

## Exploring Strategies in Language Learning: The Case for Mandarin as A Foreign Language

Teo Ai Min<sup>1</sup>, On Yee Min<sup>2</sup>, Chong Pei Qi<sup>3</sup>, Chee Lee Yoon<sup>4</sup>, Lim Siew Mei<sup>5</sup>, Noor Hanim Rahmat<sup>6</sup>

<sup>1,2,3,4,5</sup>Akademi Pengajian Bahasa, Universiti Teknologi MARA Shah Alam, Malayisa, <sup>6</sup>Akademi Pengajian Bahasa, Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang, Malayisa

Email: teoaimin@uitm.edu.my, onyeemin@uitm.edu.my, chongpeiqi@uitm.edu.my, leeyoon@uitm.edu.my, limsiewmei@uitm.edu.m, noorh763@uitm.edu.my

**To Link this Article:** <http://dx.doi.org/10.6007/IJARBSS/v12-i11/14847> DOI:10.6007/IJARBSS/v12-i11/14847

**Published Date:** 11 November 2022

### Abstract

The recent COVID-19 pandemic has compelled the educational sector to revise its strategies and use technology as the educational system's saviour. The pandemic has stopped all face-to-face teaching and learning activities in educational institutions, forcing the adoption of online learning. The objective of this study is to identify the learning strategies used by learners when they learn Mandarin as a foreign language. This quantitative research is done to investigate how learners use cognitive and meta cognitive strategies when they learn Mandarin. The instrument used is a survey adapted from Wenden & Rubin (1987). A total of 366 respondents were chosen to respond to the survey. The respondents are students who are learning the Mandarin Language in Universiti Teknologi MARA (UiTM). The survey has 4 main sections which consist of demographic profile, cognitive components, metacognitive self-regulation and resource management. The findings of this study showed that the cognitive strategies most often used are rehearsal, elaboration, followed by organizational and critical thinking. The metacognitive self-regulation strategies were also applied by students to learn Mandarin online. Most students agreed that when they are confused about something they are reading for their classes, they will try to figure it out on their own when their classes have ended. The students also practiced resource management strategies in the process of learning Mandarin. They preferred environment strategies the most, followed by help seeking strategies and effort management strategies. The findings of this study can help educators to identify effective learning strategies to enhance students' Mandarin language proficiency.

**Keywords:** Mandarin as a Foreign Language, Language Learning Strategies, Cognitive Strategies, Metacognitive Self-regulation Strategies, Resource Management Strategies

**Introduction****Background of Study**

Foreign language learning and teaching refers to the teaching or learning of a non-native language outside of the environment where it is commonly spoken (Moeller, 2015). With the current speed of the world moving towards the concept of becoming a global village to meet the political and communicative needs between countries, and in the race for the advancement of technology and education, the need to learn foreign languages has never been more important. Hence, many people have started to learn foreign languages for different purposes. Furthermore, language plays a critical role in breaking down barriers. We learn more about the history and culture of an ethnic group when we master its language. Knowing a foreign language can break down prejudices, and this leads to better connections between tribes, races and even countries.

Due to the rapid development of the China economy, the interest in learning Mandarin as a foreign language is noticeable in many countries (Ramzy, 2006). Tan et al (2016) mentioned that in Malaysia, a country which has developed a tight diplomatic and economic relationship with China since 1976, the interest in learning Mandarin as a foreign language among the non-Chinese learners is also growing at the tertiary level by quantum leaps. The number of students who learned Mandarin as a foreign language in 1994 at Universiti Teknologi MARA (UiTM) was about 788 and the number increased tremendously to about 8000 students in 2004 (Cheun, 2006). By 2022, the number of students learning Mandarin in this university has exceeded 18000 and the number is growing steadily (UiTM Ufuture, 2022)

UiTM started the Mandarin as a foreign language course in 1968 (Hoe, 2014). It has been 54 years since then. The Covid-19 global pandemic caused many educational institutions to change the traditional face-to-face classroom teaching to online teaching. This is a new challenging for teaching and learning. Since 2020, UiTM has already changed from traditional face to face teaching to online teaching or a hybrid model combining online and offline teaching. Based on this new norm, the study of exploring strategies in language learning Mandarin as a foreign language is needed.

**Statement of Problem**

Since the outbreak of the COVID-19 pandemic, the learning of Mandarin around the world has been greatly impacted and affected, and most Mandarin teaching has been transformed into online teaching or a hybrid model combining online and offline teaching. According to Xiao & Zhao (2021), online teaching tools with interactive functions provide a variety of teaching and practice methods for Mandarin teaching. When teaching Mandarin online and when teaching conditions permit, the use of new media tools can create a lively language learning environment. Vivid multimedia with audio and video can help learners reduce their stress and adjust their learning conditions. The rational use of online teaching tools can help to reduce a teacher's lesson preparation time, improve teaching efficiency, and provide an environment for students to learn Mandarin efficiently. As stated in Zhang R.'s article in 2019, the rapid development of the Internet has changed the way teachers and students obtain resources. The Internet allows Mandarin learners from all over the world to find online courses, online teaching materials, forums, etc.

Since 2020, online learning has gradually become the norm for international students to learn Mandarin. Shen & Liu (2020) discovered that students have very positive feedback on learning

Mandarin online. Students believe that online learning is not limited by time and space. They can study repeatedly, solving the problem of not being able to return to educational institutions during the pandemic. In addition, the online learning content integrates sound, image, and film, which are all very interesting. The online assignments and exams are of a great variety. The most important thing is that students can access more learning resources through the Internet and expand their knowledge.

Although learning Mandarin online has many advantages, it also has many disadvantages. Huang et al (2022) research studied the difficulties faced by international students learning Mandarin online. They analysed the online learning situation of international students from four aspects: online learning platform, online teaching method, online learning difficulties, teaching management and academic assistance. They found that the major difficulties faced by international students in online learning are insufficient network conditions, time differences between two places, insufficient teaching interaction, and uneven allocation of learning resources.

Zhou, L.'s research in 2021 on online teaching of Chinese as a foreign language pointed out that due to unstable network signals and delayed network response, students' enthusiasm for the class was affected. Secondly, during online teaching, teachers cannot supervise students in real-time. There is a lack of direct communication between teachers and students, such as eye contact, resulting in the interaction between teachers and students not achieving the expected results. Students are also likely to be troubled by lack of familiarity with online learning platforms or communication tools (Zang et al., 2022)

Since students face numerous challenges in learning Mandarin online, it is imperative to examine students' learning strategies. Students can improve their proficiency in Mandarin by employing effective learning strategies.

Hence, this study is done to investigate the strategies learners perceive they use when they learn Mandarin as a foreign language. Specifically, this study is done to answer the following questions:

- How do learners use cognitive components to learn Mandarin online?
- How do learners use metacognitive self-regulation strategies to learn Mandarin online?
- How do learners use resource management to learn Mandarin online?

## **Literature Review**

### *Learning Mandarin Online*

Under the pandemic era, educators and students across all levels of education have had to rely more on online learning instead of face-to-face learning. Like all types of learning, learning Mandarin online comes with its own set of disadvantages as well as advantages.

### *Drawbacks of Learning Mandarin Online*

Several studies have reported the drawbacks of learning Mandarin online. Based on the related studies, the common challenges and problems faced when learning Mandarin online can be divided into three categories: internet connectivity and technical glitches, limitations of educational technology and human factors.

