

Indirect Learning Strategies of Mandarin as A Foreign Language Learners During Online Learning in COVID-19 Pandemic Period

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Abstract

The study seeks to investigate the indirect language learning strategies used by learners of Mandarin as a foreign language in an online learning environment during the COVID-19 Pandemic period. A simple random sampling was employed, and 445 Malay undergraduate students engaged in a Mandarin course in a Malaysian university participated by answering a questionnaire. The Strategy Inventory for Language Learning (SILL), developed by Oxford in 1990 was used to collect the data. To ascertain the pattern of indirect language learning strategies preferred by male and female degree students in the Mandarin Course, descriptive statistics were utilised in the study. The Independent Sample t-Test was also utilized to examine the significant differences between the indirect learning strategies used by the male and female degree learners. The results show that the metacognitive strategy is the favourite indirect learning strategy for Malay undergraduates, followed by affective strategies and social strategies. Additionally, regardless of gender, metacognitive strategy emerged as the most common learning strategy. However, results indicated that there were no significant differences between the metacognitive learning strategies employed by male and female degree students. These findings provide repercussions to Mandarin as a foreign or second language educators to assess existing teaching strategies to enhance the effectiveness in classroom which offer various learning strategies to make students better learners.

Keywords: Language Learning Strategies (LLS), Mandarin Language, Covid-19, Online Distance Learning (ODL), Metacognitive, Affective, Social Strategies

Introduction

As a multi-ethnic and multicultural country, people in Malaysia learn and speak multi languages. In schools, it is mandatory for all students to learn Bahasa Malaysia as the national language. English is also a compulsory second language in schools and higher education institutions. Other languages learned or spoken include Mandarin, Tamil, Punjabi, or other native language used by minority ethnics. In many tertiary education institutions, undergraduate students are required to enrol in at least a foreign language subject to meet the program's requirement despite having to master a higher proficiency level of English. It is

challenging for non-native speakers who need to learn a foreign language as they do have adequate opportunity to practice the new language in real-life situations. With the switch of education to online distance learning (ODL) during the outbreak of Covid-19 pandemic, students faced additional challenges to adapt to the new mode of learning. In recent research on e-learning during the pandemics, students reported the disadvantages of the online teaching model, which is the lack of the social communication found in traditional classrooms (Adnan, 2020; Dhawan, 2020). Many studies have confirmed the association of successful learning with the application of language learning strategies (LLS) (Gan et al., 2004; Vann & Abraham, 1990). Therefore, it may be helpful to investigate students' language learning strategies with an emphasis on how they acquire the language, especially in the scenario during ODL, as most past studies on LLS were carried out in a traditional classroom. Hence, this research will focus on examining overall usage of Indirect Learning Strategies by students of Mandarin as a Foreign Language in a Malaysian public university. The taxonomy of LLS by Oxford (1990) is adopted in this study and it focuses primarily on the category of indirect learning strategies, which "support and manage language learning without directly involving the language" (Oxford, 1990). In addition, to gain a deeper and wider insight, gender difference on indirect LLS preference will also be examined in the study.

Literature Review

LLS is defined as an essential step taken by learners to have a better language learning experience. LLS is reviewed as an instrument for learners to have an independent and dynamic learning process (Oxford, 1990). Language Learning Strategies refer to a learner's general approaches and high-level clusters of learning tactics that work together to produce a uniform learning outcome (Schmeck, 1988). Mayer (1988) viewed LLS as part of learner's behaviour which could influence the way learner processes information from the perspective of cognitive psychology. Here learner's behaviour refers to controlling of one's cognitive processes, attention, rehearsal, encoding and retrieval.

Language Learning Strategies intended to explore the learner's tactics in learning a new language. LLS was established by Rubin and Naiman (1975) and later was extended by Oxford (1990). Oxford systematized LLS into two groups, Direct Learning Strategies, and Indirect Learning Strategies. Direct Learning Strategies consist of memory, cognitive and compensation, Indirect Learning Strategies on the other hand include metacognitive, affective, and social strategies. Oxford (1990, p.136) defined metacognitive strategies "are actions which go beyond purely cognitive devices, and which provide a way for learners to coordinate their own learning process". In other words, metacognitive strategies allow learners to superintend their own learning through organizing, planning, and evaluating. Affective strategies help learners control over their emotions, motivation and attitudes that are connected to the success or failure of language learning (Oxford, 1990). Besides that, Oxford (1990) refers to social strategies as action to help learners learn a language through interaction with other people which involves asking questions, cooperating, and empathizing with others.

