

DECISION-MAKING IN ENGLISH ACADEMIC
READING WITHIN A FLIPPED CLASSROOM
APPROACH: A CASE STUDY OF SELECTED TESL
PRE-UNIVERSITY STUDENTS IN MALAYSIA

BY

KHAIRUNNISA BINTI OTHMAN

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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A thesis submitted in fulfilment of the requirement for the
degree of Doctor of Philosophy in Education

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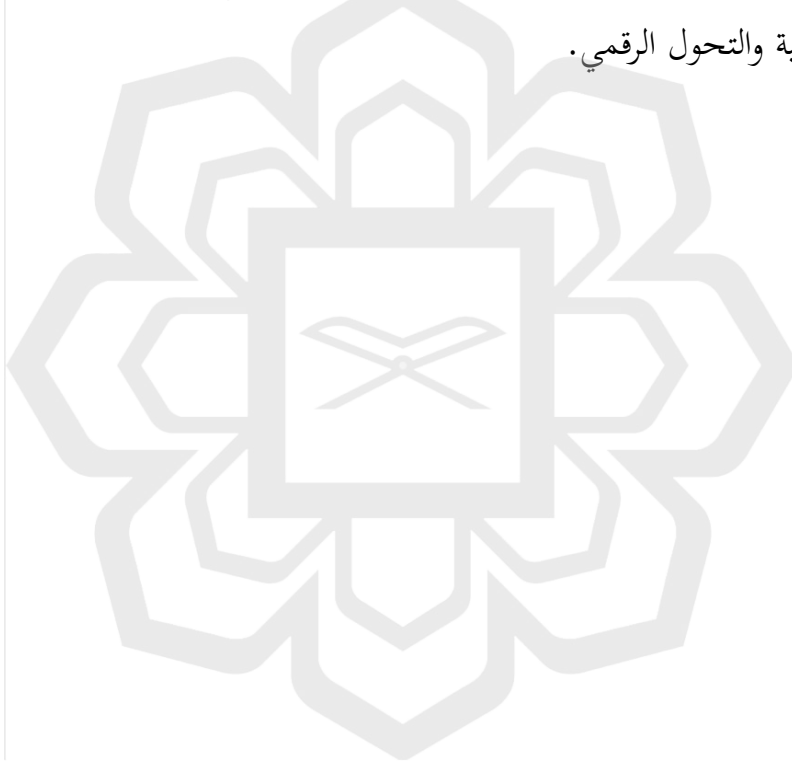
ABSTRACT

Academic reading remains a persistent global challenge, and Malaysia is no exception especially within the context of tertiary English education. English as a second language (ESL) learners, specifically students in pre-university programs, must navigate complex and challenging academic texts to engage critically and produce scholarly discourse. For Teaching English as a Second Language (TESL) pre-university students, this challenge is compounded by linguistic limitations and the demand for higher-order metacognitive regulation. In response, the Flipped Classroom approach has been adopted as a learner-centered model that positions academic reading as an autonomous cognitive activity during preparatory stages. At the same time, various initiatives such as the Malaysia Education Blueprint 2015-2025, The National Reading Decade and the National Reading Index have emphasized the urgency of cultivating lifelong reading habits and higher-order literacy. Within this context, decision-making is recognized as one of the 21st-century core skills, and in this study, it is examined through the lens of metacognitive strategies which guide how TESL pre-university students identify, evaluate, and select credible information. This qualitative exploratory case study investigated the decision-making styles of nine TESL pre-university students within a Flipped Classroom approach at a Malaysian public university. Data was collected through semi-structured interviews, classroom observations, researcher's field notes, and participants' reflection logs, and analyzed thematically. Findings indicate that students predominantly adopted vigilant and hypervigilant decision-making styles. A key emergent insight was the role of artificial intelligence tools in augmenting students' reading processes. These AI-augmented readers used digital tools to simplify complex texts, generate elaboration, and personalize information searches. The study contributes a preliminary framework of AI-augmented readers within the Flipped Classroom, offering practical implications to strengthen English academic reading, advancing metacognitive strategy use, and aligning higher education practices with Malaysia's literacy and digital transformation goals.

ملخص البحث

لا تزال القراءة الأكاديمية تمثل تحديًا عالميًا مستمرًا، وماليزيا ليست استثناءً من ذلك، لا سيما في سياق تعليم اللغة الإنجليزية في مؤسسات التعليم العالي. ففي هذا السياق، يُطلب من متعلمي اللغة الإنجليزية كلغة ثانية، وبخاصة طلاب البرامج التمهيدية للجامعة، التعامل مع نصوص أكاديمية معقدة تتطلب تفاعلاً نقدياً وإنتاجاً لخطاب علمي رصين. ويزداد هذا التحدي حدةً لدى طلاب برنامج تدريس اللغة الإنجليزية كلغة ثانية (TESL) في المرحلة ما قبل الجامعية، نظرًا لما يواجهونه من قيود لغوية، إلى جانب متطلبات التنظيم المعرفي عالي المستوى في إطار ما وراء المعرفة. وفي ضوء هذه التحديات، برزت الحاجة إلى تبني مداخل تعليمية تعزز استقلالية المتعلم وتنمي قدراته التنظيمية. ومن هنا تم اعتماد منهجية "الفصل الدراسي المعكوس" بوصفها نموذجًا متمركزًا حول المتعلم، يعيد تموضع القراءة الأكاديمية كنشاط معرفي ذاتي يُمارَس خلال المراحل التحضيرية قبل الحصة الصفية، بما يتيح فرصًا أوسع للتفاعل العميق داخل الصف. ويتقاطع هذا التوجه مع الأولويات الوطنية في ماليزيا، حيث أكدت مبادرات متعددة مثل "المخطط التعليمي الماليزي ٢٠١٥-٢٠٢٥"، و"العقد الوطني للقراءة"، و"المؤشر الوطني للقراءة" على الأهمية الملحة لغرس عادات القراءة مدى الحياة وتعزيز مهارات القراءة والكتابة ذات المستويات العليا. وفي هذا الإطار، يُعد اتخاذ القرار إحدى المهارات الجوهرية للقرن الحادي والعشرين، نظرًا لارتباطه بقدرة المتعلم على التمييز بين مصادر المعلومات وتحليلها في بيئات معرفية رقمية متسارعة. انطلاقًا من ذلك، تتناول هذه الدراسة اتخاذ القرار من خلال عدسة استراتيجيات ما وراء المعرفة، التي توجه كيفية قيام طلاب TESL في المرحلة ما قبل الجامعية بتحديد المعلومات الموثوقة، وتقييمها، واختيارها ضمن بيئة الفصل الدراسي المعكوس. ولتحقيق هذا الهدف، اعتمدت هذه الدراسة على المنهج النوعي وذلك باستخدام منهج دراسة الحالة الاستكشافية، حيث استقصت أنماط اتخاذ القرار لدى تسعة طلاب من برنامج TESL في المرحلة ما قبل الجامعية في إحدى الجامعات الحكومية الماليزية. وقد تم جمع البيانات من خلال مقابلات شبه مهيكلية، وملاحظات صفية، ومذكرات ميدانية للباحثة، وسجلات التأمل الذاتي للمشاركين، ثم جرى تحليلها تحليلًا

موضوعيًا. وأظهرت النتائج أن الطلاب تبّنوا بصورة غالبية نمطي اتخاذ القرار القائم على اليقظة المفرطة. كما اصفرت النتائج عن الدور المتنامي لأدوات الذكاء الاصطناعي في دعم عمليات القراءة الأكاديمية. فقد وظّف ما يمكن تسميتهم بـ "القارئ المعزّز بالذكاء الاصطناعي" أدوات رقمية لتبسيط النصوص المعقدة، وتوسيع الشرح والتفسير، وتخصيص عمليات البحث عن المعلومات بما يتوافق مع احتياجاتهم المعرفية. وبناءً على ذلك، تسهم هذه الدراسة في تقديم إطار أولي لمفهوم "القارئ المعزّز بالذكاء الاصطناعي" ضمن بيئة الفصل الدراسي المعكوس، كما تقدم دلالات تطبيقية لتعزيز القراءة الأكاديمية باللغة الإنجليزية، وتطوير استخدام استراتيجيات ما وراء المعرفة، ومواءمة ممارسات التعليم العالي مع توجهات ماليزيا في مجالي تنمية الثقافة القرائية والتحول الرقمي.



APPROVAL PAGE

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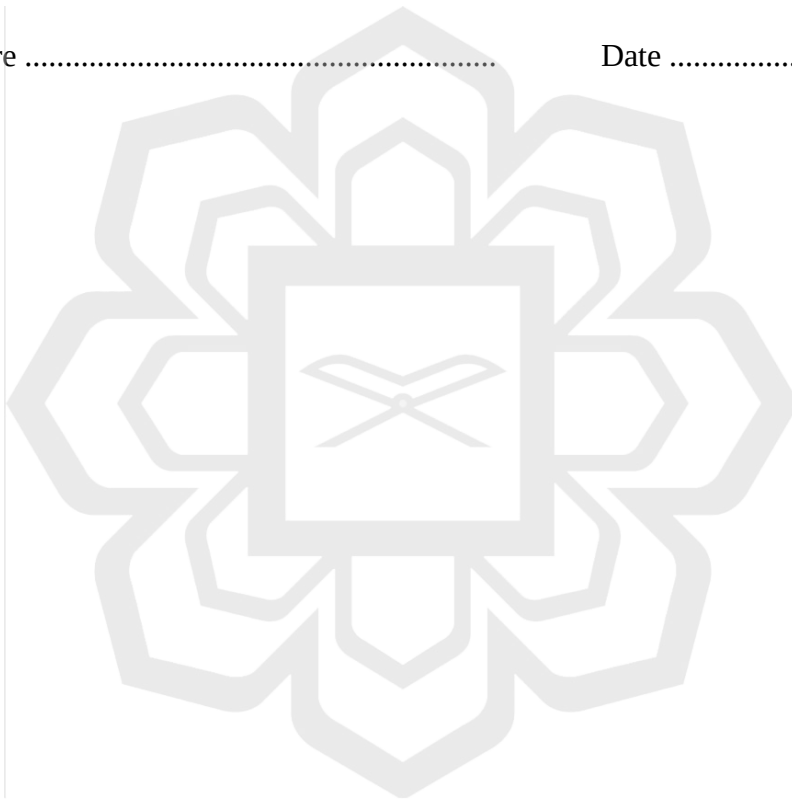
DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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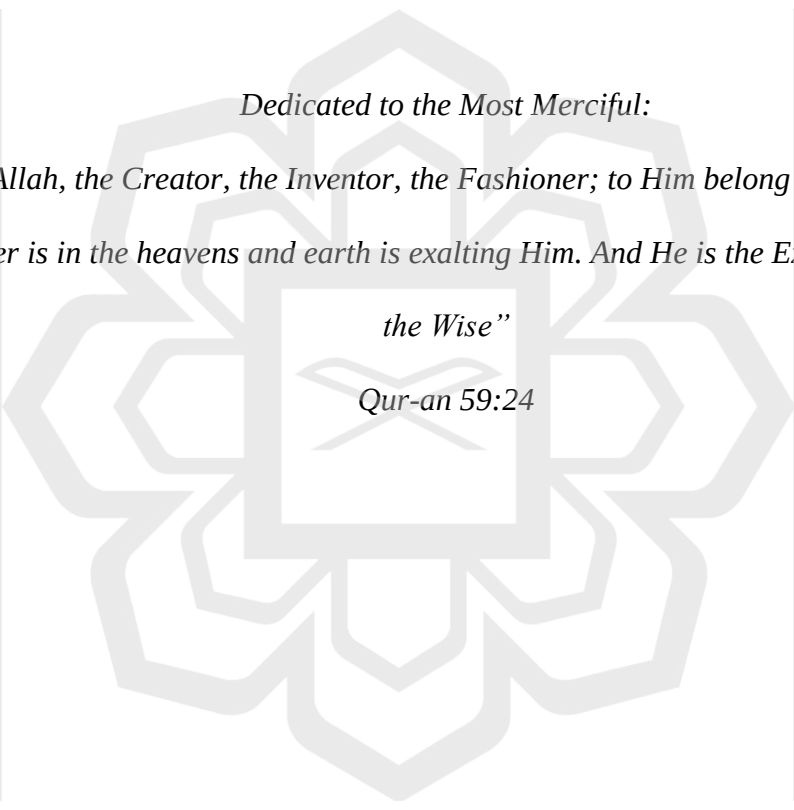
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“He is Allah, the Creator, the Inventor, the Fashioner; to Him belong the best names.