According to the research findings of Wiranota et al (2021); Gao (2020); Teoh & Chong (2018), internet connectivity and technical glitches are the main challenge in an online class. Network problems often disturb the learning process. Students were unable to access files, video clips,

and took a long time to re-connect or log in to the system. Moreover, disruption of electricity supply, temporary loss of service or data loss may affect students' participation in their online class.

Wiranota et al (2021), reported the limitations of educational technology faced by students and teachers during the online class. They have stated that students might be able to read and answer the questions that the teachers provide on screen, but they had no chances to write Chinese characters on screen as they used to do in an offline class. Another finding shows some students reported experiencing feelings of frustration, confusion and social isolation while learning online. This is because the online platform has minimized real contact with teachers and classmates (Jen-Her et al., 2010). Thus, online learning can be difficult if students lack motivation and discipline.

#### *Benefits of Learning Mandarin online*

As the world of education is moving from physical learning activities to digital learning activities, as well as the current Covid-19 pandemic has pushed the transformation of traditional learning methods to online learning methods. The move from physical learning activities to online learning activities was given a big push by the current Covid-19 pandemic exchanging traditional learning methods for online learning methods. The learning method of Mandarin as a foreign language has changed from physical classroom to digital online classroom or known as electronic learning (e-learning). Liao (2021) in his observation of the current e-learning on Mandarin as foreign language teaching found that this has broken the boundaries of learning; students are able to learn anywhere and at any time. Both teachers and students are saving their time travelling and the cost of learning has become lower.

Online Mandarin Learning also pushes the expansion of learning materials from one way to multiple ways. By providing recorded class lectures, video learning materials during the online teaching classes, students are given the opportunity to repeat the learning process at their own pace (Liao, 2021). They can apply cognitive strategies by repetition and summarization on Mandarin learning. Students can self-adapt the information from various resources in the Mandarin learning process. Online Mandarin teaching has encouraged the language teachers not to limit themselves to traditional teaching materials such as books in the classroom but to expand the learning materials to videos, gamification etc. One of the research findings on animated video learning done by Ju & Mei (2020) demonstrated that students are more comfortable at video learning. An expansion of different learning materials in online learning can help the students to adapt the language learning more effectively (Liao, 2021).

#### *Strategies Learners use to Learn Mandarin*

Learning a new foreign language is no longer limited to the face-to-face learning mode in this digital era. The increasing internet penetration and web accessibility resources have prompted a switch from conventional language learning modes to more effective and flexible online learning modes. Subject content can be delivered through live streaming a class, recording and sharing pre-recorded materials, running live online courses, using text-based chats in forums or blogs, and various resources provided on learning platforms (Gao, 2020). The teaching professionals implemented different or combined strategies above to support more effective online learning. One of the highly utilized strategies by the teaching professionals in teaching Mandarin online, in general, was using digital learning materials. To

assist second language learners in in-depth textual understanding, videos presenting cultural perspectives and multimedia glossaries were created as digital learning materials (Wu et al., 2013). However, instructors need to be reflective in considering and altering the emerging positive or negative feedback with learners' suggestions while integrating advanced technology into learners' learning (Chua et al., 2021).

Learning strategies refer to the behavior and thought processes used and influence what is learned (Thamrin, 2021). The research results obtained by Thamrin (2021) have shown that the most often used learning strategy used by the learners in learning Mandarin was the metacognitive strategy (which focuses on language learning, planning, organizing learning, and evaluating independent learning) and cognitive strategy (mental processes and thinking in language learning activities such as practicing, receiving, sending messages, analyzing and reasoning, and building input and output structures). Gao (2020) also found that most learners believed that repeated practice in using various resources effectively developed their character writing and reading skills when learning Mandarin.

### *Past Studies*

#### *Past Studies in Teaching Mandarin online*

Since the outbreak of the COVID-19 pandemic in 2020, schools of all types and stages in China have started to conduct online teaching. The teaching method for international students has gradually changed from offline classroom teaching to online teaching. Liu (2021) used questionnaire method and interview method to conduct a comprehensive analysis on 6 teachers and 68 students to investigate the situation of online Chinese teaching for international students in Lanzhou, China. This study analyzed the advantages and existing problems of Chinese online teaching for international students in universities in Lanzhou. The benefits identified in the study are: teachers emphasize on online teaching more and online teaching overcomes the limitations of time and space. The study also discussed the improvement strategies of Chinese online teaching, in order to enhance the outcome of online teaching, such as applying the flipped classroom mode to online teaching and improving teacher's standard in developing teaching courseware.

Xu (2021) carried out a research on distance online teaching for foreign students who learn Chinese language in the East China University of Science and Technology. The respondents were three students of the researcher and the instruments used were interview, questionnaire and observation methods. The researcher identified some difficulties in online teaching such as the online teaching curriculum not being suitable, the online teaching duration being too long, inconvenience in reading electronic textbooks, inability in face-to-face communication and network fluctuations. The researcher suggested that teachers should improve classroom performance in online teaching such as using more expressions and body movements to interpret the learning content. The researcher also suggested implementing task-based teaching strategy to improve students' Chinese oral competency.

#### *Past Studies in Strategies Used by Learners to Learn Mandarin Online*

Many studies have been done to investigate the strategies used by learners to learn Mandarin. Over the past few years, researchers have started to explore the use of learning strategies among Chinese as a Second Language (CSL) in online classes during the pandemic.

Prior to the pandemic, Lam (2019) investigated the frequency of using different kinds of vocabulary learning strategies for learning Mandarin by Malaysian undergraduates as a foreign language at the University of Malaysia, Sarawak. 136 undergraduates as respondents participated in the survey using questionnaires. The findings show that students employed cognitive strategies the most and metacognitive strategies the least. Findings also indicated that the most popular strategy preferred by students included taking notes, studying the sound and stroke order of a word, asking classmates, and reviewing vocabulary regularly.

Rahmat (2019) carried out a study to describe how online learning reduces ZPD in Mandarin Class. From the 173 participants, it was found that online learning tools and online learning influences interaction in language classroom. In addition to that, Gao (2020) conducted a study to describe the Australian students' perceptions of the challenges and strategies for learning Chinese characters during the Covid-19 pandemic. The data was collected from forty respondents (students) at an Australian university using questionnaires. The results showed that most students found that repeated practice in the use of a variety of resources provided was effective in developing their reading skills and character writing. The finding of this study has practical educational implications for Chinese character pedagogy as proposed teaching strategies in an online class during pandemic.

### Conceptual Framework

This study (refer to figure 1) is rooted from the strategies presented by Wenden & Rubin (1987). They reported that learners use three main strategies when they learn language. The three strategies are (A) cognitive components, (B) metacognitive self-regulation and (C) resource management. To begin with, learners are said to use cognitive components when they use sub-strategies such as (a) rehearsal, (b) organisation, (c) elaboration, and (d) critical thinking. Next, learners also use metacognitive to facilitate the learning of languages. Finally, when faced with difficulties, learners use resource management such as (a) environment management, (b) effort management, and (c) help-seeking strategies.

