

PAPER

The Impact of Online Learning during the COVID-19 Pandemic on Language Learning Strategies, Proficiency, and Enjoyment among Thai EFL Students

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parichart@kku.ac.th**ABSTRACT**

Amidst the COVID-19 pandemic, individuals worldwide found themselves compelled to adapt to unforeseen circumstances. An integral part of this adjustment was the transformation of conventional instructional methods, shifting from traditional classroom-based learning to the realm of online education. In this new educational landscape, online learning has emerged as the only avenue for both educators and learners to sustain their academic journeys. The objective of this study was to examine potential changes in the application of language learning strategies (LLSs) in the context of online English learning amidst the COVID-19 pandemic. The study also aimed to explore whether these variations were influenced by individuals' levels of language proficiency and their level of enjoyment of learning English. If any variations were identified, the study aimed to analyze the specific patterns that emerged. The study included 205 students who were enrolled in a public university in northeastern Thailand. Data collection involved administering both the LLS questionnaire and the enjoyment of the English learning questionnaire. Quantitative data analysis involved the use of descriptive statistics, ANOVA, and Chi-square tests. The study revealed significant variations in the frequency of overall strategy utilization based on two variables: language proficiency and individual enjoyment with the process of learning English. While there were no significant variations in overall strategy usage based on language proficiency, notable differences were observed based on their level of enjoyment of learning English. In terms of distinct categories, significant differences were observed in the utilization of LLS within the metacognitive (MET) and affective (AFF) categories, especially concerning language proficiency. Moreover, substantial variances were evident across all six categories—memory (MEM), cognitive (COG), compensation (COM), MET, AFF, and social (SOC)—in the level of satisfaction derived from the process of learning English.

KEYWORDS

language learning strategies (LLSs), language proficiency, enjoyment of English learning, undergraduates, online learning

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1 INTRODUCTION

Amidst the COVID-19 situation, the need for online learning has become an unfortunate reality for classroom management. For the teaching of language, which requires substantial social interaction, the challenge is even greater. In Thailand, the first case of COVID-19 was diagnosed on January 13, 2020, and the outbreak has been ongoing since then. On March 17, 2020, the Ministry of Education declared a temporary two-week shutdown for all educational institutions. As the pandemic continued to spread, these dates underwent frequent revisions.

During the COVID-19 outbreak (March 2020–2022), the present researcher taught English, and all students were required to study exclusively online for over two years. The English language is a compulsory course for all Thai learners, and it is one of the general education subjects required for all students. By providing such teaching and learning, a great deal of academic content and online media in a variety of formats were repurposed for online use.

Language learning strategies (LLS) are essential tools for efficient, adaptable, and self-directed language acquisition. They boost motivation by ensuring that learners see progress, fostering autonomy, and enabling problem-solving when challenges arise. Bialystok [36] states that LLSs are believed to play a crucial role in acquiring a second or foreign language. They can assist learners in mastering the necessary forms and functions for both understanding and producing the language, ultimately impacting their overall achievement. LLS also includes cognitive skills that can be learned and improved [37], allowing language learners to advance their knowledge of language development in their own way. Overall, LLS empowers individuals to become more effective language learners, thereby enhancing their proficiency and cultural appreciation in the process.

As COVID-19 spread, the teaching style shifted from the traditional classroom setting to online learning, and conventional methods of teaching and learning were compelled to adapt [20]. Online learning has long been a component of each course, depending on the course objectives. It includes activities such as group work discussions, workshops led by guest speakers from abroad, participation in international conferences, online meetings with internship students, and more. Hence, the objective of this research study was to analyze the language learning strategies employed by undergraduate students at a public university in northeastern Thailand, specifically during the two-year period of 2021–2022, which coincided with the COVID-19 pandemic. The primary aim was to derive insights that can be applied to enhance teaching and learning methods, empowering students to adopt effective strategies for online language acquisition. More importantly, we cannot predict what will happen in the future. It is especially difficult to predict whether such a severe epidemic will recur. One thing we can do is adjust ourselves to be ready for unexpected situations such as this. Consequently, the researcher anticipated that the findings of the study would be valuable for both analyzing research data and refining teaching and learning approaches. LLSs for online education can assist teachers and students in delivering more effective instruction and learning in an online format.

2 LITERATURE REVIEW

2.1 Language learning strategies

Language learning strategies are essential tools that language learners, including university students, use to improve their language acquisition and proficiency.

This literature review provides an overview of the definitions, types of language learning strategies, their importance, and usefulness, with a specific focus on their impact on language learning among university students.

Definition of language leaning strategies. Various scholars have offered diverse perspectives on LLSs. Linguists and academics [13] [22] [41] have defined LLS in various ways, drawing on their experience and research. There are three main aspects to their definitions: general or specific actions; conscious or unconscious; and observable or unobservable approaches. Oxford [13] defined language learning strategies as “specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations.” LLSs were defined as observed actions or techniques, which encompassed both mental processes that could be observed and those that were not observable [33] [34] [35]. Wenden [33] defines LLS as “actions or techniques, whether observable or unobservable, that can be learned and changed and contribute either directly or indirectly to learning.” Moreover, in terms of conscious and unconscious processes, LLSs, as defined by Griffiths [3] and Swain et al. [22], refers to the conscious processes that language learners employ to regulate their own language learning, encompassing both conscious and unconscious processes. Recently, Sukying [20] also defined LLS as conscious behaviors and thought processes selected and used by learners to perform learning actions in specific contexts.