Language Learning Strategies has been researched by scholars over the decades, yet there is a gap need to be filled on the use of Language Learning Strategies in ODL environment during the COVID-19 outbreak. This is because online distance learning through online platforms has become significant in teaching and learning. Some scholars claimed that online distance learning is a new phenomenon that literally provides educational institutions with tremendous learning opportunities, but with great challenges (Mehrotra et al., 2001) that still

demand for solutions. Online Distance Learning bestows portability, an extensive study alternative, and flexible schedule for students and the institutions that provide these options (Aslanian et al., 2012). These factors may cause different use of pattern in LLS than before which is worth to be investigated. Thus, LLS are still very crucial and significant for language learning even in this online learning environment (Oxford & Schramm, 2007).

Indirect Learning Strategies used by male and female learners may vary in Online Distance Learning environment. Alyani & Irfan (2021) studied English as a Second Language (ESL) learners' preference for LLS while learning English in an online distance context and found that female learners used more metacognitive strategies than male learners. Similarly, another research also investigated whether differences exist between male and female learners in the use of metacognitive strategies in French as a foreign language (Isa et al., 2022). The findings revealed that female learners used metacognitive strategies more than male learners on digital online learning platforms. Female learners also tend to use metacognitive strategies more often than male learners. Likewise, Tam (2013) also found that female and male learners have a significance difference in using metacognitive and social strategies to learn English in a university in Hong Kong, with female learners used these both strategies more regularly than male learners. In contrast with the findings mentioned above, Murni & Sahril (2018) argued that female learners used more affective strategies compared to male learners, whereas male learners used more metacognitive and social strategies than female learners. These findings can provide a wider spectrum of the use of LLS by learners in ODL environment in term of gender differences.

Research Objectives

This study aims to identify the patterns of the use of indirect LLS as perceived by Mandarin as a foreign language learners in online distance learning settings. The study intended to answer the following research questions (RQ)

1. What is the overall means of indirect LLS (metacognitive, affective, and social strategies) used by the Malay undergraduates in the Mandarin course?
2. What is the pattern of indirect LLS preferred by male and female undergraduates in the Mandarin course?
3. Is there any significant difference in metacognitive, affective, and social strategies used by male and female undergraduates?

Based on the RQ3, three hypotheses were suggested:

H₁: There is no significant difference in metacognitive learning strategy used by the male and female undergraduates.

H₂: There is no significant difference in affective learning strategy used by the male and female undergraduates.

H₃: There is no significant difference in social strategies used by the male and female undergraduates.

Research Framework

This study employed Oxford's (1990) Strategy Inventory for Language Learning (SILL) to investigate the third language learners' indirect learning strategies in learning Mandarin language. A research framework is proposed as in Figure 1. The research model shows how the variables such as metacognitive, affective, and social strategies are referred to.

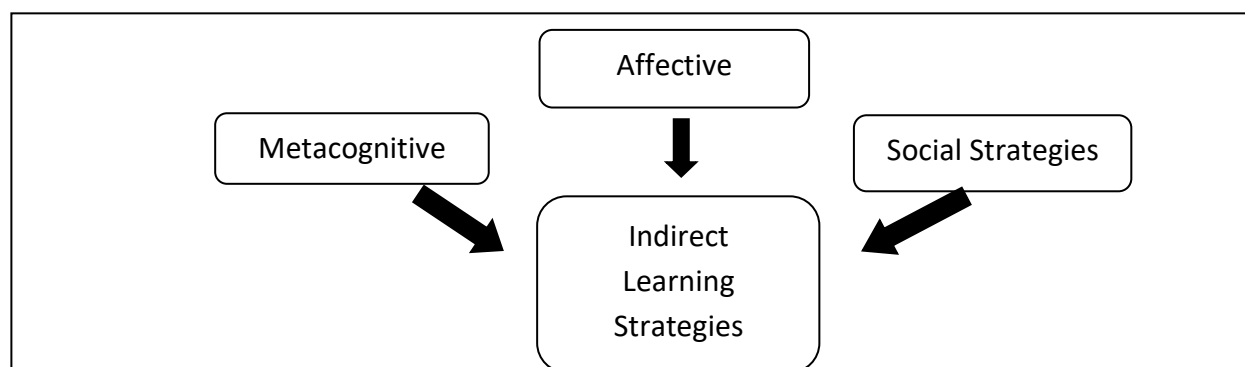


Figure 1. Research model: Indirect Learning Strategies (SILL)