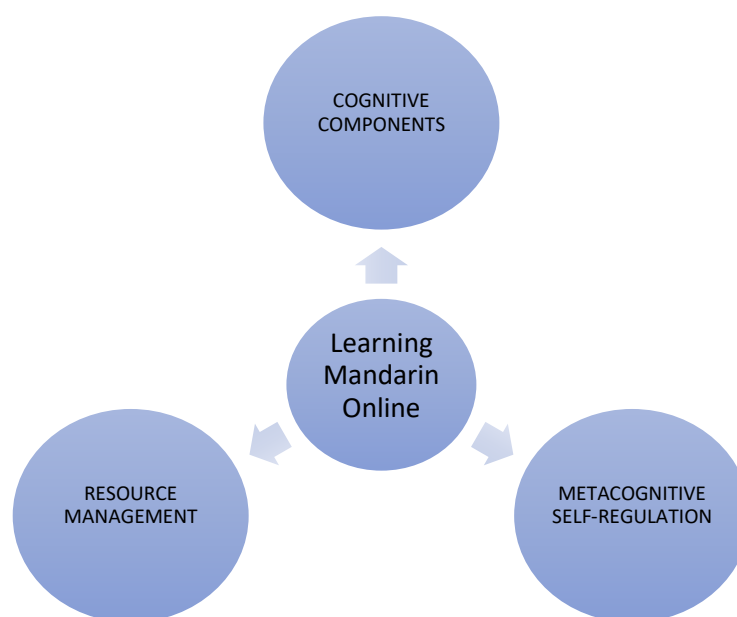


Figure 1-Conceptual Framework for the Study- Strategies used in Learning Mandarin Online

### Methodology

This quantitative research was done to investigate how learners use cognitive and meta cognitive strategies when they learn Mandarin as a foreign language. The instrument used is a survey adapted from (Wenden & Rubin, 1987). 366 respondents were chosen to answer the survey. The survey has 4 main sections. With reference to Table 1, section A has items on the demographic profile. Section B has 19 items on cognitive components, section C has 11 items on metacognitive self-regulation and section D has 11 items on resource management.

Table 1

#### *Distribution of Items in the Survey*

Sect	COMPONENT		Sub-Strategy	Items	Tot. Items
B	COGNITIVE COMPONENTS	(a)	Rehearsal	4	19
		(b)	Organization	4	
		(c)	Elaboration	6	
		(d)	Critical Thinking	5	
C	METACOGNITIVE SELF-REGULATION				11
D	RESOURCE MANAGEMENT	(a)	Environment Management	5	12
		(b)	Effort Management	4	
		(c)	Help-Seeking	3	
			TOTAL NO OF ITEMS		42

Table 2

#### *Reliability Statistics*

Cronbach's Alpha	N of Items
.950	42

Table 2 presents the reliability statistics for the instrument. SPSS analysis revealed a Cronbach alpha of .950 thus showing a high internal reliability of the instrument used. Data was collected online via Google form. Data was then analysed using SPSS version 26. Analysed data is presented in the form of percentages and mean scores to answer the 3 research questions.

### Findings

#### Findings for Demographic Profile

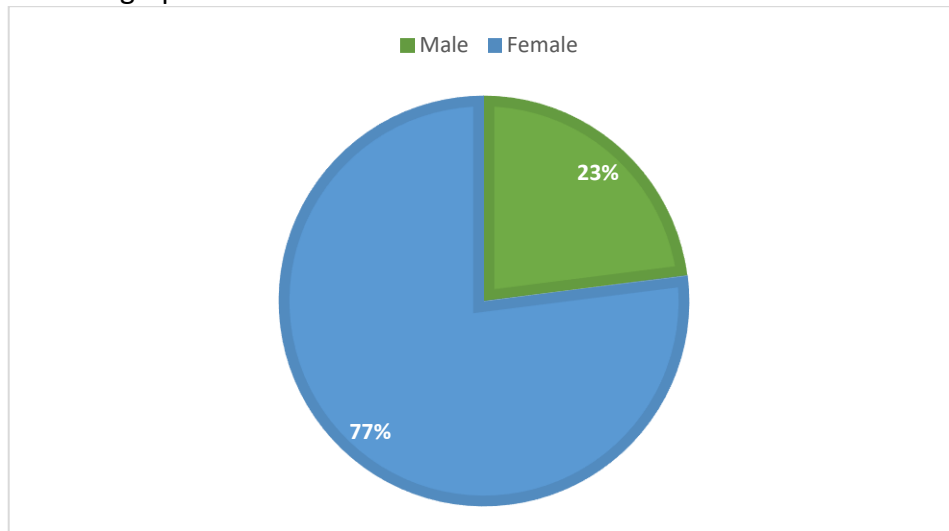


Figure 2-Percentage for Gender

Based on Figure 2, 23% of the respondents are male, and 77% are female.

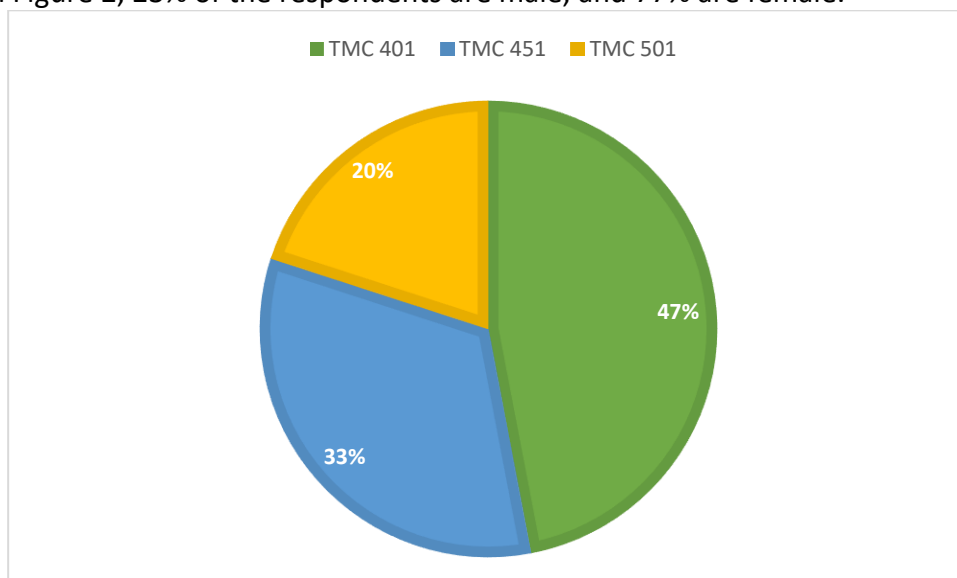


Figure 3-Percentage for Course Code

According to Figure 3, from a total of 366 respondents who completed the survey, 47% of the respondents are taking Mandarin Level 1 (TMC 401), 33% of the respondents are taking Mandarin Level 2 (TMC451), and 20% of the respondents are taking Mandarin Level 3 (TMC501).