Types of language learning strategies. Different researchers have approached the classification of LLSs from various perspectives, including their function, purpose, learning environment, and language skills. According to Ellis [35], Oxford’s taxonomy of six learning strategy factors is considered one of the most comprehensive and consistent with learners’ actual strategy use. This classification has also been cited by Hsiao and Oxford [39]. Hsiao and Oxford [39], O’Malley and Chamot [10], and Rao [38] have highlighted the potential of this approach to enhance learners’ understanding of language acquisition.

Oxford [11] introduced a framework for categorizing LLSs, dividing them into two main categories: direct strategies and indirect strategies. Direct strategies involve memory techniques, cognitive skills, and compensation methods aimed at enhancing language proficiency. Memory strategies suitable for beginners involve associating visual cues with words to aid in vocabulary acquisition. Cognitive strategies can be further categorized into practices such as repetition, comprehension, analysis, and structural creation, enabling learners to understand and express meaning in the new language. Compensation strategies help learners overcome language challenges by enabling them to make informed guesses when they lack knowledge.

Indirect strategies encompass metacognitive, affective, and social approaches to language learning. Metacognitive strategies help learners plan and assess their progress in language learning. Affective strategies empower learners to effectively manage their emotions, attitudes, and motivation, especially when it comes to dealing with anxiety related to language acquisition. Social strategies involve interactions such as questioning, cooperation, and empathy, which foster productive communication and collaboration.

Oxford [13] introduced a revised strategic self-regulation model for language learning, which includes four primary strategies: cognitive strategies, sociocultural-interactive strategies, metastrategies, and affective strategies. Recently, Oxford [32] provided a deeper insight by describing L2 learning strategies as intricate and adaptive techniques chosen and applied by learners within specific situations to complete

language-related tasks and enhance their language learning progress. These methods are often combined and modified in various ways to accommodate individual learning needs. Notably, the effectiveness of these diverse strategies is influenced by various personal and contextual factors.

2.2 Importance of online learning during the Covid-19 pandemic

Amidst the peak of the COVID-19 outbreak (2020–2022), there was a significant increase in the use of remote teaching as a preventive measure against infections, replacing the traditional classroom setting. Instructors tended to use Google Classroom and Moodle. Zoom and Google Meet were often used for online instruction. Instructors often use Line, Facebook, and email for classroom communication. Moreover, various tools such as Google Form, Kahoot, Edpuzzle, Padlet, Canva, and Zoom poll were utilized to facilitate interactive teaching and learning activities in the classroom.

COVID-19, despite the evident trauma for Thai society, has offered us more opportunities to carry out research. Studies and experiences during the pandemic have helped us learn more about online instruction. For example, some Thai researchers have attempted to investigate factors affecting online instructional management as well as the perspectives of teachers and students towards online learning [7]. For example, studies have been conducted on learners' readiness for online learning [23] [24], readiness factors and barriers in blended learning classrooms [25], and the effectiveness of online learning tools [9].

The COVID-19 pandemic has been a turning point for teaching and learning in Thailand. COVID-19 has necessitated some education reforms in Thailand. In terms of teaching and learning, it is essential to start with a basis of realism when developing strategies. These strategies should be diversified across multiple technologies rather than relying solely on a single one. Equally, if not more critical, is the need to prevent technological solutions from negatively impacting those who are already marginalized. The principle is to ensure that no one is left behind.

3 RESEARCH METHODOLOGY

3.1 Subjects

The present study focused on a group of 350 students who were enrolled at a public university located in the northeastern region of Thailand. They had been studying through online learning for two years (academic year 2021–2022) due to the COVID-19 pandemic. They had enrolled in four compulsory English courses (English 1, English 2, English 3, and English 4) in the academic year 2021–2022. The researcher collected data from students who registered for the English 4 course and used their academic results in this course to gather the data. For the present investigation, participants were selected using Yamane's sample size formula, which incorporates a 5% margin of error and a 95% confidence level [27]. The sample consisted of 205 third-year students. Table 1 displays the number of students categorized by their language achievement based on grading criteria. Subsequently, the participants were categorized into three groups based on their language proficiency levels: high, moderate, and low, as shown in Table 2.

Table 1. Grading criteria

Grade	Score Range	Number
A	79.50–100	51
B+	74.50–79.49	45
B	69.50–74.49	45
C+	64.50–69.49	26
C	59.50–64.49	15
D+	54.50–59.49	13
D	44.50–54.49	10
Total		205

Table 2. Students’ language proficiency level

Level	Grade	Number
High	A, B+	96
Moderate	C+, B	71
Low	C, D+, D	38
Total		205

In terms of the variable of enjoyment of English learning, students were separated into three major groups based on their level of enjoyment of learning English. Participants were asked to evaluate ten statements indicating their level of appreciation for learning English. There were three types of statements categorized as professional, social, and personal. Five response choices, each associated with a numerical value (1 for “not at all,” 2 for “to a limited extent,” 3 for “moderately,” 4 for “significantly,” and 5 for “extremely”), were used to assess students’ satisfaction with their English studies based on cumulative scores. Based on the score range, with a maximum achievable score of 50 and a minimum score of 10, participants who scored 36 or above were categorized as having a high level of enjoyment. Those individuals who scored between 18 and 35 were considered to have a moderate level of enjoyment, whereas those who scored between 0 and 17 were seen as having a low level of enjoyment. In the present investigation, three distinct groups were established: 134 participants who displayed a high degree of enjoyment in learning English, 71 participants at a moderate level, and no participants falling into the low enjoyment category for learning English.

3.2 Research instruments

The data collection involved using the language learning strategy questionnaire (LLSQ). The questionnaire was developed by Oxford (1990 and 2011) and consisted of 50 items, including 9 MEM, 14 COG, 6 COM, 9 MET, 6 AFF, and 6 SOC.