Research Methodology

Participants

Four hundred and forty-five (N=445) undergraduates from Universiti Teknologi MARA (UiTM), Cawangan Melaka (Melaka state campus) were randomly selected as the participants for this study. The respondents consisted of 101 males and 344 females who were non-native Mandarin speakers. Due to the spread of the Covid-19 Pandemic, all the respondents learned Mandarin in an ODL environment. All the participants are Malay students, ranging between 21 and 26 years old, majoring in Business Administration, Art & Design, Accountancy, Hotel & Tourism Management, Communication & Media, Computer Science & Mathematics, and Plantation & Agrotechnology. They had enrolled in the *Introductory Mandarin Level I*, *Introductory Mandarin Level II*, and *Introductory Mandarin Level III* as their foreign language course. Although all the participants were from the same university, but they live in different parts of Malaysia. With the differences in their places of origin and social economic background, it is believed that these can provide a variety of useful perceptions and information concerning the study.

Instrument

This quantitative study employed a survey method to investigate the third language learners' direct learning strategies. A questionnaire of Strategy Inventory for Language Learning (SILL) developed by Oxford (1990) was adapted and used to gather data on the respondents' memory, cognitive, and compensation learning strategies in learning Mandarin language in the online classroom setting. The questionnaire for this study comprised of two parts: part one consisted of 6 items while part two consisted of 21 items. The first part of the questionnaire was on the respondents' demographics. The second part of the questionnaire was to identify the indirect learning strategies (metacognitive, affective, and social strategies) measured on a five-point Likert scale, ranging from '1=Strongly Disagree' to '5=Strongly Agree', as shown in Table 1.

Table 1

Five-Point Likert Rating Scale.

Scale	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Reliability Test

A pilot test was conducted to test the internal consistency and reliability of the study instrument. Results of the Cronbach's Alpha Reliability Test are presented in Table 2.

Table 2

Reliability Coefficient of Study Instruments

Instrument	No. of Items	Cronbach's Alpha
Metacognitive	9	0.89
Affective	6	0.74
Social Strategies	6	0.82

Cronbach's alpha values for the instruments in table 2 are greater than 0.70. Therefore, the scale of all the items in this study can be considered as having high reliability and validity.

Data Collection and Analysis

The questionnaires were distributed from November 2021 to February 2022 to the participants to complete through Google Form. A total of 445 valid questionnaires were returned. The data collected from the questionnaire were fed into the computer and analyzed with the help of the Statistical Package for Social Sciences (SPSS-v-17) software. Descriptive statistics mean, standard deviation of indirect learning strategies (metacognitive, affective, social strategies) was conducted to determine the pattern of indirect learning strategies employed by Malay undergraduates in Mandarin course based on gender. The significant differences in indirect LLS used by male and female degree students were determined using the Independent Sample t-Test. Besides, the range of the analysis of the participants' mean values of strategy use was used in generating the research output as suggested by Oxford (1990): 'low strategy users = 1.0 to 2.4', 'medium strategy users = 2.5 to 3.4' and 'high strategy users = 3.5 to 5.0'.

Findings and Discussion

This section presents the analysis and findings of the participants' metacognitive, affective, and social strategies used by Malay undergraduates in online Mandarin courses. The results and discussion are presented according to the research questions.

Research Question 1: What is the overall means of indirect LLS (metacognitive, affective, and social strategies) used by the undergraduates in Mandarin course?

Table 3

Overall Indirect LLS used by the Degree Students

Total (N=445)	Direct Learning Strategies	Mean (M)	Standard deviation (SD)	Rank	Level of Uses
	Metacognitive	3.40	0.633	1	Medium
	Affective	3.08	0.647	2	Medium
	Social Strategies	3.05	0.775	3	Medium

Table 3 shows the indirect learning strategies of the subjects in terms of three categories, metacognitive, affective, and social strategies. The results show that metacognitive strategy (M=3.40, SD=0.633) is the most preferred by undergraduates in learning Mandarin. This was followed by affective strategy (M=3.08, SD=0.647) and social strategies (M=3.05, SD=0.775)

in learning Mandarin. All the mean scores of Indirect Learning Strategies ranged from 2.97 to 3.42 showed that respondents “sometimes” used these strategies as classified by (Oxford, 1990).