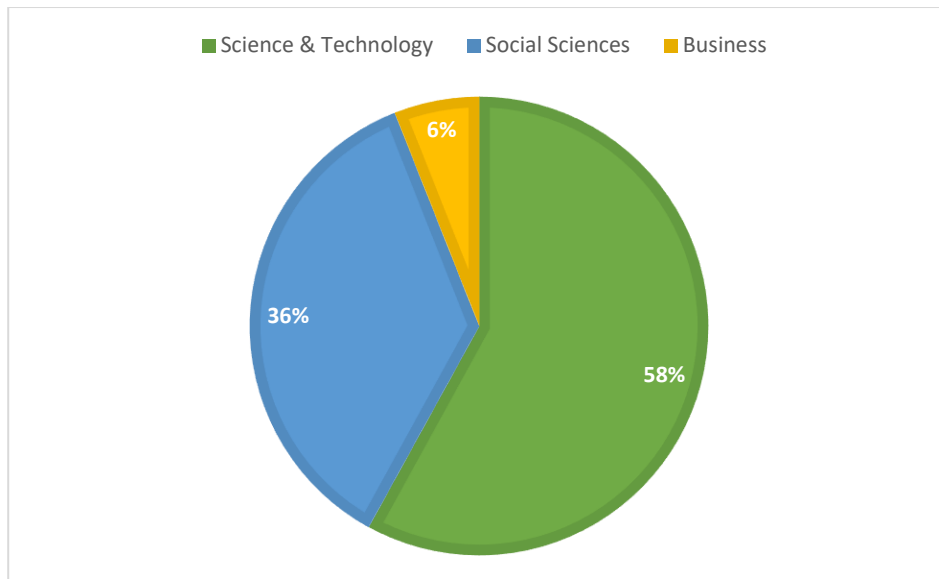


Figure 4-Percentage for Discipline

Figure 4 shows the percentage of students from different disciplines. Among 366 students, 58% are from the Science and Technology discipline, 36% are from the Social Sciences discipline, whereas 6% of students are from the Business discipline.

#### *Findings for Cognitive Components*

This section presents data to answer research question 1: How do learners use cognitive components to learn Mandarin online? There are 19 sub-strategies for cognitive component. The sub-strategies are categorized as (a) rehearsal, (b) organization, (c) elaboration and (d) critical thinking.

A. Cognitive Components (19 items)

(a) Rehearsal (4 items)

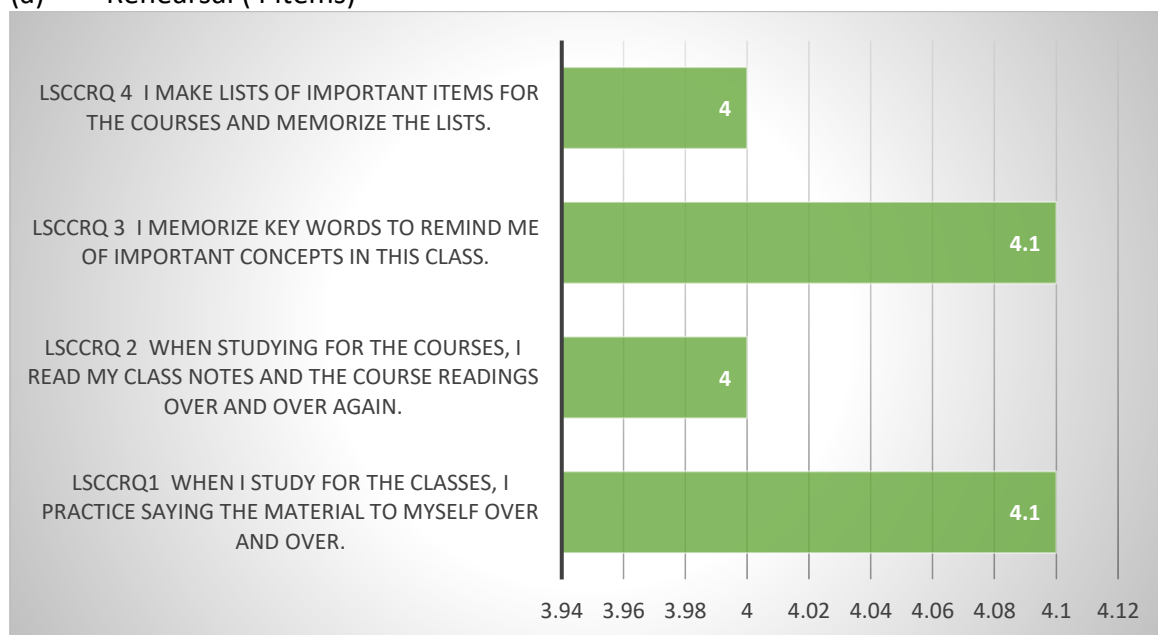


Figure 5 - Mean for Rehearsal.

Figure 5 shows that most of the learners memorized keywords (M=4.1) and practised saying the learning material to themselves over and over again (M=4.1). The result shows both methods are being used by the majority of the learners. Repetition in learning Mandarin is important for the learners to cope with the course as they read the class notes and the course reading over and over again (M=4). The learners also prefer to list important items or vocabularies and memorize the lists (M=4).

(b) Organization (4 items)

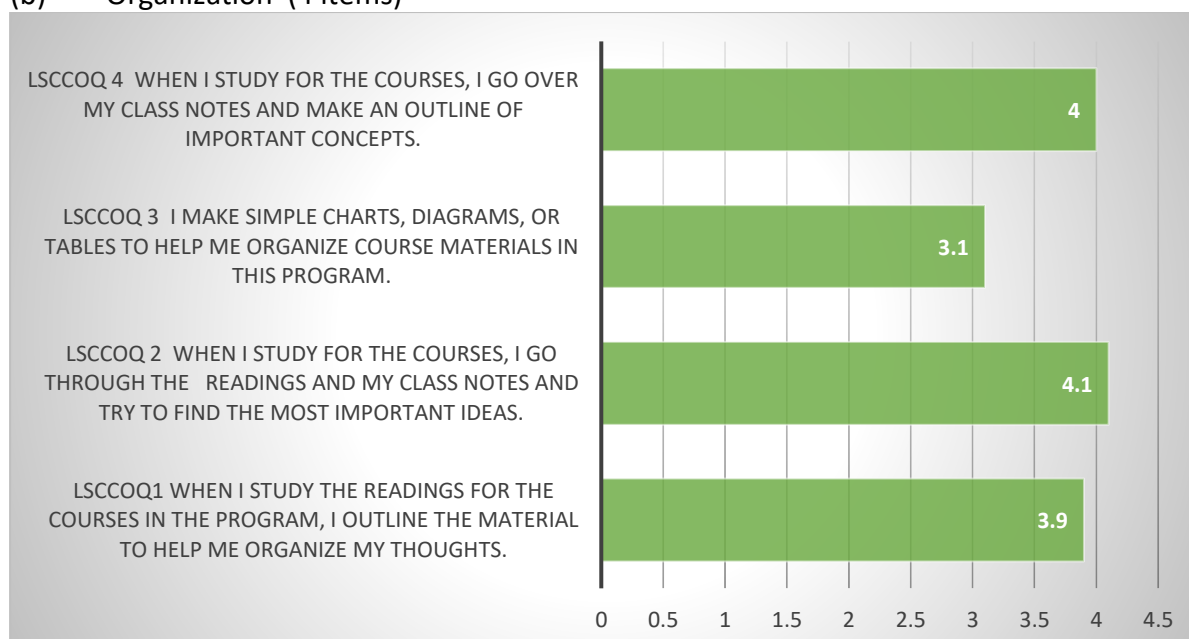


Figure 6- Mean for Organization

Figure 6 shows that the highest mean (M=4.1) of organisation chosen by the learners is going through the readings and class notes and trying to find the most important ideas of the learning materials. When they study the course, they choose to go over their notes and make outlines of important concepts (M=4). Besides, learners study the course by outlining the material to help them organise their thoughts (M=3.9). During the online Mandarin learning course, learners are less in favour of making simple charts, diagrams, or tables to help them organise course materials (M= 3.1).