3.3 Data collection and analysis

The data were collected through LLS questionnaires distributed to university students who were studying at a state university during the COVID-19 pandemic.

The researcher aimed to conduct a study to explore the language proficiency level and use of language learning strategies among students at a state university. Data was collected using the scales mentioned. The purpose of the data collection was explained to the students when the scales were applied. Participants were carefully selected to participate in the study. The research instruments were administered to the study participants using Google Forms during the months of March and April 2023. The concluding phase involved analyzing the collected data. With the SPSS 22 program, the data was analyzed. An ANOVA investigation was conducted to examine the relationship between students' application of language learning strategies, their language proficiency levels, and their enjoyment of learning English. Furthermore, chi-square tests were employed to confirm significant differences at the individual strategy level.

4 RESULTS

As indicated in Table 3, the ANOVA is used to determine whether there are statistically significant differences among the means of the three groups for both overall LLS use and enjoyment of English learning. The significance level for overall LLS Use (Sig.) the lack of significance (N.S., not significant) suggests that there is no significant difference in the overall utilization of language learning strategies across the three proficiency levels. The mean frequency scores were 3.57, 3.52, and 3.31, respectively. Insignificant distinctions were observed in the overall application of LLS between students labeled as 'high' and 'low' in language proficiency, as well as between those categorized as 'moderate' and 'low' in language proficiency.

However, for the enjoyment of English learning, the ANOVA indicates a significant difference (Sig.). The difference in proficiency levels was statistically significant ($P < .001$) among the three groups. Specifically, the average frequency scores were 3.71 and 3.10, respectively.

Table 3. Overview of variances in students' overall Reported utilization of language learning strategies

Language Proficiency	High (n = 96)		Moderate (n = 71)		Low (n = 38)		Sig.	Comments
	Mean	S.D.	Mean	S.D.	Mean	S.D.		
Overall LLS Use	3.57	.61	3.52	.61	3.31	.59	N.S.	–
Enjoyment of English Learning	High (n = 134)		Moderate (n = 71)		Low (n = 0)		Sig.	Comments
	Mean	S.D.	Mean	S.D.	Mean	S.D.		
Overall LLS Use	3.71	.57	3.10	.46	–	–	$P < .001$	High > Moderate

4.1 Differences in LLS utilization across the six categories based on language proficiency

The analysis of the data using ANOVA and post hoc Fisher's LSD tests indicates that significant differences in LLS utilization primarily exist in the "MET" and "AFF" categories across different language proficiency levels. Specifically, the high proficiency group demonstrated the highest utilization of metacognitive strategies ("MET"), while the moderate proficiency group showed the highest utilization of affective strategies ("AFF"). No significant differences were observed in the

utilization of memory (“MEM”), cognitive (“COG”), compensation (“COM”), and social (“SOC”) strategies across the proficiency levels. These findings provide valuable insights into the relationship between language proficiency and the selection of language learning strategies. This information can be used to inform language education and strategy instruction programs.

Table 4. Differences in LLS utilization across the six categories based on language proficiency

Strategy Category	High (n = 96)		Moderate (n = 71)		Low (n = 38)		Sig.	Comments
	Mean	S.D.	Mean	S.D.	Mean	S.D.		
1. MEM	3.58	.61	3.47	.64	3.48	.61	N.S.	–
2. COG	3.55	.67	3.47	.63	3.28	.67	N.S.	–
3. COM	3.51	.68	3.44	.64	3.24	.63	N.S.	–
4. MET	3.68	.65	3.59	.64	3.22	.62	P < .001	H > M > L
5. AFF	3.49	.71	3.59	.61	3.20	.63	P < .05	M > H; M > L
6. SOC	3.55	.71	3.56	.66	3.39	.64	N.S.	–

Note: ‘H’ means ‘high’, ‘M’ means ‘moderate’, and ‘L’ means ‘low’.

4.2 Differences in LLS utilization across the six categories based on enjoyment of English learning

ANOVA results indicate a statistically significant difference in LLS utilization across the three categories of enjoyment of English learning (high, moderate, and low) for each of the six strategy categories (MEM, COG, COM, MET, AFF, and SOC). The p-values for each of these categories are all less than 0.001. The results of the post hoc analysis reveal that the high enjoyment group significantly outperforms the group with moderate enjoyment. This difference is also observed when comparing the group with high enjoyment to the group with low enjoyment. However, since there were no participants in the low enjoyment group for any of the strategy categories, it was not possible to make direct comparisons between the high or moderate enjoyment groups and the low enjoyment group. These findings suggest that having a positive attitude and finding enjoyment in English may be associated with a higher utilization of language and learning strategies.

Table 5. Differences in LLS utilization across the six categories based on enjoyment of English learning

Strategy Category	High (n = 134)		Moderate (n = 71)		Low (n = 0)		Sig.	Comments
	Mean	S.D.	Mean	S.D.	Mean	S.D.		
1. MEM	3.74	.60	3.13	.44	–	–	P < .001	High > Moderate > Low
2. COG	3.69	.63	3.07	.51	–	–	P < .001	High > Moderate > Low
3. COM	3.62	.66	3.09	.53	–	–	P < .001	High > Moderate > Low
4. MET	3.81	.62	3.10	.47	–	–	P < .001	High > Moderate > Low
5. AFF	3.66	.67	3.12	.51	–	–	P < .001	High > Moderate > Low
6. SOC	3.75	.65	3.09	.50	–	–	P < .001	High > Moderate > Low

4.3 Differences in the utilization of individual language learning strategies among students, based on their language proficiency levels

The data analysis provides valuable insights into the utilization of LLSs by students, with a particular emphasis on their language proficiency levels. The data is grouped into three categories: strategies predominantly used by students with high proficiency, strategies predominantly used by students with moderate proficiency, and strategies unique to students with high proficiency. The results of chi-square tests reveal significant disparities in strategy utilization among these groups.