Whatever is in the heavens and earth is exalting Him. And He is the Exalted in Might,

the Wise”

Qur-an 59:24

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

This study aims to investigate the TESL pre-university students' decision-making in English academic reading within the scope of metacognitive reading strategies employed for reading comprehension. This exploration is situated in the framework of a Flipped Classroom approach, an approach that is recognized for its effectiveness in English language teaching and learning. This approach leverages English language learners' metacognitive strategies (Samadi et al. 2024) and the use of technology to enhance instructional delivery (Wang, 2023). The introductory chapter attempts to present the background of the study, statement of the problem, research objectives and research questions to achieve the objectives. It also explains the significance, limitations and delimitations of the study. Finally, this chapter explains the theoretical framework, conceptual framework, and contextualized definition of terms used in the present study.

1.2 BACKGROUND OF THE STUDY

Globalization is affecting today's society in many ways particularly in the field of higher education. One of the obvious aspects in education is the internalization of Higher Education (HE), in which the English language is proven to be a dominant language as, indeed, the Global Lingua Franca (EGLF) (Köylü, & Tracy-Ventura, 2022; Smokotin et al., 2014). Ngo and Tran (2023, September 2nd) in their article, 'Beyond English: Other options for HE internalization' asserted that many Asian countries have now implement policies to enhance English. This is apparent that English has contributed significantly to the internalization of higher education (HE) in Asia. As higher education institutions (HEI) implement policies to enhance English, tertiary students need to adapt to English-medium instruction. This transition demands self-regulated learning skills, as a tool to cope with the challenges to learn English as a

second language (Oxford, 1990) that helps language learners learn how to learn (Benson, 1997) in a non-native language environment. To better cultivate self-regulated learning characters among English second language learners, students should be well-trained in activating their utmost self-regulation potentials. Such training is particularly important when language learners are required to independently engage with academic texts. This can be done by promoting more favorable student-centered teaching and learning activities where learners' independence in language learning, is simultaneously elevated (Wijaya et al., 2022).

Within this global context, Malaysia experiences comparable educational demands and challenges. In response to the increasing demand of English-medium instruction and self-regulated learning highlighted in global higher education, Malaysia has increasingly adopted student-centered pedagogical approaches in English as a Second Language (ESL) instruction. English as a Second Language (ESL) instruction plays a vital role in Malaysia's multilingual context. English is the lingua franca for academic and professional success (Manokaran et al., 2021; Hamzah et al, 2017). Within this context, especially in the shift of education system after the Covid-19 pandemic together with the advancement of technology, the Flipped Classroom approach, an approach that emphasized on student-centered learning activities (O'Flaherty & Phillips, 2015; Bergmann & Sams, 2012) has garnered increased popularity in the new education landscape (Samadi et al., 2024). This too, is evident in a keynote address at the 2021 National Education and Learning Summit by Datuk Seri Dr Noraini Ahmad when she mentioned that continuation of teaching and learning since March 2020 have also included Flipped Classroom approach as part of the initiatives by academics in the Malaysian Higher Institutions (Yusoff, 2021 March 23rd). The literature on the Flipped Classroom approach has acknowledged the significance of its learning activities (Stöhr et al., 2020). Academics have now recognized the valuable time that ESL learners can dedicate to self-regulated learning and the advantages Flipped Classroom approach can offer beyond the confines of the classroom (Xieling et al., 2023). The Flipped classroom approach features direct individual instruction before real class time and interactive classroom learning activities (Bishop & Verleger, 2013) which then contribute to deep and active learning (Shen, 2023). Students are able to independently engage with course materials outside

class time (Dhawan, 2020). In class, they will utilize the time for interactive and collaborative in-class activities with the instructor and classmates (Wut & Xu, 2021). This approach has also gained greater recognition from scholars in the field of language studies (Lag & Saele, 2019; Turan & Akdag-Cimen, 2020). Attending to the preparatory stage of a flipped English classroom where self-regulated learning takes place, provides an opportunity for language learners to become conscious of their decisions in reading academic materials. In flipped classroom, this stage typically occurs during asynchronous learning, before the in-class sessions. At this stage, students are metacognitively aware of their activities throughout the learning process. Also, metacognitive skills are self-regulatory actions essential for decision-making and active learning (Hoosyar et al., 2019). Nevertheless, while many existing studies focus on examining the pedagogical effectiveness, little is known about how students prepare for in-class learning activities in English flipped classroom setting. To add, there is a scarcity of research focused on the preparatory stage of the Flipped Classroom approach (Akçayır & Akçayır, 2018), which includes ESL learners' engagement in reading for academic purposes. Thus, despite its importance, the preparatory stage has received limited attention in existing flipped classroom research particularly in relation to academic reading for higher education.

Due to the country's diverse linguistic landscape and the growing integration of educational technology, the Malaysian context is significant for this research. The Flipped Classroom approach accommodates ESL learners' self-regulated academic reading experiences as a preparation of English language learning for both traditional and virtual platforms. The transformation and improvements the Malaysian Ministry of Higher Education brought to the educational policy and instructional technologies have officially incorporated virtual education as part of the initiatives (Izhar et al., 2021). In the New Straits Times (2023, January 30) Minister Datuk Seri Mohamed Khaled Nordin said, "My aim is to see and prepare how we should manage the various changes and technological booms that greatly affect the country's plans for higher education,". The Malaysian government, educational institutions, and academics are quickly adapting to the challenges embracing a blend of conventional and virtual educational strategies. Necessitating continuous adaption and innovation of education (Jafar et al., 2022), Malaysian public higher educational institutions (HEIs) have now

opened new avenues for learning to ensure quality education for both learning environments. Minister Datuk Seri Mohamed Khaled Nordin in the New Straits Times (June 4th, 2023) reported that the Ministry of Higher Education (MoHE) will introduce a hybrid and flexible learning system at local universities. He proposed that through the flexible learning system offered, varsity students would attend physical lectures only in their first and final years. Datuk Seri Mohamed Khaled Nordin said that for the 2023/24 academic session, there are 95 first-degree programs from nineteen public universities that are prepared to offer a flexible learning system. (New Straits Times, June 4th, 2023). The initiative can be seen through the largest Malaysia's public university, Universiti Teknologi MARA Malaysia (UiTMM). UiTMM established the Institute of Continuing Education & Professional Studies in 2019 which foresees the importance of future and lifelong learning. With its motto 'Preparation of Life', the Lifelong Learning Program in ICEPS offers short-term and long-term educational courses with flexible durations that will be conducted through distance learning sessions to help learners improve their skills. Universiti Kebangsaan Malaysia (UKM) showcases yet another initiative, the Open and Distance Learning ODL-UKM program which also offers virtual education for undergraduate and postgraduate students. The university is currently offering 3 ODL courses; i. Bachelor of Islamic Studies with Honours (Theology and Philosophy) ii. Master of Education in Teaching English as a Second Language, and iii. Master of Education in Educational Technology. ODL-UKM is planning to offer 13 new courses in the near future (ODL-UKM, 2023). In 2020, International Islamic University Malaysia (IIUM) has published guidebook on Emergency Remote Teaching and Learning. The guidebook aimed to assist IIUM academics and its members to maintain the quality of education (Abu Kassim, 2020) for the local as well as international students. Considering the initiatives taken by the Malaysian government and local universities to improve the evolving educational environment, and recognizing that Flipped Classroom approach promotes self-regulated learning, it becomes imperative to explore into the self-regulated academic reading experiences of ESL learners who are in the preparatory phase preceding tertiary education; the pre-university students. Thus, this exploratory study aligns with and supports the efforts undertaken to meet the objectives of these initiatives.

Reading among youth does not only boost the likelihood of academic and economic success (Kirsch et al. 1993), but it also appears to stimulate a person's social and civic awareness (Hauver, 2019; Akinola, 2021; Nokes, 2022). A research report written by National Endowment for the Arts (2007) asserted that:

Reading correlates with almost every measurement of positive personal and social behavior surveyed. It is reassuring, though hardly amazing, that readers attend more concerts and theater than non-readers, but it is surprising that they exercise more and play more sports—no matter what their educational level. The cold statistics confirm something that most readers know but have mostly been reluctant to declare as fact – books change lives for the better. (Gioia, (2007, p.6)

Hence, it is worth noting that even through reading, academics can develop students' potential and meet national aspirations, aligned to Malaysian Ministry of Higher Education's mission which is to sustain the quality in higher education ecosystem in order to develop the potential of individuals and to meet national aspirations (Ministry of Higher Education, 2022, December 5th).

In learning English as a second (ESL) or foreign language (EFL), reading is widely recognised as the most significant skill for language learning (Carrell, 1988; Anderson, 1999; Grabe & Stoller, 2001). Research suggests that sustained engagement with reading activities in the target language supports language development as learners acquire knowledge and linguistic input through reading (Fatimah & Vishalache, 2006). Since language learners learn to read through reading, supplementary reading activities enables language learners to develop good reading habits, expand English vocabularies and language structure (Daskalovska, 2018), and to also encourage a liking for reading (Hassan et al., 2021). Grabe and Stoller (2011) suggest that these foundational reading habits are important as they strengthen students' ability to engage in reading for academic purposes. Reading for academic purposes is a necessary scholarly activity for at tertiary level (Liu & Read, 2020; Yapp et al., 2023). Even since decades ago, reading is already commonly perceived as an outdated activity as reported by Pivec (1998). He noted a decline in young adults' interest in reading due to their fascination with television and the Internet. Sharma et al. (2017) asserted that one of the reasons students fail to complete required

readings is their struggle to comprehend complex texts. As a result, according to them, students felt demotivated the students and often gave up on reading the materials. A study conducted by Gorzycki et al. (2019) claimed that students consistently expressed the importance of reading, yet their failure to complete reading assignments suggested otherwise. The qualitative analysis in the same study revealed that students did not experience academic reading as a venue for scholarly engagement, as the students perceived that academic reading is too voluminous and irrelevant to class outcomes. This phenomenon has been observed globally. Organisation for Economic Co-operation and Development (OECD) launched a program called Programme for International Student Assessment (PISA). The assessment which has started in 2000, is a triennial survey of 15-year-old students, assesses the extent to which these students have acquired important knowledge and skills essential for full participation in social and economic life. PISA focuses on three domains which are mathematics, science and reading. The results of PISA 2022 have shocked both Malaysian and international academics due to the decline in the three assessed domains (Chin & Loo, 2025; Li et. al, 2025). The overall trend is illustrated in figure 1.1:

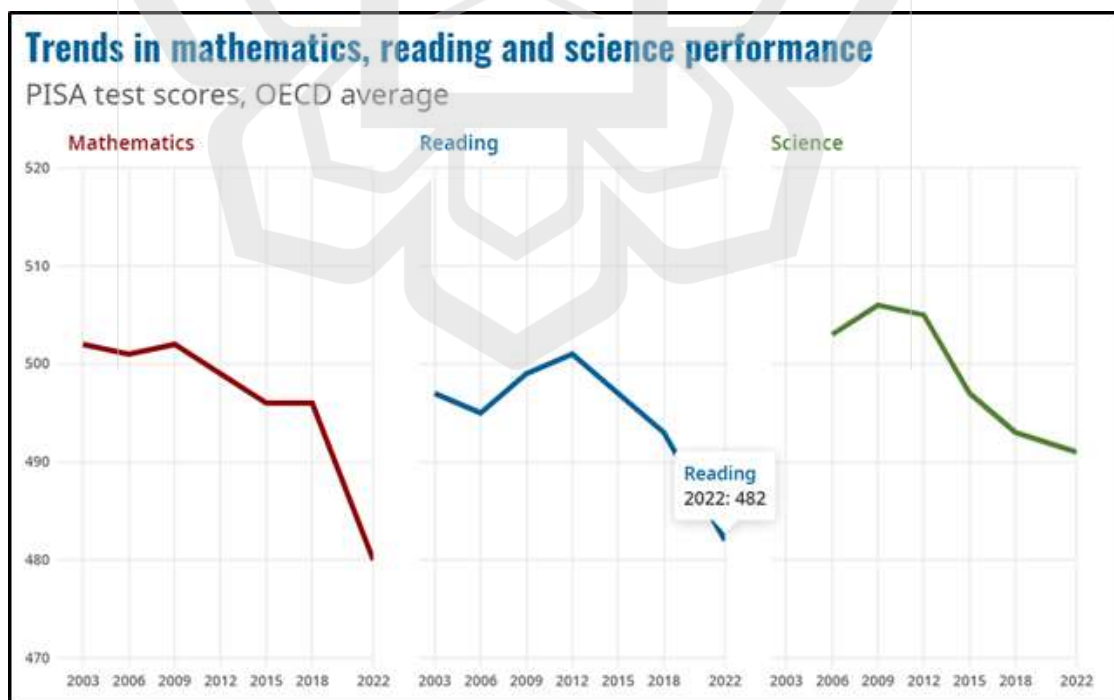


Figure 1.1 PISA Test Scores, OECD Average (OECD 2023)

Malaysia too, sadly, shows a decline in the three domains assessed. Education deputy director-general (School Operations) Azman Adnan told The Star that for reading literacy, Malaysia scored 388, a drop of 27 from 415 in 2018 (Rajendram, 2023 December 6th). He further added that about forty-two percent students met the minimum Level 2 for reading. The Malaysian Ministry of Education will plan for programs and initiatives for corrective measures, one of which includes formulating the new school curriculum (Rajendram, 2023 December 6th). The concerning scenario on English reading competence has created challenges for both educators and students in the higher institutions. In a local book written by Abdul Manaf, Rokis and Ramlan (2023) entitled *Budaya Membaca di Malaysia: Satu Tinjauan Terkini* expressed their worries about the poor reading culture among Malaysians. It was reported that one of the most evident challenges educators in Malaysia face today, according to Edward et al (2021) is the lack of reading comprehension among students in higher institutions. Singh et al. (2023) too, asserted that reading deficiency among Malaysian students in higher institutions in reading English texts or materials among ESL undergraduate students has been one of the most significant problems in Malaysia. As a result of this impairment, their academic performance may suffer (Muhammad et al, 2025). This whole situation highlights the urge to explore Malaysian ESL students' reading experiences with hopes to assist them in higher education. Exploring this important English receptive skill will also help academics to understand the current reading trends in Malaysia. Moreover, researchers in the field of English language learning and literacy regard reading as one of the most important areas of research (Habók & Magyar, 2019; Karami & Khajavi, 2021).

Furthermore, when students engage in reading for academic purposes, their decision-making process while reading extends beyond the application of reading skills. The decisions made probe into other dimensions in English language learning such as how students learn language independently and how technology is being used in the language learning process. Examining students' decision-making offers an alternative for researching and reporting on reading processes (Woods, 1997). Decision-making is an interpersonal skill found to be one of the important skills highlighted by research funded by Pearson and Nesta entitled 'The Future of Skills Employment in 2030' by Bakshi et al. (2017). In the light of the current 7 megatrends;

their research found a strong emphasis on interpersonal skills, high-order cognitive skills and system skills in the United States and United Kingdom. They reported:

Our findings also confirm the importance of higher-order cognitive skills such as originality, fluency of ideas and active learning. A similar picture emerges for the UK. The results point to a particularly strong relationship between higher-order cognitive skills and future occupational demand. Skills related to system thinking — the ability to recognise, understand and act on interconnections and feedback loops in sociotechnical systems — such as judgement and **decision making**, systems analysis and systems evaluation also feature prominently. We show that the future workforce will need broad based knowledge in addition to the more specialised features that will be needed for specific occupations. Broad-based knowledge areas such as **English language**, history, philosophy and administration and management are all associated strongly with occupations projected to see a rise in workforce share. (p.14)

As mentioned, decision-making as part of the thinking system (Fiedler et al. 2019), and metacognition (Basu & Dixit, 2022) is a crucial process involved when ESL learners are immersed in the practice of academic reading. When reading, selecting a strategy is a decision (ChanLin, 2013; Govind & Amalor, 2016). However, issues on ESL learners' decision-making in English language learning in Malaysia is an unresolved concern among academics that has not been addressed to match the rapid pedagogical development of education (Yaacob, et al. 2023). Past studies have explored other dimensions in students' decision-making styles, but very limited literature reviewed Malaysian ESL learners' decision-making in academic reading for English flipped classrooms. ESL learners' structured preparation in academic reading is essential to achieve effective learning experiences (Rapanta et al., 2020). The Flipped classroom, as a teaching approach that emphasizes learner-centered learning and active engagement, necessitates students to make decisions prior to class (Majeed, 2021). In the context of academic reading for flipped English classrooms, decision-making plays a crucial role in facilitating effective language learning and engagement among ESL learners. This holds particular significance for ESL learners in pre-university programs as they transition from secondary school to tertiary education. The emphasis should prioritize pre-university students; they represent the youngest cohort in the tertiary education system and stand to benefit most from the groundwork

laid out for their educational journey. By exploring the decisions made while the pre-university students engage in academic reading, it opens a window into their metacognitive reading strategies (Tamin & Büyükahıska, 2020; Teng 2020), their evolving thoughts, skills development as well as supports (Good III et al., 2009) that are necessary and critical for academics to leverage pedagogical approaches (Sharma et al., 2019) on English Education align to the initiatives taken by the Malaysian government.

Table 1.1 highlights previous research on academic reading among pre-university students in Malaysia.

Table 1.1 Past Research on Academic Reading among ESL Pre-University Students in Malaysia for the Past Five Years

Author/Year	Title	Research Objectives / Research Questions	Results
Nurul Munirah Safian, Yeo Kee Jiar (2022)	Relationship between ESL Learners' Reading Self-Efficacy, Reading Strategies and Critical Reading among Pre-University Students in a Malaysia Public University	To explore the relationship between reading self-efficacy, critical reading and use of reading strategies among pre-university students in Malaysia.	The study found that the pre-university students' level of critical reading and reading self-efficacy are at a moderate level, which suggest future studies to develop a framework based on the hierarchical levels of cognitive demands to systematically monitor the students' literacy development.
Naimah Derin, Suyansah Swanto, Abd Halib Mohd Ali, Wardatul Akmam Din. (2021)	Metacognitive Reading Strategies Application Among High and Low Proficient Readers at Pre-university Level	This study aimed to provide a picture of the strategies and awareness among low and high proficiency ESL pre-university students in Malaysia.	The finding revealed that Problem Solving Reading Strategy (PROB) strategy was favoured by both groups. To strengthen scrupulous response, effect size had given a better interpretation of

			the finding. Reading strategies listed in Survey on Reading Strategies Questionnaire (SOR) developed by Mokhtari and Sheory (2002) have negative effect to the high proficient readers (HPR) yet large positive effect to the low proficient readers (LPR) among the ESL pre-university students.
Zaidatul Akmal Abd Hamid, Ismail Sheikh Ahmad, Mohd Shukri Nordin, Zainurin Abdul Rahman, (2020)	Assessing the Metacognitive Awareness of Online Reading Strategies among Pre-university Students	The study aimed to find out the metacognitive online reading strategy awareness among pre-university students in Malaysia.	It was highlighted that although the pre-university students are aware of the online reading strategies, but the students portrayed the least involvement with strategies under Support Strategy (SUP) in choosing tools such as live chatting, note taking, and using pictures and graphs to assist their online reading.
Chelster Sherralyn Jeffrey Pudir, John Mark Storey, Loh Yoke Len, Suyansah Swanto, Wardatul Akmam Din, Norazah Mohd Suki (2020)	Impact of English Academic Reading Strategies and Proficiency on Academic Performance: A Study of Malaysian Public University Foundation Students	This paper aims to determine the effective reading strategies used by foundation students of different MUET bands that are required for comprehending academic texts and the impact of these strategies on their academic performance.	It was reported that there are statistically significant relationships existed between academic performance and use of reading strategies. Cognitive-based reading strategies as well as strategies in managing ones reading progress are more frequently employed than strategies in managing one's

emotions and learning from others The researchers recommended that a more comprehensive research design that encompasses other variables and deploys more accurate research tools on academic reading strategies could be undertaken by future researchers.

Research findings in Table 1.1 reveal the urgency to explore the current trend in reading tailored to different proficiency levels. Researchers should also explore methods used by these young readers on how they independently enhance reading comprehension as the findings are crucial to support academics in developing comprehensive frameworks that could track literacy development through hierarchical cognitive levels.

To date, there are 12 public universities in Malaysia (The Malaysian Administrative Modernisation and Management Planning Unit, 2023) offering 41 pre-university or foundation courses (Bahagian Pengurusan Kemasukan Pelajar, 2022) in total:

Table 1.2 Number of Foundation Courses in Malaysian Public Universities

University	Number of Foundation Courses
1. International Islamic University Malaysia	19
2. Universiti Teknologi MARA	5
3. Universiti Malaya	4
4. Universiti Pertahanan Nasional Malaysia	3
5. Universiti Sains Islam Malaysia	2
6. Universiti Malaysia Sarawak	2
7. Universiti Kebangsaan Malaysia	1
8. Universiti Putra Malaysia	1
9. Universiti Malaysia Sabah	1
10. Universiti Utara Malaysia	1
11. Universiti Sultan Zainal Abidin	1
12. Universiti Malaysia Terengganu	1

The foundation courses in Malaysian public universities prepare high school graduates to enroll to bachelor's degree programs without the necessity of completing a diploma program. Usually, high school graduates who enrolled in these foundation programs are the high achievers. This is attributed to the particular standard they are required to meet the standard set by the respective universities (Bahagian Pengurusan Kemasukan Pelajar, 2022).

The curriculum for each of these foundation courses is designed in accordance with the Guidelines of Curriculum: Foundation (GFC). GFC is a standard guideline developed by The Malaysian Qualifications Agency (MQA); the sole national higher education quality organization that facilitates quality through the establishment of quality assurance documents which include Code of Practice, Guidelines to Good Practices, Program Standards and the Malaysian Qualification Framework (MQF). In the Malaysian Qualification Framework, the standard program aims and learning outcomes of the courses developed are as follows:

Table 1.3 Program Aims & Program Learning Outcome in Malaysian Qualification Framework (Malaysian Qualifications Agency, 2019)

Program Aims	GCF's Program Learning Outcome (PLO)
At the end of this program, students will be able to explain concepts, theories, and principles in their area of study, source and process data using appropriate digital/technology applications, analyze and apply information to solve problems, and develop their skills for lifelong learning and communication in responsible ways.	By the end of the program, students should be able to: 1. Utilize facts to describe and discuss concepts, principles, and processes in a specific field of study. 2. Apply fundamental principles in the field of study to identify and solve problems. 3. Conduct academic activities such as collect, analyze, organize, and process data/information to make conclusions individually or in groups. 4. Communicate effectively orally and in writing 5. Utilize basic digital technology applications to seek and process data related to a specific field of study; and 6. Search, interpret, and use relevant information to pursue lifelong learning independently.