(c) Elaboration (6 items)

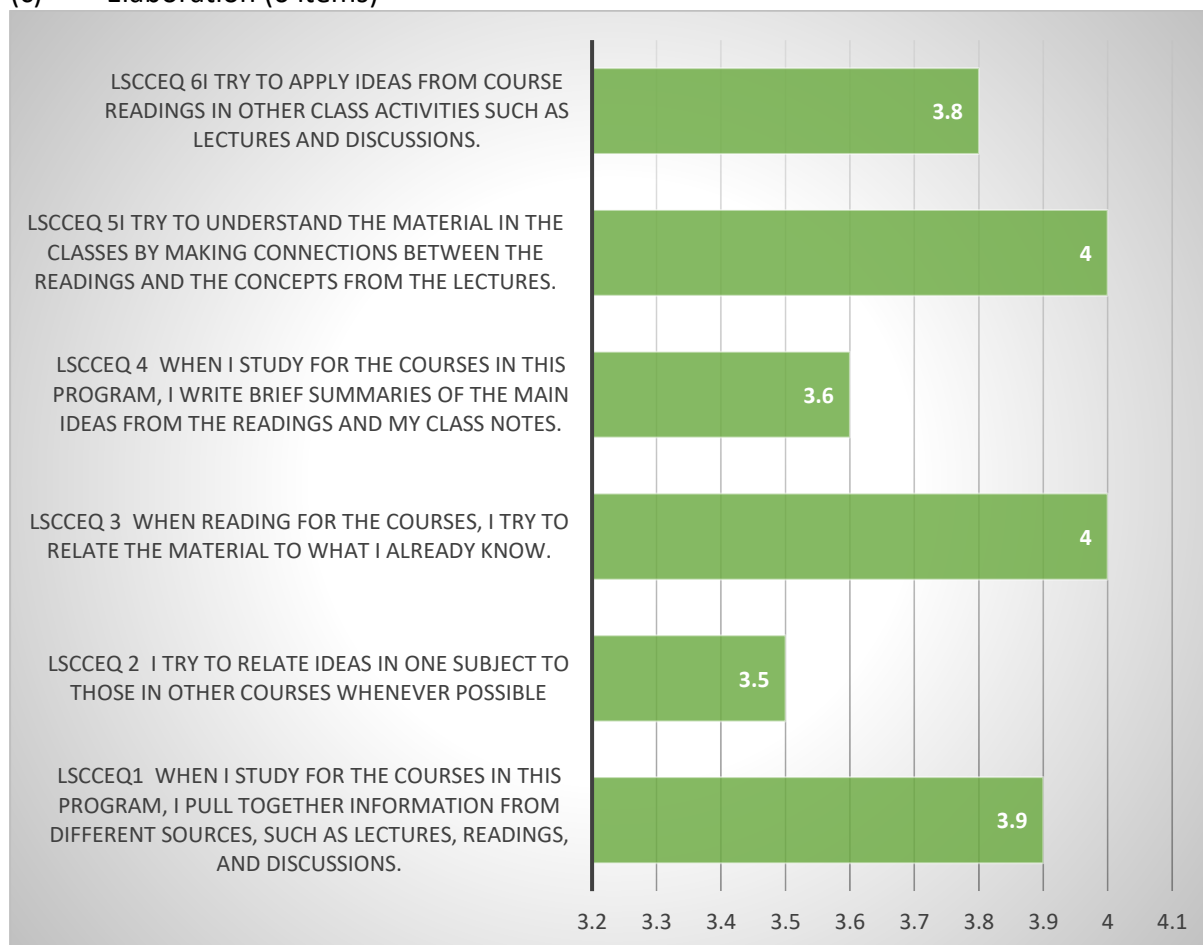


Figure 7-Mean for Elaboration

In the analysis of mean of elaboration, learners tended to understand the material in the classes by making connections between the readings and the concepts from the lectures, as well as trying to relate the material to what they already know. Both consist of mean score of 4 in the result. Learners will gather information from different sources, such as lectures, readings and discussions during the study of online Mandarin courses (M=3.9). Learners are less willing to write brief summaries of the main ideas from the readings and their class notes (M=3.6) and relate the ideas in the subject to those in other courses whenever possible (M=3.5).

## (d) Critical Thinking (5 items)

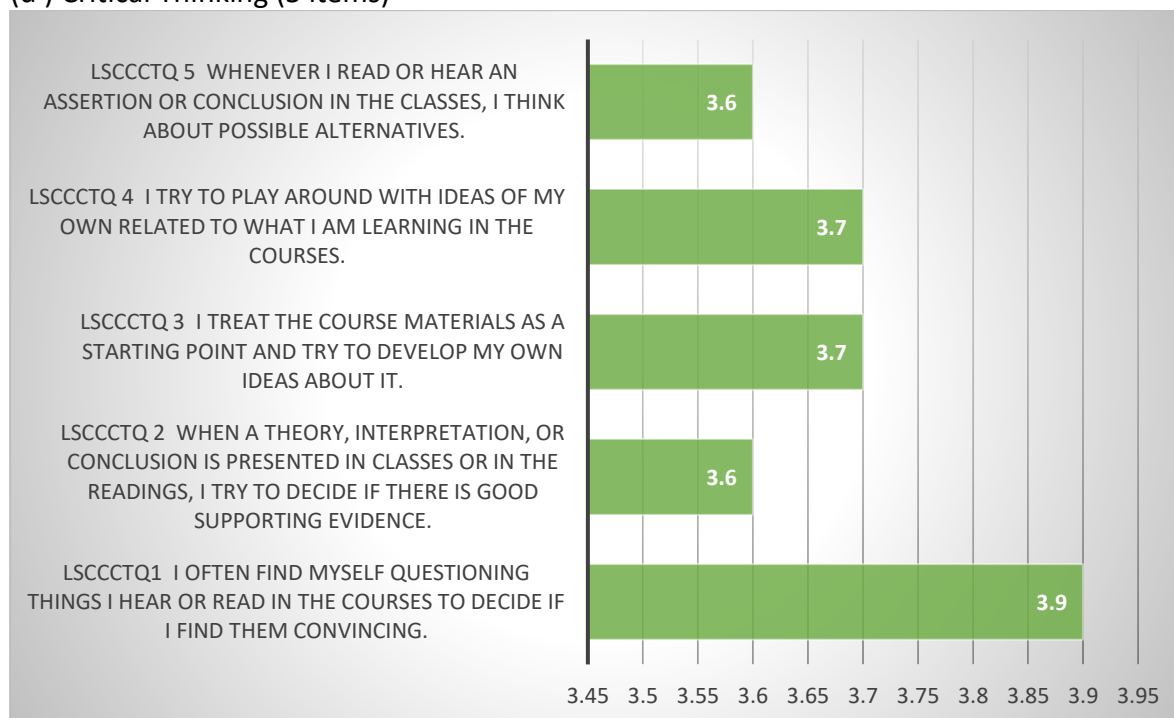


Figure 8-Mean for Critical Thinking

Figure 8 shows the result of critical thinking strategies used by the learners. The learners found themselves questioning things they hear or read in the courses to decide if they found them convincing ( $M=3.9$ ). Learners will treat the course materials as a starting point and try to develop their own ideas about it, as well as try to play around with ideas of their own related to what they are studying in the Mandarin courses ( $M=3.7$ ). Learners try to decide if there is good supporting evidence when they study the theory, interpretation or conclusion presented in classes or in the readings ( $M=3.6$ ). Besides that, they also think about possible alternatives whenever they read or hear an assertion or conclusion in classes ( $M=3.6$ ).