High-proficiency students exhibit a diverse array of strategies, including connecting prior knowledge with new information, incorporating vocabulary into sentences, and using non-verbal gestures when encountering difficulties in English conversation. Interestingly, individuals are more inclined to create new words when they encounter gaps in language. Moderate proficiency students, on the other hand, concentrate on employing strategies to effectively navigate their language learning journey. They avoid literal translations, pay attention to their feelings of tension and nervousness, and record their emotions in a language learning journal. One unique strategy found among highly proficient students is watching English-language TV shows and movies, highlighting the significance of being exposed to authentic language sources.

In summary, these findings underscore the various ways in which students of different proficiency levels engage with diverse language learning strategies. The classification of these strategies into distinct patterns enhances our understanding of how they are used across different levels of proficiency.

Table 6. Differences in the utilization of individual language learning strategies among students, based on their language proficiency levels

Utilized Predominantly by Students with High Language Proficiency Rather than those with Low Proficiency (16 LLSs)	High (n = 96)	Moderate (n = 71)	Low (n = 38)	Variation Pattern
MEM 1 I engage in the process of connecting my existing knowledge with new information I acquire in English.	65.6	53.5	34.2	$\chi^2 = 11.076$ P < .05
MEM 2 I incorporate newly acquired English vocabulary into sentences to aid in memory retention.	60.4	45.1	36.8	$\chi^2 = 7.446$ P < .05
MEM 3 I associate the pronunciation of a new English word with a mental image to enhance my ability to recall the word.	62.5	50.7	34.2	$\chi^2 = 9.015$ P < .05
COG18 I initially glance through an English passage (read it swiftly), and then revisit it for a thorough reading.	51.0	40.8	23.7	$\chi^2 = 8.454$ P < .05
COG19 I search for words in my native language that bear resemblance to unfamiliar English words.	51.0	49.3	21.1	$\chi^2 = 10.754$ P < .05
COM25 When I'm unable to recall a word while conversing in English, I rely on non-verbal gestures to convey my meaning.	57.3	45.1	28.9	$\chi^2 = 9.091$ P < .05
COM26 I create new words in English when I don't know the appropriate ones.	50.0	47.9	23.7	$\chi^2 = 8.175$ P < .05
COM28 I attempt to anticipate the next words or responses from the other person during an English conversation.	53.1	43.7	28.9	$\chi^2 = 6.548$ P < .05

(Continued)

Table 6. Differences in the utilization of individual language learning strategies among students, based on their language proficiency levels (*Continued*)

Utilized Predominantly by Students with High Language Proficiency Rather than those with Low Proficiency (16 LLSs)	High (n = 96)	Moderate (n = 71)	Low (n = 38)	Variation Pattern
MET31 I observe my English errors and utilize that insight to improve my performance.	56.3	52.1	31.6	$\chi^2 = 6.780$ P < .05
MET32 I focus my attention when someone is speaking in English.	63.5	49.3	36.8	$\chi^2 = 8.636$ P < .05
MET33 I make an effort to discover ways to enhance my English learning.	63.5	50.7	26.3	$\chi^2 = 15.216$ P < .001
MET34 I arrange my timetable to ensure sufficient time for English study.	52.1	43.7	15.8	$\chi^2 = 14.746$ P < .001
MET35 I seek out individuals with whom I can engage in English conversations.	53.1	45.1	21.1	$\chi^2 = 11.365$ P < .05
MET36 I search for chances to immerse myself in extensive English reading.	56.3	52.1	31.6	$\chi^2 = 6.780$ P < .05
MET38 I contemplate my development in the process of acquiring English skills.	56.3	56.3	23.7	$\chi^2 = 13.163$ P < .05
AFF41 I reward myself or indulge in a treat when I excel in my English endeavors.	47.9	45.1	13.2	$\chi^2 = 14.591$ P < .001
Utilized Predominantly by Students with Moderate Language Proficiency Rather than those with High and Low Proficiency (4 LLSs)	High (n = 96)	Moderate (n = 71)	Low (n = 38)	Variation Pattern
COG22 I aim to avoid literal word-for-word translations.	49.0	53.5	26.3	$\chi^2 = 7.865$ P < .05
AFF42 I pay attention to my feelings of tension or nervousness while studying or using English.	52.1	56.3	26.3	$\chi^2 = 9.718$ P < .05
AFF43 I jot down my emotions in a diary focused on my language learning experience.	40.6	53.5	26.3	$\chi^2 = 7.743$ P < .05
SOC45 When I encounter difficulty understanding something in English, I request the other person to either speak more slowly or repeat it.	59.4	64.8	28.9	$\chi^2 = 13.918$ P < .001
Utilized Predominantly by Students with High Language Proficiency Rather than those with Low and Moderate Proficiency (1 LLS)	High (n = 96)	Moderate (n = 71)	Low (n = 38)	Variation Pattern
COG15 I watch English-language TV shows or attend English-spoken movies.	60.4	40.8	47.4	$\chi^2 = 6.534$ P < .05

4.4 Differences in students' self-reported utilization of individual LLS based on their enjoyment of learning English

The results indicate that students who find learning English enjoyable employ a wider range of effective language learning strategies, including memory enhancement, cultural immersion, and metacognition. In contrast, individuals who experience moderate enjoyment use these strategies less frequently. These findings emphasize the significant role of emotions and motivation in shaping language learning approaches. They also underscore the importance of fostering an enjoyable learning environment for improved language acquisition outcomes.