Referring to both GCF's standard program aims and program learning outcomes, the courses developed enable pre-university students to experience decision-making in many ways – problem solving, analyze and process information (Halpern, 2013; Helsdingen, 2010) and their ability to use relevant information to pursue lifelong learning independently. The Program Learning Outcomes (PLO) are aligned with the continuation of teaching and learning that promotes independent and life-long learning that includes the Flipped Classroom approach as part of the initiatives by academics in the Malaysian Higher Institutions (Yusoff, 2021 March 23rd; Juhary, 2025)

Table 1.4 Past Research on Flipped Classroom Approach for English Education in Pre-University Programs in Malaysia for the Past Five Years

Author/Year	Title	Research Objectives / Research Questions	Results
Faharina Shaari, Intan Farahana Kamsin (2024)	Flipped Classroom for Matriculation: Are Students and Teachers Ready?	this researcher aimed to explore flipped classroom readiness among students and instructors within the context of Malaysian matriculation or pre-university program.	The paper highlights significant comprehension of the flipped classroom paradigm, its implementation in Malaysia, and potential impact of student and teacher readiness of the approach. Further research needed to explore pre-university students' readiness and the dimensions that influence it.
Linda Sharmilla Kumaraysan & Nur Ainil Sulaiman (2023)	Flipped Classroom for Writing Skills: Views from Pre-University Students' Lens towards Effective Writing	To explore the Malaysian Sixth Form students' perception towards the use of flipped classroom in enhancing writing skills.	The use of flipped classroom has many advantages and is an effective method of the 21st century learning in teaching writing skills.
Rebecca Lee Su Ping (2020)	Exploring the learning outcomes of flipped learning in a Second Language (L2) academic writing classroom for low proficiency pre-university	(1) to investigate the influence of flipped classroom on low proficient L2 students' academic writing performance by identifying the benefits and the challenges of flipped classroom. (2) to give insights into the ways the flipped writing approach can be utilised effectively	Students favoured the greater time preparation, the immediate feedback, the increased opportunity to practise and interact, as well as the higher level of motivation and self-efficacy.

	students	in the L2 classroom at Higher Education (HE) level, particularly for low proficient second language learners. (3) to develop a flipped learning model for low proficiency L2 students at preuniversity level.	
Azia Sulong, Abu Bakar Ibrahim, Ashardi Abas (2020)	The Effectiveness of The Use Gamified Flipped Classroom Approach Towards Students' Motivation at Pre-university Level	To assess the effectiveness of the use of gamified flipped classroom approach to students' motivation in learning programming subject.	Results show that a gamified flipped classroom approach provides the positive impact on student motivation compared to the control group that used traditional approach.
Eldy, Elnetthra Folly; Wui, Jackson Chang Hian; Butai, Siti Nazirah Basri; Nur Fadzilah Awang; Huzaikha Din, Wardatul Akmam; Arshad, Sazmal Effendi (2019)	Inverted classroom improves pre-university students' understanding on basic topic of physics: The preliminary study	To identify the effectiveness of the inverted classroom implemented in a pre-university physics classroom on topics of classical mechanic	There was a significant difference between control group and experimental group on their pre-test and post-test score.
Suwarna Rani Subramaniam & Balakrishnan Muniandy (2019)	The Effect of Flipped Classroom on Students' Engagement	To investigate the effect of flipped classroom on computer science students' engagement level among pre-university students	It was clear that the students in the experimental group (flipped classroom) were highly engaged.

Table 1.4 lists previous research on the Flipped Classroom approach conducted as a teaching approach for pre-university students in Malaysia. Two of the studies revealed that the Flipped Classroom approach is suitable for teaching English writing skills (Kumaraysan & Sulaiman, 2023; Lee, 2020), a productive language skill. However, this research fails to also address the receptive skill - reading for academic purposes, which ESL learners used before they attended the flipped classroom sessions to learn academic writing. Graham (2019) suggested that using explicit instruction for academic reading is crucial to model effective writing. Assessing English language proficiency in writing skills necessitates the need of academic reading, a crucial receptive language process that will significantly influence writing production. Ismail et al., (2020) further added that reading is an important skill and serves as a tool of communication in written language through texts. To add, a systematic review by Shaari & Kamsin, (2024) highlights that other research on Flipped Classroom approach in pre-university programs mainly focused on students from science education, module development (Malek et al., 2022) or applications (Lim, et al. (2023). Although there is research on the implementation of Flipped Classroom approach among pre-university students in Malaysia (Table 1.3), the focus on decision-making while reading academic materials during preparatory stage of the Flipped Classroom approach among pre-university students in Malaysia remains largely unexplored (Safian & Yeo, 2022). Therefore, this study is expected to fill the gap and assist academics in responding to the Program Learning Outcomes planned by the Malaysian Qualifications Agency (2019).

To explore further into the of ESL pre-university students' academic reading experiences, this study seeks to investigate TESL pre-university students' decision-making styles in academic reading as part of their metacognitive reading strategies and readiness in the flipped classroom settings designed for an English academic reading course. The TESL foundation program involved in this study is a one-year foundation program that concentrates on the education of English language studies, serving as a preparatory pathway for secondary school graduates to embark on Bachelor of Education TESL programs and other English language bachelor programs available at various public universities in Malaysia. In the program, the ESL pre-university students learn four major English language skills, academic reading,

academic writing, listening and speaking as well as English grammar. Mastery of all four English language skills are important in shaping proficient ESL learners who will eventually embark on the English language teaching profession. Hence, the ESL learners' transition from secondary schools to tertiary education demands attention from academics in higher education institutions (HEIs), primarily because of the distinct educational experiences ESL learners encounter while they were in secondary schools. Considering this, the present study aims to bridge this gap by exploring TESL pre-university students' decision-making styles in academic reading in the context of Flipped Classroom approach in Malaysia.

1.3 STATEMENT OF THE PROBLEM

Malaysian pre-university students face significant challenges in English academic reading, which is essential due to its integral role in core academic activities. Academic reading is a critical skill for understanding course content, participating in academic discussions and completing assignments at tertiary level. Research shows that these English as Second Language (ESL) learners routinely struggle across all four language skills including reading with difficulties exacerbated by the complexity of academic content. A study conducted by Singh & Rajalingam (2012) with pre-university students in Northern Malaysia were found to encounter difficulties with all for components of English language learning. Kaur (2020) in her research found that many pre-university students struggled with the complexity of content and language while reading English texts. Although Malaysian students who have gone through the education system in Malaysia ought to be autonomous learners as clearly stated by the Common European Framework of reference for Languages (CEFR) (Ministry of Education, 2013), many studies have documented the absence of readiness among pre-university students in terms of taking lead of their own learning, including their approach to academic reading (Mohd Faisal & Mohd Said, 2023; Hyytinen et. al., 2018). One of the reasons is that the Malaysian educational system places great emphasis on examination results (Mansor, 2017; Melisa & Ahmad Affendi, 2021), that leads to what was discovered by Muhammad et al. (2020) and Inderjit (2014) in their studies - that learners read for examinations, which consequently narrowed their

reading to textbooks rather than deeper comprehension or exploration beyond textbooks. Given these challenges in English academic reading and the need to enhance English academic reading skills, many academics in Malaysia's higher institutions have adopted the Flipped Classroom approach to foster better engagement in pre-class activities that includes independent reading (Juhary, 2024). Although the environment in a flipped classroom provides English language learners to improve effectiveness and efficiency in learning (Almaiah, Al-Khasawneh, & Althunibat, 2020), leading to a greater self-awareness, becoming more knowledgeable (Gonzalez et al., 2020), as well as enhancing higher-order thinking skills such as problem solving, questioning and creativity (UNESCO, 2020), the challenges in academic reading become more pronounced in flipped classroom settings especially when students are required to read independently before attending class.

In light of this, among the issues discussed is the lack of reading among pre-university students. According to Sadeq Alsaedi et al. (2021), although the importance of academic reading is acknowledged, a pattern of low commitment in academic reading has also been reported. Zulkifli et al. (2021) discovered that the top two reasons to why secondary school students do not read are because of (i) the learners' attitudes and reading awareness (ii) the changes in reading styles and technological developments. Hamid et al. (2020) reported that based on their findings, the pre-university students' inconsistencies in metacognitive awareness while reading academic materials, concluded the need to assist pre-university students to improve the choices they make in order to become proficient readers. This situation causes issues in the implementation of flipped classroom approach (Kiang & Yunus, 2021; Zainuddin & Attaran, 2016). A current study by Fahmi et al. (2024) also claimed that within the Flipped Classroom approach, more research needed to be done to understand second language learners' reading progress and their comprehension over time. Although significantly, reading is germane to ESL learners' academic performances, several studies have also reported on ESL learners' poor decisions during academic reading activities. Therefore, the issues in academic reading compliance among pre-university students trigger the need to prove that this English language skill must be addressed especially on the strategic choices they make in academic reading while they are in the transition phase of tertiary education. In

relation to the present study, exploring TESL pre-university students' decision-making while they are reading for academic purposes can overcome the issues found in the awareness, attitudes and technological advancement that deteriorate reading behaviours in this cohort.

Within the framework of Flipped Classroom approach, recent studies by Mustapha & Devarajoo (2020) and Pawlak et al. (2022) revealed that although instructors have provided sufficient reading materials for flipped English classes, active learning was difficult to achieve as the respondents claimed that they felt less motivated and uninterested to participate. This can be concluded that although instructors have given instructions, prepared and shared course materials for these students to read independently prior to class, it does not guarantee students' active engagement during flipped classes, which is viewed to be important for other language skills and knowledge transfer among the students. This situation highlights a major concern about the decisions they have made while independently reading the given course materials or other explored academic reading materials as preparation to attend flipped classes. This also shows that there is a gap in academic reading practices that contributes to the engagement in flipped English classes. Another research on academic reading by Benedict & Shabdin (2021) found that ESL pre-university students are more likely to use metacognitive reading strategies when it comes to learning English vocabulary but none of the findings were narrowed down to these high achievers' decisions while reading the academic materials that have contributed to vocabulary expansion. This aspect in academic reading is crucial to understand how these ESL pre-university students engaged with academic reading tasks that facilitates not only in vocabulary expansion, but also in-class engagement and reading comprehension.

Apart from that, Lee and List (2019) asserted that more research needed to be conducted to further establish the consistency of strategic processing across text and multimedia learning tools. Generally, although the syllabus and topics are well designed and implemented for academic reading courses, ESL learners have the freedom to explore other additional information to be shared during flipped classes. These opportunities are important to nurture maturity in ESL learners' decision-making while reading academic materials. The content selection ESL pre-university

students have planned to share during flipped classes has a significant impact towards maximizing language learning outcomes. However, ESL learners' ignorance of using information without critical decisions of its content and quality may lead to the acceptance of information based on unsubstantiated claims (Sahin & Kurban, 2016; Zlatkin-Troitschanskaia et al., 2020). Besides, Tang & Liao (2019) explained that decision-making in academic reading need to be nurtured due to the arrival of the Big Data era (BD). They further elaborated that Big Data era has brought 'large, complex and growing data generated from numerous sources'. Also, Li et al. (2022) suggested that there is an increase trend that shows the use of mass data and decisions are made based on mass data analysis, which leads to the need to explore the decisions and preferences of reading materials; text-based or multimedia references among ESL pre-university students.

The current literature on decision-making styles among pre-university students in Malaysia primarily revolves around career decision-making (Zulkifli et al., 2021, Yusran et al. 2021). However, to explore this specific type of decision-making style, pre-university students must be given sufficient time to gain experience and maturity before arriving to such decision. Also, while most previous research on flipped learning studied ESL learners' motivation, readiness as well as preferences (Yousof, 2022 & Azmat Ali et al., 2022, Virtič et al. 2021), the decisions made during reading activities prior to attending the real-time class sessions were not highlighted. Another recent research conducted by Velmurugan, et al., (2024) specifically focused on decision-making in the contexts of reading skills but this study focuses on technical students and data were illustrated mathematically. A study conducted by Rashid et al. (2016) with ESL advanced Malaysian Chinese students, proposed to further investigate the metacognitive reading strategies by other advanced readers in Malaysia. As the present study is focusing on advanced ESL pre-university students who are also advanced readers, the findings of the students' decision-making styles within Flavell's (1979) metacognitive reading strategies framework will fill in the gap in the existing literature. Thus, exploring the practices of decision-making while students are actively engaged in learning academic reading, makes more substantial contribution to their English language learning. Furthermore, a systematic review on the recent trends of blended learning and flipped classroom in Malaysia by Tan et al.