## Findings for Metacognitive Self- Regulation (11 items)

This section answers research question 2: How do learners use metacognitive self-regulation strategies to learn Mandarin online?

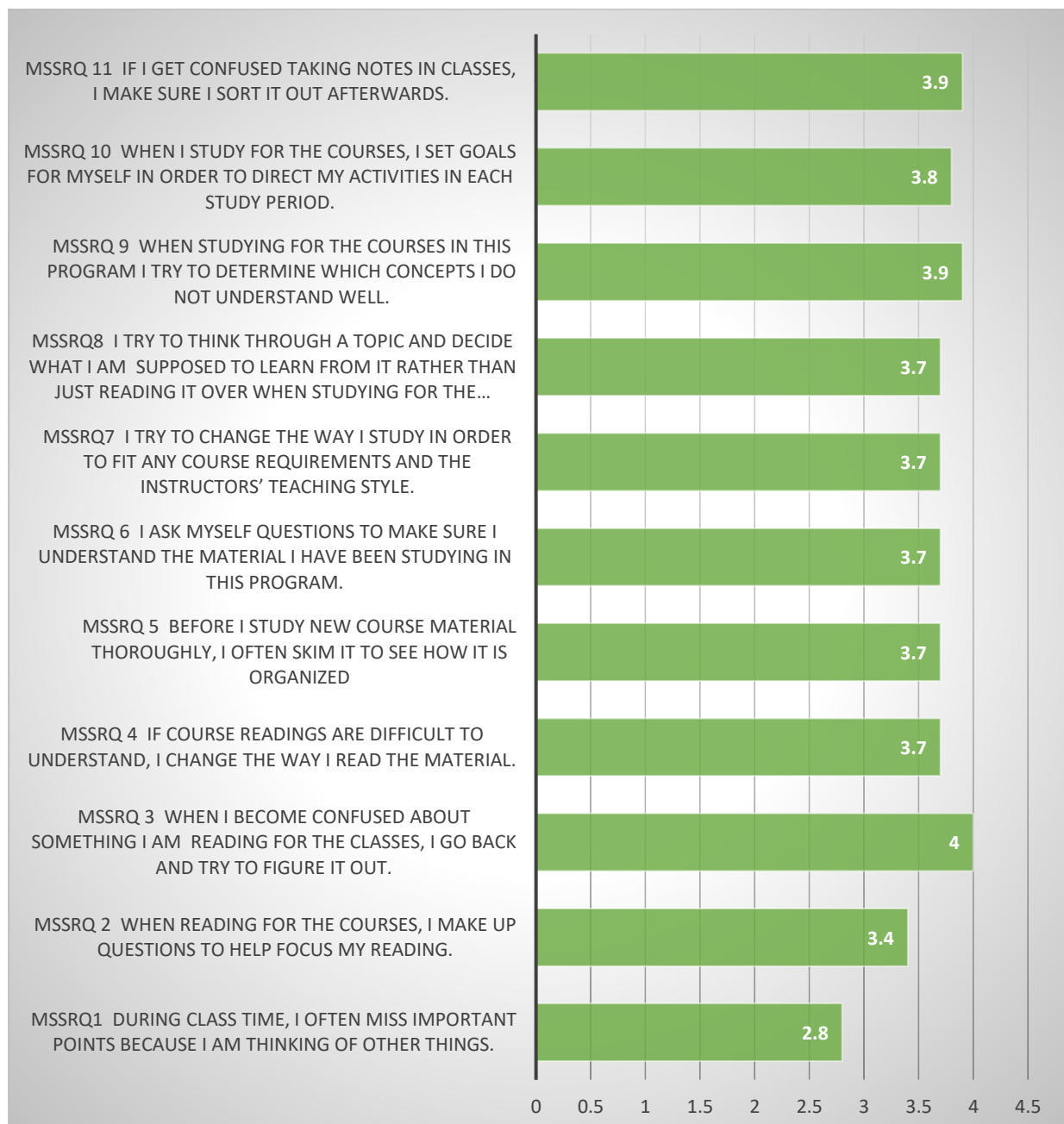


Figure 9: Mean for Metacognitive Self-regulation

The results of Metacognitive Self-regulation are shown in figure 9. Most students agreed that when they become confused about something they are reading for the classes, they will go back and try to figure it out, as shown by the highest mean score ( $M=4$ ). Similarly, there are two statements with the same mean score of 3.9 stating that when students are studying for the courses in the program, they will try to determine which concepts they do not understand well, and at the same time if they get confused taking notes in classes, they will make sure they sort it out afterwards. On the other hand, with a mean score of 2.8, most of the students

do not agree that they often miss important points because they are thinking of other things during class time.

#### *Findings for Resource Management (12 items)*

This section presents data to answer research question 3: How do learners use resource management to learn Mandarin online? The findings are presented by looking at the resource management component.

#### (a) Environment Management (5 items)

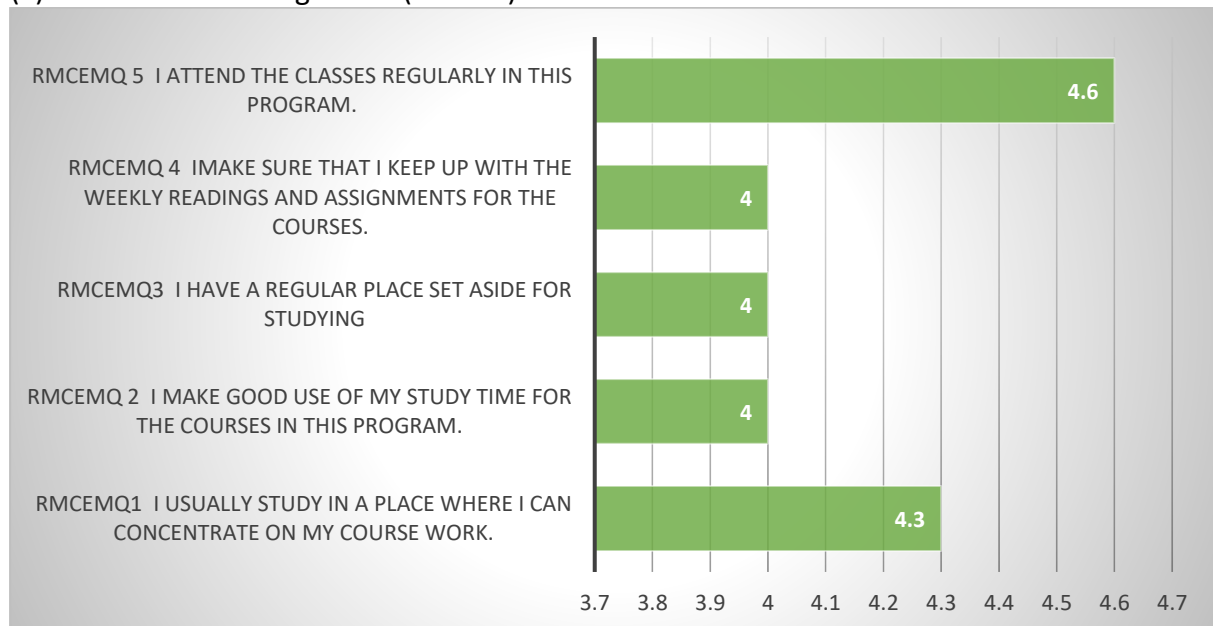


Figure 10- Mean for Environment Management

Figure 10 presents the mean score for Environment Management. The data indicated that students strongly agreed that they attended the classes regularly in their program ( $M=4.6$ ). Besides that, students preferred to study in a place where they can concentrate on their course work ( $M=4.3$ ). Students agreed that they make good use of their time for the course and they have a regular place set aside for studying ( $M=4$ ). They also agreed that they make sure that they keep up with the weekly readings and assignments for the course ( $M=4$ ).