Table 7. Differences in students' self-reported utilization of individual LLS based on their enjoyment of learning English

Individual Language Learning Strategies Used More by Students (50 LLSs)	% of High Use (4 and 5)		Observed χ^2
	High (n = 134)	Moderate (n = 71)	
1. MEM 1 I engage in the process of connecting my existing knowledge with new information I acquire in English.	69.4	29.6	$\chi^2 = 29.819$ P < .001
2. MEM 2 I incorporate newly acquired English vocabulary into sentences to aid in memory retention.	67.2	19.7	$\chi^2 = 41.798$ P < .001
3. MEM 3 I associate the pronunciation of a new English word with a mental image to enhance my ability to recall the word.	67.9	25.4	$\chi^2 = 33.759$ P < .001
4. MEM4 I enhance my memory of a new word by creating a mental scenario where the word could be applied.	67.9	25.4	$\chi^2 = 33.759$ P < .001
5. MEM 5 I employ rhyming techniques as mnemonic aids to memorize new English vocabulary.	57.5	28.2	$\chi^2 = 15.976$ P < .001
6. MEM 6 I utilize flashcards as a tool for retaining new English vocabulary in my memory.	53.0	15.5	$\chi^2 = 27.182$ P < .001
7. MEM 7 I employ physical actions or gestures to help me remember the meanings of new English words.	56.7	22.5	$\chi^2 = 21.919$ P < .001
8. MEM 8 I frequently revisit my English lessons for reinforcement and retention.	56.0	22.5	$\chi^2 = 21.017$ P < .001
9. MEM 9 I recall new words or phrases by associating them with their specific location on the page or the board.	59.7	26.8	$\chi^2 = 20.167$ P < .001
10. COG10 I repeatedly vocalize or write down newly learned English words to reinforce my memory of them.	59.7	19.7	$\chi^2 = 29.883$ P < .001
11. COG11 I make an effort to speak in a manner that emulates native English speakers.	64.2	19.7	$\chi^2 = 36.718$ P < .001
12. COG12 I engage in the pronunciation exercises of the English language.	70.9	18.3	$\chi^2 = 51.482$ P < .001
13. COG13 I apply my knowledge of English vocabulary in various contexts.	64.9	22.5	$\chi^2 = 33.359$ P < .001
14. COG14 I initiate dialogues in the English language.	53.0	26.8	$\chi^2 = 12.960$ P < .001
15. COG15 I watch English-language TV shows or attend English-spoken movies.	68.7	18.3	$\chi^2 = 47.084$ P < .001
16. COG16 I enjoy reading in English for leisure.	52.2	25.4	$\chi^2 = 13.694$ P < .001
17. COG17 I compose notes, messages, letters, or reports in the English language.	43.3	22.5	$\chi^2 = 8.661$ P < .001
18. COG18 I initially glance through an English passage (read it swiftly), and then revisit it for a thorough reading.	75.0	16.9	$\chi^2 = 28.998$ P < .001
19. COG19 I search for words in my native language that bear resemblance to unfamiliar English words.	58.2	19.7	$\chi^2 = 27.795$ P < .001
20. COG20 I attempt to identify patterns within the English language.	53.7	22.5	$\chi^2 = 18.435$ P < .001
21. COG21 I determine the definition of an English word by dissecting it into segments I comprehend.	61.2	19.7	$\chi^2 = 32.063$ P < .001

(Continued)

Table 7. Differences in students' self-reported utilization of individual LLS based on their enjoyment of learning English (*Continued*)

Individual Language Learning Strategies Used More by Students (50 LLSs)	% of High Use (4 and 5)		Observed χ^2
	High (n = 134)	Moderate (n = 71)	
22. COG22 I aim to avoid literal word-for-word translations.	59.7	21.1	$\chi^2 = 27.772$ P < .001
23. COG23 I create concise summaries of information I encounter or read in English.	50.7	19.7	$\chi^2 = 18.617$ P < .001
24. COM24 I employ guesswork as a strategy to comprehend unfamiliar English words.	60.4	22.5	$\chi^2 = 26.760$ P < .001
25. COM25 When I'm unable to recall a word while conversing in English, I rely on non-verbal gestures to convey my meaning.	61.9	21.2	$\chi^2 = 30.982$ P < .001
26. COM26 I create new words in English when I don't know the appropriate ones.	54.5	25.4	$\chi^2 = 15.948$ P < .001
27. COM27 I read English without constantly searching for the definitions of every unfamiliar word.	49.3	18.3	$\chi^2 = 18.762$ P < .001
28. COM28 I attempt to anticipate the next words or responses from the other person during an English conversation.	59.0	19.7	$\chi^2 = 28.827$ P < .001
29. COM29 When I can't recall an English word, I substitute it with a word or phrase that conveys the same meaning.	53.0	23.9	$\chi^2 = 15.977$ P < .001
30. MET30 I endeavor to explore various avenues for applying my English skills.	64.9	23.9	$\chi^2 = 31.185$ P < .001
31. MET31 I observe my English errors and utilize that insight to improve my performance.	63.4	25.4	$\chi^2 = 26.921$ P < .001
32. MET32 I focus my attention when someone is speaking in English.	70.1	22.5	$\chi^2 = 42.313$ P < .001
33. MET33 I make an effort to discover ways to enhance my English learning.	67.2	23.9	$\chi^2 = 34.745$ P < .001
34. MET34 I arrange my timetable to ensure sufficient time for English study.	56.0	16.9	$\chi^2 = 28.998$ P < .001
35. MET35 I seek out individuals with whom I can engage in English conversations.	56.0	22.5	$\chi^2 = 21.017$ P < .001
36. MET36 I search for chances to immerse myself in extensive English reading.	63.4	25.4	$\chi^2 = 26.921$ P < .001
37. MET37 I establish specific objectives for enhancing my English proficiency.	66.4	16.9	$\chi^2 = 45.526$ P < .001
38. MET38 I contemplate my development in the process of acquiring English skills.	67.9	16.9	$\chi^2 = 48.303$ P < .001
39. AFF39 I make an effort to remain calm when I experience anxiety about using English.	67.2	28.2	$\chi^2 = 28.381$ P < .001
40. AFF40 I motivate myself to communicate in English even in situations where I fear making errors.	66.4	22.5	$\chi^2 = 35.770$ P < .001
41. AFF41 I reward myself or indulge in a treat when I excel in my English endeavors.	47.8	26.8	$\chi^2 = 8.495$ P < .001
42. AFF42 I pay attention to my feelings of tension or nervousness while studying or using English.	62.7	22.5	$\chi^2 = 29.945$ P < .001

