authentic contexts, see examples of how the language or structures are used, and become familiar with native speakers' pronunciation. In addition to watching series and listening to music, five Chinese program students responded most frequently to social strategies or the use of the target language. The following excerpts illustrate the strategies and their reasons.

It is fun talking to Chinese friends. It is not boring, and it is not a formal way of learning a language. (S20)

I always talk to native Chinese-speaking friends and try to think in the target language in my daily life. The target language is used as much as possible daily, which helps with familiarity and ease of use. (S26)

The findings show students' views of the opportunities to produce or use the target language, which could enable them to improve their language learning informally. Data seem to suggest that students are aware of the importance of the target language used as a means of communication, which could eventually enable them to use the target language in their real lives.

RQ2: Strategy use of learners learning English as L2 and French as L3

Findings from the questionnaire

Table 6 shows the mean scores obtained from the questionnaire completed by French program students. As suggested by the quantitative data, the overall strategy employed by students was high or frequently used (mean = 3.77). The results of the mean scores regarding all six strategy categories revealed that the most frequently used strategy was the social strategy (mean = 4.04), followed by metacognitive strategy (mean = 3.80), compensation strategy (mean = 3.78), memory strategy (mean = 3.71), and affective strategy (mean = 3.69). The least frequently used strategy was cognitive strategy (mean = 3.57).

Table 6 Strategy use of learners with English as L2 and French as L3

Strategy Categories by English (L2) and French (L3)	n	M	SD	Level	Interpretation
Memory	36	3.71	0.94	High	Frequently used
Cognitive		3.57	1.08	High	Frequently used
Compensation		3.78	0.96	High	Frequently used
Metacognitive		3.80	1.03	High	Frequently used
Affective		3.69	1.04	High	Frequently used
Social		4.04	0.89	High	Frequently used
Overall LLS used		3.77	0.99	High	Frequently used

Findings from the interview

According to the interview data, the findings revealed that the most frequently used strategies that French program students perceived as frequently used were cognitive strategies, including watching series and listening to music, as reported by seven students. For example,

Music is always listened to, and films or series are watched on the internet or YouTube. (S27)

Similar to their peers, four students underlined the advantage of learning L3 from
YouTube. For instance,

Educational programs on YouTube are used for learning. (S31)

Four students regularly used Google in addition to YouTube.
I can always learn languages and search for knowledge on Google including vocabulary. (S40)

Data suggest that even though their preferences for the programs differed, most were aware that the Internet or YouTube could be a valuable source of knowledge and that it was their preferred way of learning.
The following excerpts illustrate why they preferred online learning, including YouTube and Google.
I can learn listening, speaking, and reading (from subtitles); in the meantime, I can learn about cultures from various authentic contexts. (S28)

It is easy to use, enjoyable, and accessible anytime and anywhere. (S27)

It is not too stressful. It enhances my enjoyment of learning and motivates me to master the target languages. (S42)

The findings show that cognitive strategies are the preferred way of learning. The excerpts above show the major reasons for simple and convenient access (5 students), a fun and relaxing way of learning (6 students), and improving language skills through contexts of use (4 students). Data suggests that the internet makes it simple and accessible for students to learn the target language whenever and wherever they choose, and it provides a variety of knowledge, including engaging programs for learning.

RQ3: Comparison of the strategies used by two programs

To answer this research question, an independent sample t-test was employed.

Findings from the questionnaire

Table 7 shows no statistical significance between those whose additional or third language was Mandarin Chinese or French ($p < 0.05$). Data indicate that there is no difference in terms of third language learning strategies utilized by students learning different roots of languages of Sino-Tibetan (Chinese) or Roman: Indo-European (French).

Findings obtained from the interview data show that both programs' most frequently used strategies are the cognitive strategies of listening to music and watching a series of L3.