## (b) Effort Management (4 items)

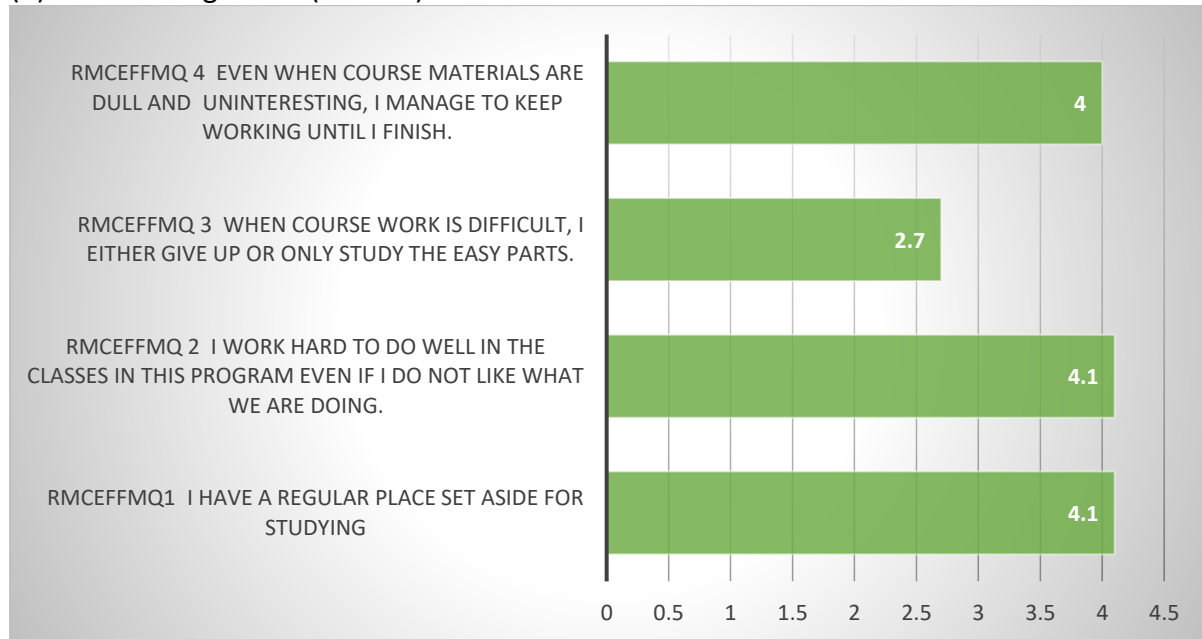


Figure 11- Mean for Effort Management

Figure 11 presents the mean score for Effort Management. Based on all 4 items, the mean scores ranged from 2.7 to 4.1. The data indicated that, the students agreed that they have a regular place set aside for studying. (M=4.1) They also agreed that they work hard to do well in the classes in this program even if they do not like what they are doing (M=4.1). On the other hand, when course materials are dull and uninteresting, they manage to keep working until they finish (M=4). However, the item with the lowest mean score was found to be when course work is difficult, they either give up or only study the easy parts (M=2.7).

## (c) Help-Seeking (3 items)

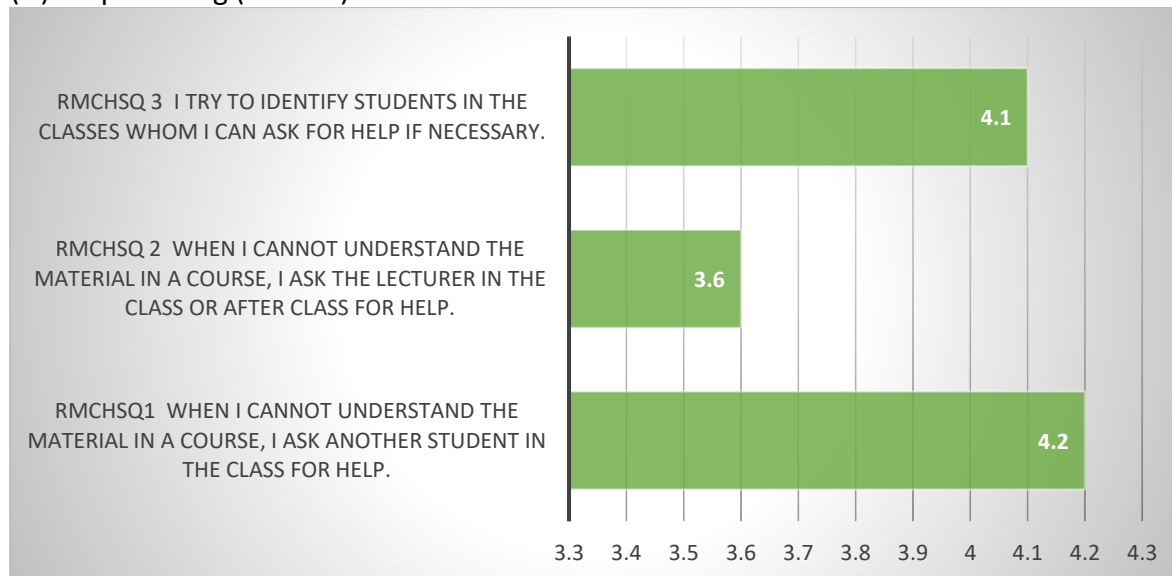


Figure 12- Mean for Help Seeking

Figure 12 presents the mean score for Help Seeking. Students strongly agreed that when they cannot understand the material in a course, they will ask another student in the class for help ( $M=4.2$ ). They will also try to identify students in the class whom they can ask for help if necessary ( $M=4.1$ ). However when students cannot understand the material in the course, they are less likely to ask the lecturer in the class or after class for help ( $M=3.6$ ).

## Conclusion

### *Summary of Findings and Discussion*

This study showed that when learners learn Mandarin online, for cognitive strategies, they most preferred rehearsal strategies which are memorizing keywords and practising saying the material to themselves. Learners least preferred critical thinking strategies such as making simple charts, diagrams or tables. The metacognitive self-regulation strategies are also applied by learners to learn Mandarin online. Most learners agreed that when they are confused about something they are reading for the online Mandarin class, they will figure it out after the lesson. The findings of this study were in line with a previous study (Idris et al., 2022) in which learners use both cognitive and metacognitive strategies when learning a foreign language and where there is a harmonious balance between both strategies. Another study (Isa et al., 2022) also showed that both cognitive and metacognitive strategies were used by learners in learning foreign language but female learners reported using cognitive and metacognitive strategies more often than males. In addition to this, the learners in this study also practised resource management strategies in the process of learning the Mandarin language. They preferred environment strategies the most, followed by help seeking strategies and effort management strategies. According to the results of this study, learners employed cognitive strategies, metacognitive self-regulation strategies and resource management strategies to learn Mandarin.