(Continued)

Table 7. Differences in students' self-reported utilization of individual LLS based on their enjoyment of learning English (*Continued*)

Individual Language Learning Strategies Used More by Students (50 LLSs)	% of High Use (4 and 5)		Observed χ^2
	High (n = 134)	Moderate (n = 71)	
43. AFF43 I jot down my emotions in a diary focused on my language learning experience.	53.7	21.1	$\chi^2 = 20.196$ P < .001
44. AFF44 I engage in conversations with someone else about my emotions and experiences while learning English.	59.7	25.4	$\chi^2 = 21.945$ P < .001
45. SOC45 When I encounter difficulty understanding something in English, I request the other person to either speak more slowly or repeat it.	70.1	28.2	$\chi^2 = 33.133$ P < .001
46. SOC46 I request English speakers to provide corrections when I engage in conversation.	59.0	23.9	$\chi^2 = 22.848$ P < .001
47. SOC47 I engage in English practice sessions with fellow students.	56.0	21.1	$\chi^2 = 22.878$ P < .001
48. SOC48 I seek assistance from individuals who are proficient in English.	60.4	16.9	$\chi^2 = 30.507$ P < .001
49. SOC49 I inquire in English by asking questions.	57.5	25.4	$\chi^2 = 19.244$ P < .001
50. SOC50 I make an effort to gain insights into the culture of those who speak English.	63.4	19.7	$\chi^2 = 35.516$ P < .001

5 DISCUSSION AND PEDAGOGICAL IMPLICATION

Differences in language learning approaches among individuals with varying levels of language proficiency can be attributed to their language abilities. Previous research by scholars such as Oxford and Nyikos [14], Sukying [20], Suwanarak [21], and Wen [26] has consistently highlighted how language proficiency influences the way students approach the acquisition of foreign or second languages. Sukying's recent study [20] particularly illuminates the connection between the use of learning strategies and the English proficiency of Thai university students. Consequently, the study suggests that students with lower language proficiency would benefit from guided instruction or training in the implementation of language learning strategies.

Teaching and learning methods are vital and inevitable for both teachers and learners in the new normal. It could be assumed that teaching and learning methods may have an effect on students' use of language learning strategies. Numerous research studies have highlighted the advantages of integrating technology into the field of English language education. For instance, Parvin and Salam [15], Gunuc and Babacan [1], as well as Kawinkoonlasate [6], have all emphasized the positive impact of technology on the teaching and learning of the English language. Hence, teaching methods should be integrated based on the objectives of the content and the needs of the learners in order to facilitate their language acquisition both in and out of the classroom. This eventually leads to autonomous learning and lifelong learning.

Motivation stands as a significant factor that influence the use of LLS among learners. Addressing the relationship between motivation and LLS, previous research, such as the study conducted by Oxford and Nyikos [14], emphasized that the level of motivation significantly impacts the choice of LLSs. Furthermore,

numerous previous studies [17] [19] have consistently demonstrated that students with high motivation tend to use a wider range of strategies compared to their less motivated peers. In other words, when language learners feel good and motivated while acquiring a language, they tend to continue practicing more. Because motivation and positive attitudes towards something cannot be built in one day, it takes time. Thus, it is suggested that students' motivation is one of the focal factors that are important for language learners when acquiring a language.

The significance of learning styles should not be underestimated. While learning styles tend to remain relatively consistent, educators have the opportunity to adapt the learning tasks within their classes to better suit individual learners with specific style preferences [40]. According to Reid [18], a crucial aspect of learning styles in ESL/EFL classrooms is the correlation between students' learning strategies and their preferred learning styles. Oxford [12] emphasized the importance of aligning second language (L2) instruction and strategy guidance with learners' preferred learning styles. Research conducted by Jie and Xiaoqing [5] and Balci [2] revealed that learning styles can impact language learning outcomes by influencing learners' utilization of learning strategies. In the age of technology, especially in the post-COVID-19 pandemic era, online learning through social media platforms such as YouTube, Facebook, Instagram, TikTok, Line, online games, AI applications, and other websites is experiencing a growing trend among language learners. Hence, it is suggested that the learning styles of students in language learning and their use of language learning strategies should be investigated in order to meet learners' needs and improve teachers' instructional management in a more practical and effective manner.

6 CONCLUSION

Due to the COVID-19 outbreak, Thai undergraduates had to learn online for two years. This research explored the relationship between students' LLS, language proficiency, and their enjoyment of learning English. The study found a significant disparity in students' enjoyment levels but no substantial difference in their language proficiency.