Table 7 Comparison of the strategies employed by two programs: Mandarin Chinese and French

Strategy Category	n	M	SD	t-test	-p-value
Memory					
CNS (Chinese)	65	3.67	0.91	-0.313	0.68
ES (French)	36	3.71	0.94		
Cognitive					
CNS (Chinese)	65	3.80	0.95	1.652	0.96
ES (French)	36	3.57	1.08		
Compensation					
CNS (Chinese)	65	3.83	0.94	0.327	0.60
ES (French)	36	3.78	0.96		
Metacognitive					
CNS (Chinese)	65	3.89	0.89	0.579	0.68
ES (French)	36	3.80	1.03		
Affective					
CNS (Chinese)	65	3.83	0.91	0.936	0.83
ES (French)	36	3.69	1.04		
Social					
CNS (Chinese)	65	4.04	0.80	0.103	0.18
ES (French)	36	3.77	0.99		

Note: $p < 0.05$

Discussion

The main findings indicated that both Chinese program students (L2: English and L3: Mandarin Chinese) and French program students (L2: English and L3: French) shared the same language learning strategies. Results obtained from the questionnaire reveal that both groups of students usually use social strategies the most and cognitive strategies the least. The results are consistent with some previous studies by Suwanarak (2015) and Tieocharoen and Rimkeeratikul (2019), revealing that Thai university students who take EFL use more social strategies than others. It is worth noting that these students studied English (L2) only. However, the results are not in line with some studies. For example, Korkmaz's (2013) study reveals that Turkish university students of English (L2) and German or French (L3) used affective strategies the least. Findings by Merkelbach (2011) show that Korean university students who took English (L2) and German (L3) employed metacognitive strategies the most and compensation strategies the least. Furthermore, the results of the current study do not agree with a study by

Mitits and Gavriilidou (2016) indicating that Greek learners used more cognitive strategies in L2 and affective strategies in L3. The possible explanation may be that language learning strategies differ depending on individuals and other contextual factors, including age, gender, and motivation (Charoento, 2017; Mißler, 2000; Sukying, 2021). Therefore, the strategies employed by students in different contexts are varied and inconclusive.

The results from the questionnaire data differ from those from the interview data. According to the questionnaire data, social strategies were the most frequently used learning strategies. On the other hand, the interview data reflected that those cognitive strategies were the most frequently used startegies. The interview data reveals that watching movies and listening to music, which fall under cognitive strategies, were the most frequently used learning strategies. It is possible to explain that cognitive strategies allow language learners to interact directly with language materials, which help them enhance understanding, practice in authentic contexts, and formalize structure

and pronunciation (Saputro & Fauziati, 2019). Furthermore, watching series did not evoke a sense of learning a third language, nor was it as stressful as formal learning in an educational setting. Indeed, engaging in a series or listening to music is an effective learning strategy, allowing learners to observe the language usage and subsequently apply it independently. The results, therefore agree with Csüri and Barbara (2021), whose study revealed that adult learners preferred this learning method because it could help them learn the target language more often. The findings align with Iamudom and Tangkiengsirisin's (2020) findings that students in an international program predominantly employ cognitive strategies.

Another explanation for the different results between the questionnaire and the interview data may be that, besides learning from foreign teachers, the university's location in Phuket, a region with many foreign tourists, might enable students to use more social strategies than others. Further, university students have become familiar with active learning, in which teachers always ask students to discuss with the class, in pairs or groups. When they do not understand, they can ask teachers to explain or seek assistance from their peers. In addition, teachers always encourage students to practice speaking in pairs and do role-play or simulation in front of the classes. This might explain why students perceive social language learning strategies as the most frequently used as teachers consistently provide these strategies in language classes. Despite the questionnaire's perception of social strategies as the most frequently used, the interview data suggests that students may actually employ more cognitive strategies in their daily lives. It is well known that when learning English, it is common for individuals to read English books to improve their language skills, engage with media, play English games to expand their vocabulary, watch English programs on TV, or watch English movies to deepen their understanding of the language and cultures. These cognitive learning strategies can be pursued independently without relying on others. This might explain why Thai students also perceive these methods as effective and believe they greatly facilitate their learning of their L3 languages.

However, the interview data's findings agree with emphasizing the questionnaire data, social strategies (talking to native speakers). A possible explanation

might be that university students are adult learners who will need knowledge of the target language in their future careers. Furthermore, they understand the importance of practicing the target language to produce it effectively. The findings are consistent with Sung's (2011) study, which showed that Chinese learners who had learned two languages before starting their L3 used cognitive and social strategies more frequently than those who knew only one language.