Based on the results described above, this study reveals the importance of metacognitive strategies in ODL. Oxford (1990, p.136) defined metacognitive strategies as “actions which go beyond purely cognitive devices, and which provide a way for learners to coordinate their own learning process”. Metacognitive reading strategies enable language learners to control their reading by planning, coordinating, and assessing their learning process (Isa et al., 2022). This learning strategy is used by language learners most possibly because it is suitable for language acquisition in online distant learning environments. In terms of the engagement of the students in language learning, teachers need to know about the learning strategies used by the students in their learning (Yulianti, 2018). As a result, in an online learning environment, teachers and facilitators are crucial in guiding students to arrange their activities schedule themselves. The teacher should encourage the students in applying the learning strategies in order for them to plan, predict, monitor, revise, check, and evaluate their language learning.

Research Question 2: What is the pattern of Indirect LLS preferred by male and female undergraduates in Mandarin Course?

Table 4

Indirect LLS used by Degree Students based on Gender

Direct Learning Strategies	Male (N=101)		Female (N=344)	
	Mean (M)	Standard deviation (SD)	Mean (M)	Standard deviation (SD)
Metacognitive	3.40	0.720	3.41	0.606
Affective	3.18	0.665	3.05	0.639
Social Strategies	3.15	0.786	3.02	0.771

Table 4 revealed that male students preferred metacognitive strategies (M=3.40, SD=0.720), followed by affective strategies (M=3.18, SD=0.665) and social strategies (M=3.15, SD=0.786) in learning Mandarin as their foreign language. Besides that, as shown in table 4, the results also indicated that female students also preferred metacognitive strategies (M=3.41, SD=0.606) although the mean score is slightly higher than male undergraduates. Affective strategies scores were (M=3.05, SD=0.639) and followed by social strategies (M=3.02, SD=0.771). The result suggests that both males and females were “medium users” for all indirect learning strategies as their scores were between 2.5 and 3.4 based on the classification by Oxford (1990). Metacognitive strategies obviously gained the most preferred indirect LLS regardless of male or female students. The findings have demonstrated that most of the Malay learners of Mandarin as a foreign language are referred as inner-directed learners in their language learning journey.

These findings are aligned with Soupi et al (2022) on LLS used among Malaysian ESL graduates where metacognitive strategies are the most preferred LLS with a percentage of 76.89% for

Teaching English as a Second Language (TESL) graduates, while 64.64% for non-TESL graduate students. On the other hand, the findings of the study done by Ramli & Aladdin (2021) indicated that metacognitive strategies are the second most frequently used LLS among Malaysian undergraduate learners of ESL during the ODL in the pandemic of Covid-19. This portrays that metacognitive strategy has high preference and is popular LLS among the Malaysian foreign language learners, regardless of their gender.

Therefore, the results of this study and the previous studies have highlighted Malaysian undergraduates' learners know their objectives to achieve their language learning target during ODL sessions. Additionally, these results show that metacognitive strategies allow the learners to monitor their improvement and language learning process when they learn something new during virtual learning environment.

Research Question 3: Is there any significant difference in indirect LLS (metacognitive, affective, and social strategies) used by male and female degree students?

Table 5

Independent T-Test for Equality of Means for Metacognitive Learning Strategy

Direct Learning Strategies		F	p	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference
Metacognitive	Equal variances assumed	3.456	.064	-.084	443	.933	-.00602	.07168
	Equal not variances assumed			-.076	144.045	.939	-.00602	.07874

Table 6

Independent T-Test for Equality of Means for Affective Learning Strategy

Direct Learning Strategies		F	p	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference
Affective	Equal variances assumed	.538	.464	1.733	443	.084	.12657	.07303
	Equal not variances assumed			1.696	158.186	.092	.12657	.07463