Notably, more than 50% of students (134 out of 205 participants) expressed their enjoyment of learning English at an advanced level through online platforms. Furthermore, these students reported using LLS more frequently compared to those with moderate proficiency. No students reported low enjoyment. Students value online education, which motivates them to employ LLS. In terms of language proficiency, students with high proficiency used more strategies in the MET category, while those with moderate proficiency used more strategies in the AFF category. These categories (MET and AFF) should be taught with clear objectives and authentic examples to assist learners in enhancing their skills. LLS assists learners in discovering their preferred methods for enhancing language learning.

7 REFERENCES

- [1] S. Gunuc and N. Babacan, "Technology integration in English language teaching and learning," *Journal of Teaching English for Specific and Academic Purposes*, vol. 5, no. 2, pp. 349–358, 2017.
- [2] Ö. Balci, "An investigation of the relationship between language learning strategies and learning styles in Turkish freshman students," *English Language Teaching*, vol. 10, no. 4, pp. 53–61, 2017. <https://doi.org/10.5539/elt.v10n4p53>

- [3] C. Griffiths, "Language learning strategies: Students' and teachers' perceptions," *ELT Journal*, vol. 61, no. 2, pp. 91–98, 2007. <https://doi.org/10.1093/elt/ccm001>
- [4] P. Imsaard, "Thai university students' perceptions towards the abrupt transition to forced online learning in the Covid-19 situation," *Journal of Education Khon Kaen University*, vol. 43, no. 3, pp. 30–44, 2021. <https://so02.tci-thaijo.org/index.php/EDKKUJ/article/view/2429-70>
- [5] L. Jie and Q. Xiaoqing, "Language learning styles and learning strategies of tertiary-level English learners in China," *RELC Journal*, vol. 37, no. 1, pp. 67–90, 2006. <https://doi.org/10.1177/0033-688206063475>
- [6] P. Kawinkoonlasate, "Online language learning for Thai EFL learners: An analysis of effective alternative learning methods in response to the Covid-19 outbreak," *English Language Teaching*, vol. 13, no. 12, pp. 15–26, 2020. <https://doi.org/10.5539/elt.v13n12p15>
- [7] C. Masatienwong and S. Nongtrud, *Covid 19 pandemic: Perspectives and experience at schools, villages and families levels and best practices from Thailand and South East Asian Countries*, 2021. <http://backoffice.onec.go.th/uploaded2/Newseng/202109/full-text-Chulakorn.pdf>
- [8] D. D. Minh, *Language learning strategies used by Vietnamese EFL science-oriented university students*. Doctoral dissertation. Suranaree University of Technology. Thailand, 2012. <http://sutir.sut.ac.th:8080/sutir/bitstream/123456789/3881/1/fulltext.pdf>
- [9] C. Muangmee, S. Kot, N. Meekaewkunchorn, N. Kassakorn, S. Tiranawatananun, and B. Khalid, "Students' use behavior towards e-learning tools during COVID-19 pandemics: Case study of higher educational institutions of Thailand," *International Journal of Evaluation and Research in Education (IJERE)*, vol. 10, no. 4, pp. 1166–1175, 2021. <https://doi.org/10.11591/ijere.v10i4.21821>
- [10] J. M. O'Malley and A. U. Chamot, *Learning strategies in second language acquisition (4. print.)*. Cambridge: Univ. Press, 1995. Verfügbar unter: <http://www.gbv.de/dms/bowker/toc/9780521352864.pdf>
- [11] R. L. Oxford, *Language learning strategies: What every teacher should know*. Newbury House/Harper Collins, NY, 1990, pp. 1–22. <https://doi.org/10.5070/L411004984>
- [12] R. L. Oxford, *Language learning styles and strategies*. In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language*, Boston, MA: Heinle & Heinle, 2001, pp. 359–366.
- [13] R. L. Oxford, *Teaching and researching language learning strategies*. Great Britain: Pearson Education Limited, 2011.
- [14] R. Oxford and M. Nyikos, "Variables affecting choice of language learning strategies by university students," *The Modern Language Journal*, vol. 73, no. 3, pp. 291–300, 1989. <https://doi.org/10.1111/j.1540-4781.1989.tb06367.x>
- [15] R. H. Parvin and S. F. Salam, "The effectiveness of using technology in English language classrooms in government primary schools in Bangladesh," *FIRE: Forum for International Research in Education*, vol. 2, no. 1, pp. 47–59, 2015. <https://doi.org/10.18275/fire2015-02011049>
- [16] T. Phuthong, "Antecedents influencing the adoption of collaborative learning social-media platforms among Thai university students during the Covid-19 'New Normal' era," *International Journal of Emerging Technologies in Learning*, vol. 16, no. 13, pp. 108–127, 2021. <https://doi.org/10.3991/ijet.v16i13.18083>
- [17] S. Qi and X. Zhao, "A correlation study of English learning motivation and learning strategies of student pilots," *International Journal of New Developments in Education*, vol. 3, no. 5, pp. 1–7, 2021. <https://doi.org/10.25236/IJNDE.2021.030501>
- [18] J. M. Reid, Preface. In J. Reid (Ed.), *Learning styles in the ESL/EFL classroom* (pp. viii–xvii). Boston, MA: Heinle and Heinle, 1995. <https://doi.org/10.1017/cbo9781139172721.001>