In addition, the findings suggest that Thai university students learning a third language—Mandarin Chinese from the Sino-Tibetan family and French from the Romance family of the Indo-European family—shared similar learning strategies, despite the distinct families of the two languages. It might be possible to explain that most Thai students in the current study prefer social strategies as they study with native-speaking teachers, and they are always encouraged to actively participate in the target language through active learning activities that enable them to be confident and eager to practice their L3. Since language learning strategies are socially mediated and context-dependent (Habók & Magyar, 2018; Sukying, 2021; Tieocharoen & Rimkeeratikul, 2019), Thai university students used similar learning strategies for both Mandarin Chinese and French.

Implications

The findings of this study offer implications for language teachers regarding the use of second and third-language learning strategies.

To begin with, the most obvious implication is that teachers should focus on activities promoting productive speaking and writing skills. The results of the present study highlighted social strategies as one of the most frequently deployed strategies. Teachers may provide learning activities like role-plays and projects, to create opportunities and encourage students to use the target language.

Moreover, students prefer learning in a fun and relaxed atmosphere. The current study's findings show that most students enjoyed learning through films, music, or interesting language programs on the Internet. Implementing instructional materials, such as video clips, short films, or music, can attract their attention and create a positive attitude toward the target language.

This also enables them to learn the culture and language in use.

Furthermore, incorporating technology can draw students' attention and increase motivation for language learning. The findings suggest the ease of internet accessibility, which allows them to learn the target language anywhere and anytime. Thus, teachers may incorporate technology by creating lessons on some platforms or assigning students to self- study on suggested websites.

Finally, teachers should explicitly introduce language learning strategies to students. In the present study, most students responded with similar language learning strategies. It might be helpful if teachers gradually introduce some low- or moderately used learning strategies to broaden students' knowledge of strategies and have opportunities to experiment with those strategies by themselves.

Limitations and recommendations for further studies

Researchers should consider some limitations and recommendations for further studies. First, the results of this study may not apply to other learners. Due to the relatively small number of participants in this study, it is impossible to generalize the results to the entire Thai university students who use English as their L2 and additional language (L3). This study primarily derives its findings from questionnaire responses. Therefore, the reported strategies reflect the participants' perceptions during their responses. Future studies should investigate whether participants use these or other strategies when learning foreign languages. Moreover, this study employed only questionnaires and semi- structured interviews. Other research instruments, such as focus groups, thinking-aloud techniques, periodic self-reports, or self- reflection, could be included in future studies. The findings could lead to an understanding of their selection and reasons for implementing different learning strategies and insights into the language learning strategies used by learners in different contexts.

Second, this study's short timescale is also a limitation. To investigate the learning strategies that the students employed to deal with the target language, it might be worth conducting a longitudinal study or a follow-up study to observe if there are changes in their learning strategies as time passes (Lancho, 2021;

Zhong, 2015). It is worth investigating if the language learning strategies of learners taking L2 and L3 simultaneously remain the same or alter as time passes. The present study's results represent a group of students from the first to the fourth year. As studies conducted by Lancho (2021) and Zhong (2015) show changes over time in the use of language learning strategies by students taking foreign languages, studying their language learning strategies in different years might lead to insightful analysis.

Third, researchers should investigate a comparison between high- and low- proficiency students taking English as an L2 and an additional language (L3). The present study did not categorize students according to their language proficiency, but rather by language program. Many researchers, including Charoento (2017), Grainger (2012) and Sukying (2021), suggest that several factors influence learners' choice of strategies, and they recommend conducting a replicated study.

Conclusion

The current study compared the language learning strategies employed by Thai university students who take English (L2) and an additional language of Mandarin Chinese or French (L3). Although the questionnaire data results are inconsistent with the interview data, the main findings indicate that tertiary Thai students taking an international or English program preferred cognitive strategies (watching movies or series) and social strategies (talking with native speakers). The results confirm that while students pursuing different additional languages and their target languages may differ in language roots, they share common language learning strategies. Therefore, language learning strategies are different depending on contexts, and there is a transfer between languages, which guides most Thai university students to apply their language learning strategies of L2 to learning L3.

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