(2022) clearly highlighted that none of the 22 cited references they have studied, measured the responses of pre-university students. Therefore, the present study aims to close the gap by focusing on the TESL pre-university students' decision-making styles in academic reading during the preparation stage of flipped classroom.

To summarize, although metacognitive strategies in reading have been extensively studied, decision-making during academic reading in English flipped classrooms remains underexplored, particularly among TESL pre-university students. It is hoped that this study illuminates evidence of decision-making styles in the context of academic reading, thereby enriching the academic reading literature and offering insights for the initiatives lead by the Malaysian government and its higher education institutions. Also, concerning the problems mentioned, the findings of this study are expected to initiate a platform for discussion to develop preliminary framework and guidelines for TESL pre-university students decision-making styles in academic reading, to assist academics in English language teaching within the Flipped Classroom approach. Synergizing the findings within a flipped classroom context will also open a different avenue in the teaching and learning of English academic reading in tertiary education. Table 1.5 represents an overview of problem statement for this study:

Table 1.5 Overview of the Statement of Problem

No.	Research Questions	Issues / Challenges / Problems	Gaps	Intended worthiness of the study
1.	How do the selected TESL pre-university students perceive the decision-making skills during academic reading for flipped classrooms?	Many studies have documented the absence of readiness among pre-university students in terms of taking lead of their own learning, including their approach to academic reading (Mohd Faisal & Mohd Said, 2023; Hyytinen et. al., 2018) Benedict & Shabdin (2021) found that TESL pre-university students are more likely to use metacognitive reading strategies when it comes to vocabulary learning but none of the findings focus on metacognitive reading strategies among these high achievers within a flipped classroom approach.	<i>Population Gap</i> Most previous studies on decision-making while reading academic texts focused more on undergraduate students within the flipped classroom setting (Hwang & Chang, 2020) and school students (Nasir et al., 2023; Ishak et.al, 2023) <i>Empirical Gap</i> Most of the previous studies on decision-making conducted among pre-university students are from different disciplines such as science education (Subramaniam & Muniandy, 2019; Sulong et al., 2020) <i>Practical Knowledge Gap</i> Filderman et. al (2018) suggested that for students with persistent reading difficulties, one of the	The findings will reveal the challenges TESL pre-university students faced in deciding effective reading strategies they can employ within a Flipped Classroom model. This too, can assist ESL learners to become more metacognitively aware of their reading strategies in academic reading. Becoming aware of their own decision-making styles while reading academic texts can help them to learn about themselves. These ESL learners can become more independent by acknowledging that decision-making process helps them to think critically.

most effective ways to intensify reading interventions is to individualize instruction through use of performance data known as data-based decision making (DBDM).

2.	How do decision-making skills during academic reading facilitate the selected TESL pre-university students' engagement in flipped classrooms?	Although the Flipped Classroom model is perceived as a convenient approach to teach a language, English language instructors claimed that teaching language skills is difficult when ESL pre-university students refuse to participate due to their lack of readiness and engagement in class (Zainudin et al.,2019)	<i>Practical Knowledge Gap</i> Most of the previous studies focused on ESL learners' motivation, readiness (Yousof, 2022 & Azmat Ali et al., 2022, preferences (Vrtič et al. 2021), but did not highlight the preparation process (on a micro level, the learners' decision-making skills) that contributes to active engagement during language classes. Despite the importance of student engagement, the literature on learners' engagement in flipped classes is still sparse (Paulsen & McCormick, 2020).	Understanding the TESL pre-university students' engagement as a result of their decision-making experiences in academic reading may not only assist them in English language learning, but also for academics to design new curriculum as a response to Malaysian Education Blueprint for HEIs.
3.	What are the characteristics of reading materials preferred by the	References in the Big Data era opens a lot of access for TESL pre-university students to look for information and learn	<i>Data gap</i> The different types of reading references used by ESL learners is still a debate among academics	Findings on the different reading materials used by ESL pre-university students while reading independently provide insights into

selected TESL pre-university students for flipped classrooms?	independently, but the choice of materials used during the independently learning process has not been highlighted even among pre-university students in general.	(Azar & Iskandar Tan, 2023).	the types of reading materials that they find engaging and effective for reading comprehension.
	Benedict & Shabdin (2021) in their research with TESL pre-university students reported that these high achievers frequently employed both reading texts and multimedia references for vocabulary expansion. However, the characterization of materials or information were not explored. Incidentally, Ahiya (1993) found that university students seem to be wasting a lot of time because they are unable to decide which items of printed matter are going to be of most help to them by any other method than reading them all.		
4. What decision-making styles do the selected TESL pre-university students	A study found that ESL students may be active learners, making efforts to comprehend what they are reading and doing their best to	<i>Theoretical gap</i> A similar study conducted by Rashid et al. (2006) with ESL advanced Malaysian Chinese	TESL pre-university students' decision-making styles in academic reading for flipped classroom may also be extended to

demonstrate in academic reading for flipped classrooms?

apply problem-solving and support strategies to increase their comprehension, however, they struggle to apply the appropriate support strategies to help with their comprehension for academic reading materials (Maktiar Singh, et al., 2023).

Cognitive development has always been in the light of academic reading literature. However, very little research was done to study ESL learners' decision-making styles while they are engaged in academic reading as a preparation for flipped classes.

Findings from a study suggested that specialized instructions that emphasized on academic reading skills should be implemented at the early level of tertiary education. (Putin et.al., 2020)

students, proposed to further investigate the metacognitive reading strategies by other races in Malaysia as well. As the present study is focusing on ESL advanced Malay students, the findings of students decision-making style within Flavell's (1979) framework will fill in the gap of the existing literature.

Contextual gap

There is a need to explore learners decision-making styles while they are engaged in asynchronous learning in a flipped classroom environment (Vijay & Kadhiraavan, 2016)

Sharma et. al. (2017) argued that both students and faculty should have greater awareness of the decisions students made in reading, and other related activities.

students from other disciplines who are learning English if they share the same spectrum in the Flipped Classroom model.

Numerous studies in the existing literature have explored metacognitive reading strategies for academic reading, highlighting their importance among ESL learners. Flavell (1979) in his biography highlighted that “If the outcome is very important, individuals are more likely to monitor his or her judgements and decision-making carefully” (p.iii). However, Mastrothanais et al. (2018) asserted that although students may possess certain reading strategies, they do not know when and why to use them in order to develop the conditional knowledge. According to Aisha et al. (2020), readers in Malaysia may not be employing effective techniques when interpreting second language or foreign language texts. The researchers contend that to select and apply suitable strategies, readers need to be cognizant of the specific reading obstacles they encounter. Similarly, Aisha et al. (2020) reported that Malaysian readers may not be employing reading strategies effectively to help them read English texts as they construct meaning. This is evident that decision-making must be addressed. Therefore, this study attempts to build on Flavell’s (1979) metacognitive reading strategies by investigating the TESL pre-university students’ decision-making in academic reading within a flipped classroom approach.

1.4 PURPOSE OF THE STUDY

The purpose of this qualitative case study is to explore TESL pre-university students’ decision-making styles in academic reading within a flipped classroom approach. The study also sought to investigate TESL pre-university students’ decision-making skills which subsequently influence their decision-making styles in reading academic materials within the same context.

1.5 RESEARCH OBJECTIVES

The objectives of this study are:

1. to investigate the selected TESL pre-university students' perceptions of decision-making skills during academic reading for flipped classrooms.
2. to investigate how decision-making skills in academic reading facilitate the selected TESL pre-university students' engagement in flipped classrooms.
3. to characterize the reading materials preferred by the selected TESL pre-university students for flipped classrooms.
4. to identify the decision-making styles demonstrated by the selected TESL pre-university students in academic reading for flipped classrooms.

1.6 RESEARCH QUESTIONS

The above objectives are to be realized using research questions that would serve as guidelines for the flow of the study. The research questions are as follows:

1. How do the selected TESL pre-university students perceive the decision-making skills during academic reading for flipped classrooms?
2. How do decision-making skills during academic reading facilitate the selected TESL pre-university students' engagement in flipped classrooms?
3. What are the characteristics of reading materials preferred by the selected TESL pre-university students for flipped classrooms?
4. What decision-making styles do the selected TESL pre-university students demonstrate in academic reading for flipped classrooms?

1.7 THEORETICAL FRAMEWORK

To obtain a clear understanding of decision-making styles in academic reading for flipped classrooms, it is essential to investigate relevant theories that scaffold TESL pre-university students' decision-making in academic reading in flipped classrooms. The four theories in the present study are used to as guidance to clarify, forecast, and justify (Maxwell, 2013) for research construction and data interpretations of TESL pre-university students' decision-making styles in academic reading within a Flipped Classroom approach:

1. Flavell's Model of Metacognition
2. Bounded Rationality Theory
3. Bloom's Revised Taxonomy
4. Conflict Theory of Decision-Making

A robust theoretical framework acts like a blueprint, offering a structure to qualitative inquiry. Flinders and Mills (1993) claimed that it is worth noting the influence of a theoretical lens to attain the meaning of the research statements within the present study. In addition, Creswell (2013) suggested that the theoretical framework in a qualitative research case study helps researchers to acquire knowledge, describing facts which are heuristic and to be understood within the context of an applied theory (Guba & Lincoln, 1994). Thus, the trustworthiness of these established theories is supposed to be regarded to the present context, challenges, and phenomenon to provide a better guideline for TESL pre-university students' decision-making styles in academic reading as part of their learning process. Detailed elaboration of each of these theories are presented in Chapter Two.

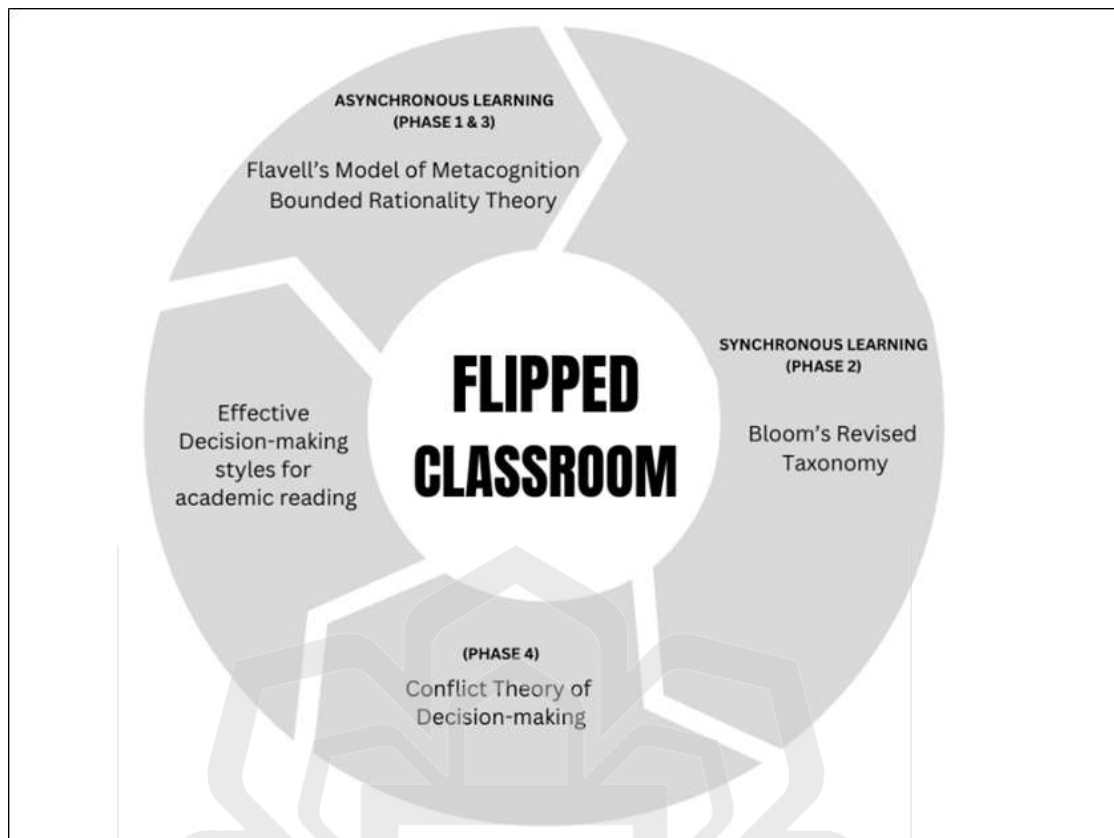


Figure 1.2 Theoretical Framework of the Study

1.8 CONCEPTUAL FRAMEWORK

Building a conceptual framework compels researchers to be unambiguous about what they think they are doing and it helps them to be selective in deciding which are the significant features of the research, which relationships are likely to be significant, thus what data the researchers to proceed, collect, and analyze (Maxwell, 2013). Ravitch & Riggan, (2017) explained that a conceptual framework is an argument that demonstrates the alignment of research questions, data collection, data analysis, and the use of rigorous procedures to conduct the study.