This research has enriched the field of Mandarin learning strategies used by non-native speakers not only in Malaysia but in other parts of the world where Mandarin is taught as a second or foreign language. Educators can employ the language strategies identified in the



research. Students of Mandarin can be exposed to and have at their disposable learning strategies to use in their face-to-face or on-line classes. They can make informed choices on what and which learning strategies best suit them for use to improve their Mandarin proficiency.

#### *Pedagogical Implications and Suggestions for Future Research*

It is advantageous for Mandarin educators to have a better insight of the various learning strategies that their students employ when learning Mandarin. Furthermore, educators can encourage students to use the learning strategies in this study. If students were led to attempt all the possible learning strategies, they might experience fewer difficulties when learning Mandarin. In order to help students learn Mandarin more effectively, educators can make particular use of the learning strategies by giving students the proper language activities and assignments. The students' Mandarin language skills will be further enhanced when applying the suitable learning strategies.

For future studies, the factors that affect the learning strategies chosen by learners can be carried out. In addition, it is important to look into educators' view and awareness of language learning strategies. Besides that, researchers may focus on the specific learning strategies that learners use to master the four language skills of listening, speaking, reading and writing skills.

#### **References**

- Chua, N. A., Zaid, C. M., Che Noh, C. H., Ibrahim, M. Y., Rahid, R. A., Ahmad, M., & Saputra, J. (2021). The Constructiveness of Online Learning in Mandarin Course During COVID-19 Pandemic Season. In *11th Annual International Conference on Industrial Engineering and Operations Management*, 5701-5713.
- Cheun, H. H. (2006). *Problems encountered in teaching Chinese as a second language in Malaysia*. New Era College Malaysian Ethnic Studies Centre.
- Gao, X. (2020). Australian Students' perceptions of The Challenges And Strategies For Learning Chinese Characters In Emergency Online Teaching. *International Journal of Chinese Language Teaching*, 1(1), 83-98.
- Hoe, F. T. (2014). *A Study Of Teachers' Competency Standards And Teaching Mandarin As A Second Language In Malaysia Public Universities* [unpublished PhD's Thesis]. University Tunku Abdul Rahman.
- Huang, C., Xiong, R. R., & Gao, X. (2022). Research on International Students' Online Learning Difficulties and Strategies. *Wenhua Chanye*, 129-132.
- Idris, N., Isa, M. H., Zakaria, N. N. N., Taib, M. N. A., Ismail, S., & Rahmat, N. H. (2022). An Investigation of the Use of Cognitive and Metacognitive Strategies in Foreign Language Learning. *International Journal of Academic Research in Business and Social Sciences*, 12(2). <https://doi.org/10.6007/ijarbss/v12-i2/12152>
- Jen-Her, W., Robert, D., & Tzyh-Lih, C. (2010). A Study of Student Satisfaction in a Blended E-learning System Environment. *Computer & Education*, 55, 155-164.
- Ju, S. Y., & Mei, S. Y. (2020). Students' Attitudes and Perceptions of Learning Mandarin Chinese via Animated Video. *International Journal of Academic Research in Business and Social Sciences*, 10(10), 567-579.
- Lam, K. C., & Kuan, W. L. (2019). Vocabulary Learning Strategies: The case of Mandarin Learners In Sarawak. *Human Behavior, Development and Society*, 20(3), 62-72.
- Liao, K. (2021) The Issues And Strategies of Online Teaching of Mandarin Characters as Foreign Language, *Wenxue Jiaoyu (Xia)*, 5, 148-150.

- Liu, T. D. (2021). *Research On Internet Teaching Of International Students Chinese Language in Universities—Taking 4 Universities In Lanzhou As An Example*. [unpublished Master's Thesis]. Lanzhou Jiaotong Daxue.
- Isa, M. H., Idris, N., Zakaria, N. N. N., Taib, M. N. A., Ismail, S., & Rahmat, N. H. (2022). Exploring The Use of Cognitive and Metacognitive Learning Strategies Across Gender: The Case for French as A Foreign Language. *International Journal of Academic Research in Business and Social Sciences*, 12(4). <https://doi.org/10.6007/ijarbss/v12-i4/12959>
- Moeller, A. J., & Catalano, T. (2015). *Foreign Language Teaching and Learning (2nd ed)*. International Encyclopedia of the Social & Behavioral Sciences.
- Rahmat, N. H., Sim, M. S., Khi, L. S., & Soon, L. T. (2021). An Investigation of How Online Learning Reduces ZPD in Mandarin Language Classrooms. *International Journal of Education*, 13(1), 1-15.
- Ramzy, A. (2006). Get Ahead, Learn Mandarin. *Time*, 167 (25), 16-20.
- Shen, S. Y., & Liu, F. M. (2020). Research on International Online Mandarin Learning During Pandemic. *Zhongguo Gaodeng Jiaoyu*, 9, 54-56.
- Teoh, J. T., & Chong, G. L. (2018). Students' Challenges In The Mandarin Classroom: A Blended Learning experience. *Journal of Creative Practices in Language Learning and Teaching (CPLT)*, 6(1), 44-55.
- Tan, T. G., Ismail, H. N., Hoe, F. T., & Ho, C. C. (2016). The Motivation of Undergraduates Learning Mandarin as a Foreign Language. *e-Academia Journal UiTMT*, 5(1), 2. <http://journale-academiauitmt.uitm.edu.my/v2/>
- Thamrin, L. (2021). Mandarin Learning Strategy in Higher Education to Achieve the New Hanyu Shuiping Kaoshi Standard at Level 3. *Journal of Education Research and Evaluation*, 5(3), 480–488. <https://doi.org/10.23887/jere.v5i3.33461>
- Wenden, A., & Rubin, J. (1987). *Learner Strategies in Language Learning*. New Jersey: Prentice Hall.
- Wiranota, H., & Wijaya, T. T. (2021). The International Students' perception Towards Online Learning Using The Tencent Meeting During Covid-19 Outbreak. *Journal of Physics: Conference Series*, 1823(1), 012011.
- Wu, P. H. N., & Marek, M. W. (2013). Helping Second Language Literature Learners Overcome E-Learning Difficulties: LET-NET Team Teaching with Online Peer Interaction. *Journal of Education and Learning*, 2(4). <https://doi.org/10.5539/jel.v2n4p87>
- Xiao, R., & Zhao, J. (2021). Research on Effective Interaction of Online Chinese Teaching in Post Epidemic Era. *Guoji Hanyu Jiaoxue Yanjiu*, 3(31), 90-96.
- Xu, Y. J. (2021). *Implementation and Views On Distance Online Teaching of Chinese as a Foreign Language*. [unpublished Master's Thesis]. Shanghai Shifan Daxue.
- Zang, F., Tian, M., Fan, J., & Sun, Y. (2022). Influences of Online Learning Environment on International Students' Intrinsic Motivation and Engagement in Chinese Learning. *Journal of International Students*, 12(S1), 61–82. <https://doi.org/10.32674/jis.v12is1.4608>
- Zhang, R. (2019). Research on Online Mandarin Learning Materials. *Jiaoyu Xiandaihua*, 3(25), 233-236.
- Zhou, L. (2021). Preliminary Study and Practice of Online Teaching Mode of TCSL in Post Epidemic Era. *Chuangxin Chuangye Lilun Yanjiu Yu Shijian*, 9(17), 116-120.