- [19] F. Sadighi and M. Zarafshan, "Effects of attitude and motivation on the use of language learning strategies by Iranian EFL university students," *Journal of Social Sciences & Humanities of Shiraz University*, vol. 23, no. 1, pp. 71–80, 2006. https://www.sid.ir/EN/VEWSSID/J_pdf/103120064607.pdf
- [20] A. Sukying, "Choices of language learning strategies and English proficiency of EFL university learners," *LEARN Journal: Language Education and Acquisition Research Network*, vol. 14, no. 2, pp. 59–87, 2021. <https://so04.tci-thaijo.org/index.php/LEARN/article/view/253261>
- [21] K. Suwanarak, "Use of learning strategies and their effects on English language learning of Thai adult learners," *The Southeast Asian Journal of English Language Studies*, vol. 25, no. 4, pp. 99–120, 2019. <https://doi.org/10.17576/3L-2019-2504-07>
- [22] M. Swain, S. Lapkin, I. Knouzi, W. Suzuki, and L. Brooks, "Languaging: University students learn the grammatical concept of voice in French," *Modern Language Journal*, vol. 93, pp. 5–29, 2009. <https://doi.org/10.1111/j.1540-4781.2009.00825.x>
- [23] I. Thepwongsa, P. Sripa, R. Muthukumarb, K. Muthukumarb, S. Virasiri, and P. Nonjui, "The effects of a newly established online learning management system: The perspectives of Thai medical students in a public medical school," *Heliyon*, vol. 7, no. 10, pp. 1–10, 2021. <https://doi.org/10.1016/j.heliyon.2021.e08182>
- [24] N. Tuaycharoen, "University-wide online learning during COVID-19: From policy to practice," *International Journal of Interactive Mobile Technologies (IJIM)*, vol. 15, no. 2, pp. 38–54, 2021. <https://doi.org/10.3991/ijim.v15i02.18143>
- [25] P. Wattanakasiwich, N. Suree, S. Chamrat, W. Saengsuwan, W. Suttharangsee, T. Panrat, and P. Chantawannakul, "Investigating challenges of student centered learning in Thai higher education during the COVID-19 pandemic," in *2021 IEEE Frontiers in Education Conference (FIE)*, 2021, pp. 1–7. <https://doi.org/10.1109/FIE49875.2021.9637298>
- [26] Q. F. Wen, "Differences of strategy use among successful and unsuccessful EFL learners," *Foreign Language Teaching and Research*, vol. 103, no. 3, pp. 61–66, 1995.
- [27] T. Yamane, T. *Statistic: An introductory analysis*. 3rd ed., New York: Harper and Row, 2007.
- [28] M. Zafari and R. Biria, "The relationship between emotional intelligence and language learning strategy use," *Procedia-Social and Behavioral Sciences*, vol. 98, pp. 1966–1974, 2014. <https://doi.org/10.1016/j.sbspro.2014.03.630>
- [29] C. Zhou, *Language Learning Strategies Employed by Chinese English-Major Pre-Service Teachers*. Doctoral Dissertation, School of Foreign Languages, Suranaree University of Technology, Nakhonratchasima, Thailand, 2014. <http://sutir.sut.ac.th:8080/utir/bitstream/123456789/5341/2/Fulltext.pdf>
- [30] K. Yatigamma and G. Wijayarathna, "Students' perceptions of online lecture delivery modes: Higher education during Covid-19 pandemic and beyond," *International Journal of Emerging Technologies in Learning (IJET)*, vol. 16, no. 21, pp. 58–73, 2021. <https://doi.org/10.3991/ijet.v16i21.25305>
- [31] V. Amnouychochanant, S. Boonlue, S. Chuathong, and K. Thamwipat, "Online learning using block-based programming to foster computational thinking abilities during the Covid-19 pandemic," *International Journal of Emerging Technologies in Learning (IJET)*, vol. 16, no. 13, p. 227, 2021. <https://doi.org/10.3991/ijet.v16i13.22591>
- [32] R. Oxford, *Teaching and Researching Language Learning Strategies: Self-Regulation in Context* (2nd edition), Routledge, 2017. <https://papyruspub.com/>
- [33] A. Wenden, "How to be a successful language learner: Insights and prescriptions from L2 learners," In A. Wenden and J. Rubin, J. (Eds.). *Learner Strategies in Language Learning*. Cambridge: Prentice-Hall, pp. 103–116, 1987.

- [34] D. Nunan, "Methods in second language classroom-oriented research: A critical review," *Studies in Second Language Acquisition*, vol. 13, pp. 249–274, 1991. <https://doi.org/10.1017/S0272263100009967>
- [35] R. Ellis R. *The Study of Second Language Acquisition*. Oxford University Press. Oxford, 1994.
- [36] E. Bialystok, "Explicit and implicit judgements of L2 grammaticality," *Language Learning*, vol. 29, pp. 81–104, 1979. <https://doi.org/10.1111/j.1467-1770.1979.tb01053.x>
- [37] J. M. O'Malley and A. U. Chamot, *Learning Strategies in Second Language Acquisition*. Cambridge: Cambridge University Press, 1990. <https://doi.org/10.1017/CBO97811-39524490>
- [38] Z. H. Rao, *Individual Differences and Cultural Factors in English Learning Strategies*. Shanghai: Shanghai Foreign Language Education Press, 2008. <https://doi.org/10.2167/jmmd449.1>
- [39] T. Y. Hsiao and R. L. Oxford, "Comparing theories of language learning strategies: A confirmatory factor analysis," *The Modern Language Journal*, vol. 86, no. 3, pp. 368–383, 2002. <https://doi.org/10.1111/1540-4781.00155>
- [40] A. D. Cohen and A. Henry, "Focus on the language learner: Styles, strategies and motivation 1," In *An introduction to applied linguistics*, pp. 165–189, 2019, Routledge. <https://doi.org/10.4324/9780429424465-10>

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