For the present study, the gap in literature contributed to the development of the proposed conceptual framework presented in Figure 1.3. The conceptual framework is also guided by the underpinning theories presented in the theoretical framework which shows the process of decision-making styles in academic reading during the preparation stage of a flipped classroom.

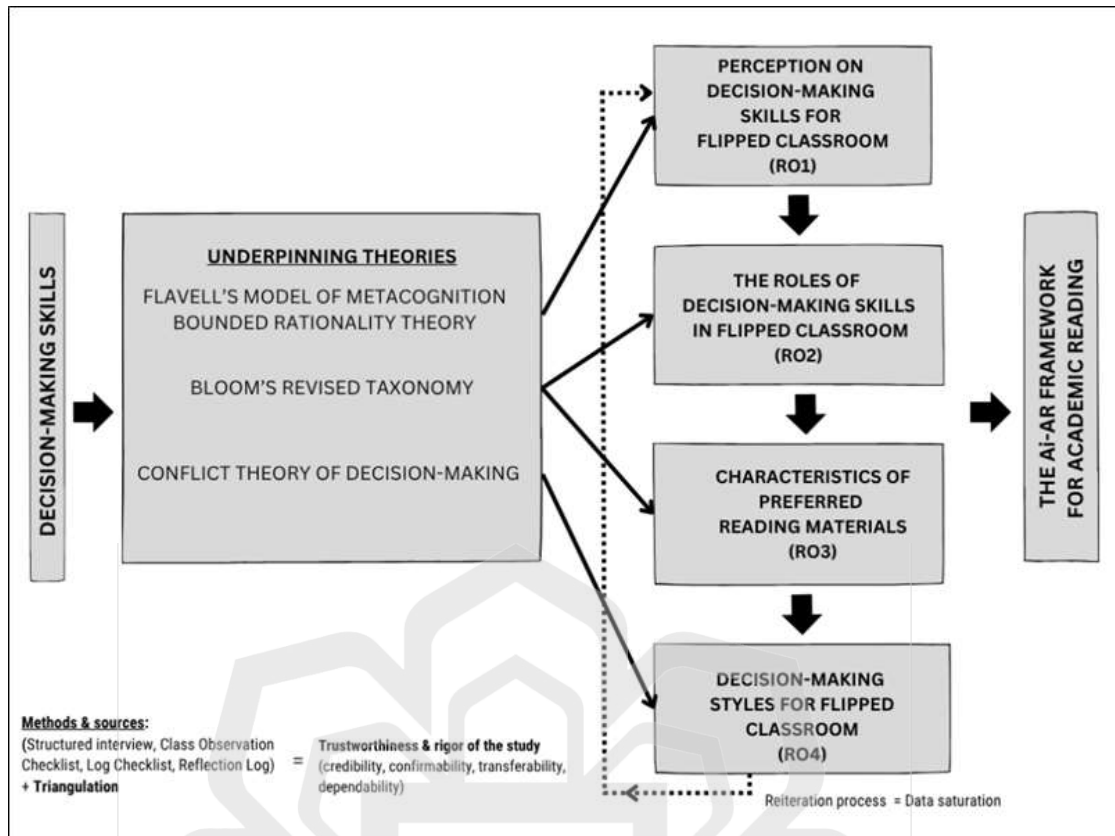


Figure 1.3 Conceptual Framework of the Current Study

The underlying assumption of this study is that, considering the existing decision-making skills in metacognitive reading strategies (Flavell, 1976) possessed by the TESL pre-university students, decisions are made within their cognitive abilities, available information, and time constraints (Herbert, 1957). Metacognition in academic reading refers to such as self-awareness and self-evaluating of language learners (Flavell, 1976) to monitor comprehension and adapt reading strategies as needed (Flavell 1981) to become independent readers (Ahmadi et al., 2013) while limited to purely cognitive monitoring and control (Dinsmore et al., 2008). Within this context, their decision-making further expresses the informed decisions consciously made about strategies or cognitive shortcuts (Velmurugan et al., 2024) in coping with challenges while they are reading academic materials in a time-sensitive condition within the Flipped Classroom approach. From the complex information gathered, they analyse by breaking them into parts and detect how these parts relate to one another that leads to an overall purpose as suggested by Anderson et al. (2001) in the Bloom's

Revised Taxonomy. Then, these students will evaluate the selected information based on the instructor's instructions given prior to the flipped classroom session. Finally, with the knowledge gathered, they engage in flipped classroom real-time sessions designed as a platform for the TESL students to communicate and share knowledge with the instructor and classmates (Vygotsky, 1978) to achieve the learning objective. Within this cycle of a flipped classroom session, the study is conceptualized as an exploration of understanding the TESL pre-university students' awareness on their decision-making skills, the role of decision-making skills affecting cognitive engagement during flipped classroom sessions, the different materials they used as academic references, as well as the decision-making styles the TESL pre-university students possess in relation to English academic reading within the flipped classroom environment.

1.9 SIGNIFICANCE OF THE STUDY

This study hopes to contribute to the body of knowledge that addresses academic reading within a Flipped Classroom approach in the new normal, on both traditional and virtual teaching and learning platforms. The findings of this study will be valuable for ESL pre-university students majoring in English language studies. The findings can also be beneficial to undergraduate students in English language studies, English Educators, curriculum designers and policy makers.

Firstly, this study is significant to undergraduate students majoring in English language studies by providing insights into the decision-making processes for metacognitive reading strategies they utilize when engaging with academic texts. The findings will reveal the challenges ESL learners faced in navigating academic reading tasks independently as well as effective approaches they have employed within a Flipped Classroom approach. This can assist ESL learners to become more metacognitively aware of their approaches and strategies to academic reading. Becoming aware of their own decision-making styles while reading academic texts can help them to learn about themselves. These ESL learners can become more independent (Mohd et al., 2019) by acknowledging that decision-making process

helps them to think critically (Phillips et al. 2016), and that they also share the responsibility of knowledge sharing during flipped classroom sessions.

For English educators, to explore more on TESL pre-university students' decisions in academic reading for flipped classrooms discloses the demands of new instructional practices, new insights on the teaching of academic reading as well as flipped classroom techniques. Also, the findings can be used to help academics to adjust their pedagogical approach and classroom activities for both; academic reading as a language skill and flipped classroom approach as a medium of instruction that are personalized according to the learners' needs (Tomas et al., 2019). Mukhtar et al. (2020) in their research recommended that academics should design lesson plans that incorporate reduced cognitive loads and increased interactiveness, a shift from traditional one-way lectures to more engaging flipped learning sessions. In addition, the results of Sijil Pelajar Malaysia 2020 reported by the Ministry of Education Malaysia have shocked many academics, especially language teaching experts. In the report, 10 out of 12 language subjects taught in schools showed a decline in students' achievement (Lembaga Peperiksaan Kementerian Pendidikan Malaysia, 2020). This national examination took place during the covid pandemic, when secondary school students had to independently learn at home with the teachers' assistance via technology. In the context of independent language learning, this is evident that to remotely learn a language is tough if students are not guided on how to read academic references independently. Thus, through Flipped Classroom approach, academics could learn different metacognitive reading strategies that are effective or ineffective in developing ESL pre-university students' critical reading skills while they are reading independently. Through careful attention, academics can assist the students to take control of their independent readings, ultimately benefitting their learning experience.

Researchers in the areas of academic English have acknowledge that English language learning is a dynamic process that extends beyond the language classroom (Chong, et. al., 2022). Thus, for curriculum designers, it is hoped that this study will produce new Flipped Classroom modules and instructional tools that are not only designed for teaching academic reading, but also suitable to the demographic of Malaysian pre-university students. Although traditional Flipped Classroom model is

already established in the context of Malaysia education system, Flipped Classroom approach for online platform is rather new, where the literature focuses more on the virtual flipped classroom instructional tools (Serap Kaynak, et al, 2023; Niu Lung-Guang, 2019). To be able to expand the knowledge on different perspectives and produce modules to assist English language educators at tertiary level, would definitely maximizes the pre-university students' real-time spent learning the target language during flipped classroom sessions. This is also an effort to promote a more student-centered learning in English education. As learning academic reading skills and reading comprehension can be applied to other English language skills too like writing skills, speaking skills and listening skills; the findings of this study on decision-making styles can be valuable to support curriculum designers to plan new approaches, lessons, or instructions for flipped classes on teaching other English language skills. Also, the findings of the present study respond to a national issue reported by Tan Li Nah in The News Straits Times (Sani, 2019 Oct 2nd) that universities to evaluate and assess the needs of university students to scale up beyond theoretical and academic teaching.

Finally, The Ministry of Higher Education would be enlightened as new English education approaches or modules can be developed to assist in designing new curriculum for English language programs in Malaysian universities especially with the demand in the New Normal. As there are no boundaries in education, improvised curriculum may also invite collaboration with universities from other neighboring countries. Furthermore, apart from mastering English language skills, there is also a demand for HEIs to shape students with excellent decision-making skills before entering the workforce, especially to face the industrial revolution 4.0 as mentioned in Malaysia Education Blueprint (MEB) (2015) for Higher Education (HE). This study aims at exploring a different spectrum of pre-university students in English language learning, the decisions they make in academic reading that will also serve as indicators of their independent learning capabilities. This gap in the body of knowledge is important as a contribution towards the five aspirations mentioned in Malaysia Education Blueprint for Higher Education (MEB HE) (2015). One of the five aspirations mentioned in MEB (HE) is Access.

By 2025, the Ministry aspires to increase access to and enrolment in higher education. If Malaysia were to successfully improve tertiary enrolment rates from 36% currently to 53% (and higher education enrolment from 48% to 70%), this will bring Malaysia on par with the highest enrolment levels in ASEAN today. This growth scenario will require an additional 1.1 million places by 2025, mainly through growth in technical and vocational education and training (TVET), private HLIs and online learning. The exact pace and nature of the expansion plan will be determined in close collaboration with industry to ensure supply matches demand. (p.1-7)

As virtual learning has become of the significant platforms to increase access and enrolment to tertiary education, this study is hoped to contribute towards making Malaysia at par with the highest education enrolment levels in ASEAN. Malaysia Education Blueprint (HE) (2015) has also reported the '10 Shifts' that will encourage continued excellence in the higher education system. The third shift, "Nation Lifelong Learners", opens opportunities for Malaysians to access education and develop personal interests and talents at any life stage. This shift is hoped to change the ideology "where education is seen as something that happens only during one's youth to a world where Malaysians of all ages constantly seek of learning opportunities to enrich themselves" (Executive Summary Malaysia Education Blueprint 2015-2025 (Higher Education, 2015 p. 17). Apart from that, Malaysian Qualification Agency (MQA) has launched the 'Micro-credentials Portal', a one stop centre for local and international students to find information about micro-credentials programmes in Malaysia (David, 2022). In the same report, Higher Education Minister Datuk Seri Noraini Ahmad said the portal was expected to 'strengthen the lifelong learning ecosystem' bridging the world gap in education industry specifically for lifelong learning. In relation to that, the findings of this present study also contribute towards new andragogical aspects of planning the executions of new online micro-credential programmes for Malaysia to develop.