Table 7

Independent T-Test for Equality of Means for Social Learning Strategy

Direct Strategies	Learning	F	p	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference
Social Strategies	Equal variances assumed	.116	.733	1.440	443	.150	.12623	.08763
	Equal not variances assumed			1.425	160.729	.156	.12623	.08856

An independent sample T-test was conducted to compare the equality of scores for Metacognitive, Affective and Social Strategies used by undergraduates. Levine's Test for Equality of Variances was also adapted to test the homogeneity of the indirect learning strategies. Table 5 indicated that there was no significant difference in the scores for metacognitive learning strategy used by male and female degree students, $t(443)=0.084$, $p=0.933$. The finding supports the hypothesis (H_1) there is no significant difference in metacognitive learning strategy used by the male and female degree students as the value in the *sig.(2-tailed)* is $> p=0.05$. The result imply that male and female undergraduates used metacognitive learning strategy the most in learning Mandarin.

Similar findings were revealed in the use of affective learning strategy for both the male and female learners. Results in Table 6 revealed that the male and female undergraduates have no significant difference in the scores for affective learning strategy, $t(443)=1.733$, $p=0.084$ where the hypothesis (H_2) is supported. The finding suggests affective learning strategy was equally used by both male and female degree students in learning Mandarin as their foreign language.

Furthermore, as shown in Table 7, the male and female undergraduates also had statistically no significant difference in using social strategies $t(443)=1.440$, $p=0.150$. Therefore, the hypothesis (H_3) there is no significant differences in social strategies used by the male and female undergraduates is also supported because the value in the *sig.(2-tailed)* is $> p=0.05$. The result suggests that the use of social strategies in learning Mandarin was equal between the male and female undergraduates.

As a result, this shows that regardless of gender, Malay undergraduates non-native Mandarin speakers could be aware of their own progress and language errors during the ODL Mandarin classes (metacognitive strategies). Besides, they would like to improve their Mandarin language in their learning progress. For instance, the top three frequently used strategy for metacognitive category was 'I practise the pronunciation of Mandarin' ($M=3.66$), 'I find the meaning of a Chinese word by dividing it into parts that I understand' ($M=3.27$) and 'I watch Chinese language entertainment shows spoken in Mandarin' ($M=3.05$). In terms of the use in the affective strategy, the top two popular LLS were 'I try to relax whenever I feel afraid of using Mandarin' ($M=3.54$) and 'I encourage myself to speak Mandarin even when I am afraid of making a mistake' ($M=3.43$). It can be implied that the Malay male and female undergraduates practised self-encouragement when they were afraid of using the Mandarin language. On the contrary, the least frequently used indirect LLS by the respondents

regardless male or female was social strategies. Therefore, Mandarin as a foreign language instructors or teachers should encourage their students to ask help from their language teachers, friends, and native speakers when they are facing problems in their Mandarin as a foreign language learning process.

Conclusion

The findings of the study highlights the indirect LLS utilised by the Malay undergraduate learners of Mandarin as foreign language in Malaysia. It shows that Malay undergraduates who are non-native speakers prefer to use metacognitive strategies in learning Mandarin as a foreign language or third language, followed by affective strategies and social strategies. The results of the mean scores for the indirect LLS variables between male and female learners also reveal that there are no significant differences between the metacognitive, cognitive, and social learning strategies employed by male and female degree students in their learning process. Although metacognitive strategy emerged as the most common learning strategy regardless of gender, however the mean scores showed that respondents "sometimes" used these strategies based on the classification by Oxford (1990). The findings of this study have raised awareness of the usage of indirect language learning strategies which is at a moderate level. In terms of pedagogical implications, this calls for Mandarin as a foreign language trainers or teachers to create the awareness among the Malay undergraduates of the various strategies that they can use to improve their Mandarin language.

For the future, it is suggested that studies can be conducted with larger samples that can be generalised to the Mandarin students at other Malaysian universities. Since the samples in this study have homogeneous background, it is also recommended that future research include participants based on other demographic variables such as ethnic groupings, age, gender, educational background, mother tongues, and other factors. The effect of indirect language learning strategies on Mandarin language proficiency was also not considered in the current study. Therefore, it is recommended that future studies consider the effect of the strategies on students' success in the Mandarin course. It will be preferable to use a longitudinal study to determine whether the effect of strategy increases over time as learners progress in learning Mandarin.

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