Therefore, exploring deeper into how TESL pre-university students contribute to maximize independent academic reading and active learning through decision-making styles can widen the horizon of English language learning, strengthen the foundation for virtual English education, and most importantly, to a life-long journey in seeking knowledge that enables Malaysia to be at par with the world's leading education systems and this empowers Malaysia to compete in the global economy.

1.10 LIMITATIONS OF THE STUDY

When conducting the present study, there are limitations that can be anticipated. Firstly, the participants have different experiences and exposure to flipped classroom sessions while learning English academic reading, which may potentially influence the transferability of the findings. Secondly, the participants' unexpected official engagements during data collection stage might cause rescheduling of flipped classroom sessions. Also, the types of academic reading references used by the instructor during flipped classroom sessions might affect TESL pre-university students' background knowledge differently, hence influence their decision-making skills. Finally, the present study focuses on cognitive engagement, but participants' engagement during the flipped classroom sessions might also be observed through emotional engagement, and behavioral engagement which are not the focus of the present study.

1.11 DELIMITATIONS OF THE STUDY

The qualitative case study is delimited to exploring TESL pre-university students' decision-making exclusively for English academic reading activities within the context of Flavell's (1979) metacognitive strategies framework. In particular, the study specifically focuses on decision-making skills, styles and influences related to the monitoring of understanding and evaluation in metacognitive strategies proposed by Flavell (1979).

The present study focuses on the perspectives of TESL pre-university in one of the public universities in Malaysia. As a qualitative exploratory case study, the researcher does not aim for statistical representation but search for to gain in-depth understanding of the participants' experiences within a specific institutional context. In addition, a small purposive sampling of TESL pre-university students were chosen to allow in-depth exploration of their decision-making experiences in academic reading. Thus, it is also important to note that the other ESL pre-university students from other programs were excluded from the current study to maintain the bound nature of the case.

The participants' decision-making on supplementary academic reading materials during preparation stage for the flipped classroom sessions is bounded by the instructions given as well as references shared by the instructor that are aligned with the Course Information designed for the Academic Reading course developed by the TESL foundation program. The selection of materials and information they chose to share are aligned to the Course Information too. Although part of the supplementary academic reading activities during the preparation stage exercise autonomy for the students (Walsh, 2021), some orienting guidelines prevent them from becoming discouraged while building the discernment and regulation skills needed to direct their advancement in reading academic texts (Erin-Zaffar, 2020).

1.12 STUDY ASSUMPTIONS

For the present study, the researcher assumed that

1. The participants have experienced flipped English language classes; this includes learning academic reading in flipped classroom setting in their first semester.
2. The participants are proficient English language users have sufficient reading skills in the target language and research skills because they are the selected ESL learners who have met the TESL pre-university program's entry requirements.

3. The participants will be open and honest in describing their experiences while reading for academic purposes during asynchronous learning as preparation for flipped classroom sessions.

These assumptions are important because the participants' understanding and experiences about flipped classes and academic reading may influence their practices during data collection.

1.13 DEFINITION OF KEY TERMS

The following are the definitions of term used and are frequently referred to in the present study.

Academic reading – the term is contextualized as a specific category of reading; an active process that goes beyond merely reading and highlighting texts. Academic reading demands **intentional and intellectual engagement with the text**. Kirby (2003) explained that it is a process of **extracting and constructing meaning through interaction with written language**. TESL pre-university students are expected to directly respond upon the information read in some ways such as analyzing, critiquing, or even comparing the reading material to other materials for content and style. Academic reading also involves student-text interactions through note-taking, connections between text, relation to schemata, as well as prompting critical questions about the text they are reading. Afdal et al. (2023) elaborated that academic reading is a social practice in higher education where students begin to recognize and participate in academic conversations. For the present study, similarly, academic reading evolves around the use of English language in reading academic texts. This term also refers to **the course** that will be taught using Flipped Classroom approach, that requires the pre-university students to engage with academic reading texts.

Academic reading texts – Fang and Schleppegrell (2010) define academic text as written forms of communication primarily focus on generating or transmitting knowledge within various disciplinary fields. Academic texts utilize specific terminology and rhetorical formats to present ideas, evidence, arguments, explanations or conclusions addressing precise issues or questions. Academic texts used in the present study refer to the **given reading texts aligned with the Course Information** for the academic reading course which are in the forms of prescribed textbooks and handouts given by the instructor. Also, it refers to **additional reading materials students found during independent reading** that are related to topics to be discussed during flipped classroom sessions.

Academic Reading course – Academic Reading course is a four-hour course listed in the TESL foundation program in one of Malaysia's public universities. Academic Reading course is the second series of two reading courses that will reinforce essential reading skills and strategies in the previous reading course. Flipped classroom approach is one of the teaching methodologies listed the official Course Information. In a week, there were two sessions allocated for Academic Reading course. For each session, TESL pre-university students spent two hours learning academic reading. The pre-university students were exposed to texts of different genres that require careful evaluation and judgement which goes beyond basic reading comprehension skills. At the end of the course, the pre-university students were expected to achieve three course learning outcomes. Firstly, they should be able to apply knowledge of critical reading skills and strategies in academic texts of different genres. Secondly, they should be able to effectively demonstrate critical reading skills in various reading texts of different genres. Lastly, the pre-university students should be able to critically analyze reading texts of various genres.

Independent reading – Also known as extensive reading, is referred to the large amount of reading activities that aim to thoroughly understand a subject matter (Bamford & Day, 1997; Palmer, 1964) for the present study, it refers to **the reading activities other than the materials given by the instructor**, that are related to topics to be discussed during flipped classroom sessions with aim to master the subject matter. Independent reading is also called voluntary reading (Krashen 1993; Short 1995; Morrow 1991), and reading outside of school (Anderson et al., 1988).

Learning objectives – the learning objectives in the present study include cognitive, affective and psychomotor (Bloom, 1982, p. 54). For each flipped classroom session of academic reading, TESL pre-university students are expected to achieve the designated learning outcome planned by the instructor.

Learners' engagement – Fedrick et al. (2004) suggested there are three types of learners' engagement: i. cognitive, ii. behavioural and iii. emotional. Kahu (2013) defines student engagement as an “individual psychological state” that embraces a student's cognition, affection, and behaviour. (p. 764). This study will only focus on cognitive engagement, which Fedrick et al. (2004) and Lester (2013) define the term as the **degree to which learners expand mental efforts and invent in the learning process to understand and master a content**. This study will focus on how decision-making facilitates students' engagement in flipped classroom sessions designed for an academic reading course.

Decision-making Skills (DMSK) – The **abilities** and **processes** of decision-making which involve **identification, evaluation** and **selection** of the best course of action or choice among many alternatives. Decision-making skills include a range of cognitive, analytical and behavioral abilities that allow individuals to make effective decisions. Shoemaker & Russo (2014, p.1) defined decision-making as “the process whereby an individual, group or organization reaches conclusions about what future actions to pursue given a set of objectives and limits on available resources. This process will be often iterative, involving issue-framing, intelligence-gathering, coming to conclusions and learning from experience”. Similarly, this study focuses on TESL pre-university students' decision-making skills within the scope of materials accessible for them during asynchronous learning time frame. In this context, DMSK refers to the TESL pre-university students' ability to identify, evaluate and select relevant materials and information to add on to their existing knowledge and share what they have read, during flipped classroom sessions.

Decision-making Styles (DMST) – Refers to four **coping patterns** in decision-making situations proposed by Mann et al. (1997): vigilance, hypervigilance, buck-passing, and procrastination.

Vigilance: Which includes an evaluation of the situation and making a decision based on evaluation of alternatives and is a rational decision-making style.

Hypervigilance: A hurried approach to decision making and is used by the individual to remove the discomfort of the decision-making situation.

Buck-passing: Buck-passing includes passing the responsibility of decision-making to someone else hence avoiding responsibility.

Procrastination: Postponing the decision until a later time this can be attributed to irrational fears and self-criticism of one's ability to complete a task (Ellis & Knaus, 1979).

For the present study, the researcher used the definition of decision-making styles by Mann et al. (1997) to the domain of academic reading. While their framework originally describes individuals as decision-makers, the terminology is adapted to refer to participants as readers in order to contextualize decision-making within reading processes. Thus, term like *vigilant readers* is used to denote students who demonstrate vigilant decision-making while engaging with academic texts. In this research, each decision-making style influence how TESL pre-university students approach academic reading tasks independently during asynchronous learning time frame within the flipped classroom approach. Integrating both decision-making styles proposed by Mann et al. (1997) with effective reading strategies (Grabe, 2009; Pressley & Afflerbach, 1995) promotes TESL pre-university students' comprehension and participation in pre-class reading activities, enabling them to make informed and effective decisions on how to approach academic reading task independently.

Flipped Classroom approach – This study adapts the Flipped Classroom approach pioneered by Jonathan Bergmann and Aaron Sams in 2007 (Bergmann & Sams, 2012). This model 'flips' the traditional classroom by allowing students to access materials before class, that will then provide more class time for discussions and interactive activities. According to them, the model leverages technology to move

lectures outside of class, thereby maximizing the value of personalized class time for deeper learning and engagement. For the present study, flipped classroom instructions were given a week before the real-time class is scheduled. This is to give ample time for the respondents to engage in independent academic reading activities.

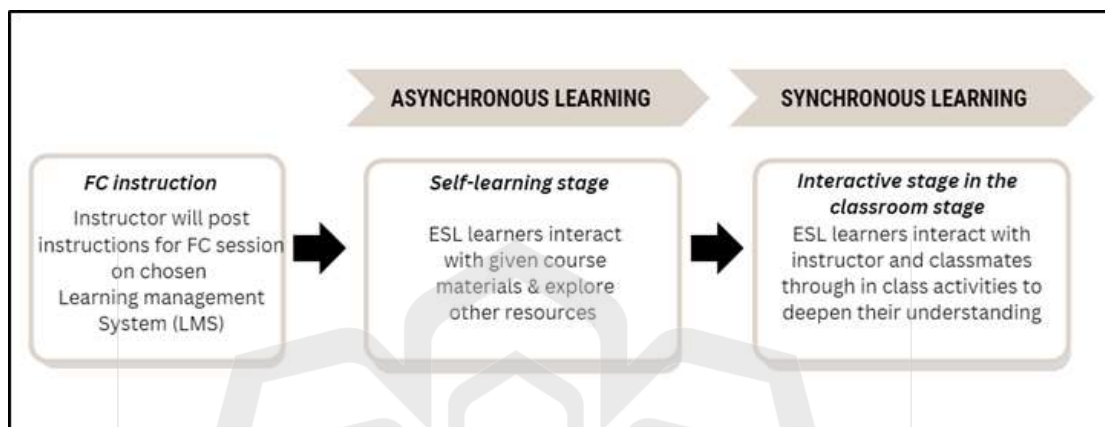


Figure 1.4 Flow of Flipped Classroom Session in the Study

TESL pre-university students will engage heavily in making decisions while they are in the asynchronous learning stage of a flipped classroom.

Asynchronous learning – It is a type of independent learning occurs **before** each flipped classroom session. TESL pre-university students in this study will access course materials such as video lectures and lecture notes at their own time and place without the need for regular real-time interactions with the instructor. In other words, this is a **preparatory stage** before they attend flipped classroom sessions. Course material exchange for asynchronous learning is substantially relocated to digital settings and communication channels (Vrtič et al., 2021). The prerequisite knowledge the ESL learners need to attend flipped classroom sessions must be independently learned at this stage. For this study, this is the time where the respondents independently spent time for academic reading activities.

Synchronous learning – Refers to **real-time** flipped classroom session TESL pre-university students attend to discuss given topics on academic reading. Synchronous learning involves students to engage with their classmates and English instructor in real time. Al-Samarraie (2020) explained that it is a face-to-face interaction during scheduled class meetings for collaborative activities and peer discussions. The class sessions are conducted in a physical classroom where the learners will participate in learning activities and engage in direct interactions with instructors and peers at the same time.

1.14 CHAPTER SUMMARY

This chapter presents the important background of the present study; TESL pre-university students' decision-making styles in academic reading within a Flipped Classroom approach. In view of flipped classroom as an approach for pre-university students in English language learning, this study attempts to explore the approach from their point of view specifically on how the TESL pre-university students prepare themselves to participate in flipped classroom sessions that requires them to independently engaged in reading academic texts prior to class. The preparation to attend flipped classroom sessions is visualized through their decision-making skills while reading academic materials; the preferences of information and reading materials they encountered; as well as their decision-making styles while engaging in academic reading. Problem statement and significance of the study are also discussed in this chapter. To answer the central research question, four research questions are generated and the limitations are set with the aim to confine the parameters of the present study. Finally, this chapter presents the operational definition of terms that are used to align the understanding of concepts and principles discussed in the present study.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews the relevant literature on decision-making styles of English Second Language learners while learning English academic reading within a Flipped Classroom approach. The review is structured around five main key areas: English reading, decision-making in the framework of metacognition in reading, the flipped classroom approach, the underpinning theories, and the last section concludes this chapter by summarizing the review of literature.

2.2 READING: AN IMPORTANT ENGLISH LANGUAGE SKILL

Reading is an important English language skill that opens portals into worlds describing people, cultures, events, and ideas that readers likely have never experienced firsthand. Reading allows the mind to transport through time, space and endless possibilities. Reading, therefore, becomes the most liberating and horizon-expanding skill to master and to overcome human cognitive limitations. Whether a reader reads fiction or non-fiction, printed or digital materials, reading introduces new narratives, perspectives, arguments and counter arguments, and flow of thoughts (Pradani, 2021). Such decisions in critical reading activities empower readers to weigh claims, spot irrational reasoning, gather evidence, and expand their knowledge of validated concepts (Paige et al., 2024).

Reading activities involves transformation of written symbols into meaningful concepts. It is a process that exercises and refines the brain's comprehension ability, expanded vocabulary, writing skills, focus capabilities and verbal intelligence (Taylor et al., 2019). To add, research in reading indicates that regular reading can lead to structural changes in the brain which are able to enhance areas associated with language processing and comprehension. It has also been associated to improving

executive functions such as our working memories and cognitive flexibility (Georgiou & Das, 2016) which are deemed crucial for problem-solving and adaptation to new information. While multimedia offers entertainment and some learning opportunities, reading remains unmatched regarding expenditures of focused mental efforts (Azizi, et al., 2023). Clearly, people who read challenging materials over years of experience compounding benefits in terms of brain development and flexibility as compared to non-readers who passively absorb information from the mass media or oral conversations. Researchers like Guerrero (2003), Sadoki and Paivio (2001) claimed that competent readers create mental images before, while and after they read to aid comprehension. These strategies of visualizing use the mind's capacity to imagine what is being communicated by the words, images, and spatial layout, within a reading text (Mills, 2010). By continually opening books, academic journals, long-text articles, scientific papers, digital publications, or other written materials, people oversee their own growth agenda. They create limitless materials to contemplate, debate philosophies, develop research passions, reinforce or refute beliefs, and master new fields which make regular reading practice ideal for fulfilling people's potential and wisdom.

2.3 THE ROLE OF READING AS THE ROOT FOR DEVELOPING OTHER ENGLISH LANGUAGE SKILLS

Reading serves as a foundation for building other key English language skills like writing, speaking, and listening in several ways (Hassan Ahmad et al. 2024; Horwitz, 2008; Krashen, 1982; Nation, 2008). Firstly, the more a person reads, the more vocabulary words, terms, and phrases they are repeatedly exposed to in meaningful contexts. This repeated process helps implicitly and explicitly grow one's lexicon to apply in other communication settings (Khalili et al., 2024; Krashen 1993). Furthermore, reading furnishes speakers with interesting facts, theories, narratives, and diverse perspectives to skillfully control oral discussions and debates to demonstrate English eloquence. To make it simple, reading as a receptive language skill fuels talking points. Next, reading exemplars help guide good writing. Through extensive reading, reading activities supply readers with models to imitate written conventions such as grammar applications, sentence structures (Pressley & Gaskin,

2006) and audience engagement strategies. Also, through reading, writers learn how to structure their own work - from introducing a topic and developing arguments to concluding their writing effectively. Research by Anderson and Pearson (1984) revealed that the role of Schema Theory in developing writing skills notes that exposure to different texts through reading supports the writing process. Lastly, when a person reads, the process does not only involve decoding written words. A reader must engage in focused attention, analyze important details, recognize connections between ideas and interpret nuances in language (Carlisle, 2000). Such skill to focus on the message and grasp underlying meanings sharpens their overall cognitive functions which in return, make it easier to engage with spoken language. In essence, lifelong reading discipline intersects profoundly with English oral and written proficiency at lexical, syntactical, rhetorical and pragmatic levels. In essence, committed readers immerse themselves in studying a diverse range of language exemplars with sustained thought intensity, intrinsically accelerating total language mastery in the process by magnitudes more than conversational or auditory input could offer.

2.4 READING TRENDS IN MALAYSIA

The creation of a society that values knowledge is a difficult endeavour to accomplish. This is particularly, with regard to seeking information, information sources, and information access (Clark & Hawkins, 2018). Since these changes are happening rather quickly throughout all industries, the implication is that people who are continuously improving their knowledge, will be able to adapt to these changes in order to succeed (Zulkifli et al., 2021). To add, reading aid cognitive development, which is one of the pillars of Industry Revolution 4.0 that supports economic growth and national competitiveness (Kaur et al., 2022). People can enhance their competencies through reading. Therefore, one of the key objectives of education should be to help society develop the habit of reading.

Unfortunately, it is reported that reading habits among students is deteriorating globally (Bashir & Mattoo, 2012). The same phenomenon is happening in Malaysia (Abdul Manaf, 2023; Foster & Piacentini, 2023). The Programme for International Student Assessment (PISA) 2018 revealed that more than ten million young adults aged fifteen in the seventy-nine high- and middle-income nations that took part in the PISA 2018 assessment were unable to finish even the most basic reading tasks (Schleicher, 2018). Out of six levels (Level 6: above 669.30 score points), Malaysia scored level 2, ranging from 420.07 to less than 482.38 score points. For the Reading domain, PISA 2018 concluded that fifty-four percent of students achieve a minimum competence level of two in reading, which is lower than the OECD average, seventy-seven percent. These students were able to identify the main idea in a moderately long text, identify information based on explicit, though sometimes complex criteria, and they can analyze the purpose and structure of texts when specifically instructed to do so. Worse, PISA 2022 reported that on average, Malaysian 15-year-olds scored 388 points in reading domain compared to an average of 476 points in OECD countries. The report concluded that the change in reading performance between 2015 and 2018 shows one of the sharp decreases among PISA-participating countries and economies, with -27 PISA Score, ranked at 37 over 42 participating countries in 2022.

In light of the deteriorating trend in reading, small scale research in some countries have reported otherwise. Predictably, the trend in reading has experienced a resurgence since the onset of the Covid-19 pandemic (Kishor & Bindiya, 2022; Ismail, 2021; Anuar & Wan, 2021). With the government-imposed lockdown, students have been compelled to stay confined within their homes or campus residences, unable to go out and socialize. This prolonged period of staying at home has significantly impacted various daily activities and practices, which then resulted in a marked reduction in outdoor and social engagements (Meléndez et al., 2020; Gatti & Procentese, 2021) thus increased reading habits (Anuar & Wan, 2021). Consequently, students had to seek for new avenues not only for entertainment but also as a coping mechanism. With the regaining popularity of reading habits, to educate these young adults especially ESL learners in making reading choices that benefits them in the long run is an opportunity to be taken by language researchers.

2.4.1 Academic Reading Trend Among Malaysian Students in Higher Learning Institutions

Students, especially ESL learners, often find university reading to be more challenging because they read for academic purposes. They perceive academic reading activities to be more stressful and time-consuming (Anwar et al. 2022). Baba and Affendi (2020) in their research explains that individuals who read are intellectually affected and reading promotes emotional growth. In addition, acquiring the skill of academic reading is crucial for learners to guarantee their overall academic achievement (Rahmat et al. 2020). However, academic reading is different from other types of reading because it involves learners comprehending specialized vocabulary, sentence structures that are complex, and numerous rhetorical strategies (Maguire et al. 2020) that authors use to communicate ideas effectively. Academic reading involves understanding complex texts which require ESL learners to be critical, as they also need to analyze and evaluate the ideas presented in the texts. Although reading academic text in English is reported to be more challenging for learners (Hirano, 2015) this subject is important for ESL learners who wish to improve their language proficiency, expand English vocabulary and develop productive skills such as speaking and writing. Academic reading skills play an important role for ESL learners in developing language proficiency as well as to guarantee their success learning in higher education.

As far back as in the 1940s, Davis (1944, p.186) suggested the nine fundamental comprehension skills in reading:

1. Knowledge of word meanings.
2. Ability to select the appropriate meaning for contextual settings.
3. Ability to follow the organization of a passage and to identify antecedents and references in it.
4. Ability to select the main thought of a passage.
5. Ability to answer questions that are specifically answered in a passage.

6. Ability to answer questions that are answered in a passage but not in the words in which the question is asked.
7. Ability to draw inferences from a passage about its contents.
8. Ability to recognize the literary devices used in a passage and to determine its tone and mood.
9. Ability to determine a writer's purpose, intent, and point of view – to draw inferences about a writer.

Interestingly, many of the comprehension skills proposed by Davis (1944) are also tested in the two prominent English tests; International English Language Testing System (IELTS) and Test of English as a Foreign Language (TOEFL). These standardized English tests assess the English language proficiency of non-native speakers. To date, both tests are credible and recognized by higher institutions in Malaysia that aim to assess a person's English proficiency. As reported in Educational Testing Service, (<https://www.ets.org/toefl/test-takers/ibt/about/content/reading.html> 2006, p.20), there are ten comprehension questions tested in TOEFL. As for IELTS, (Lougheed, 2010, p.54) eleven types of reading comprehension questions are used in the reading module. The types of questions used in both TOEFL and IELTS are listed as follows:

Table 2.1 Types of Questions in TOEFL and IELTS

TOEFL	IELTS
1. Factual information questions	1. Multiple-choice questions
2. Negative factual information questions	2. Short-answer questions
3. Inference questions	3. Completing sentences
4. Rhetorical purpose questions	4. Completing notes, summary, tables, flowcharts
5. Vocabulary questions	5. Labelling a diagram
6. Reference questions	6. Choosing headings for paragraphs or section of a text
7. Sentence simplification questions	7. Locating information
8. Insert text questions	8. Identifying points of view
9. Prose summary	9. Identifying writer's claims
10. Fill in a table	10. Classifying information
	11. Matching lists of phrases

Thus, having the reading skills as a mechanism to assess English proficiency for higher education, benchmarks the ability to navigate academic reading skills independently and maximize its application is needed by ESL learners to strive academically in higher institutions, which is also the objective of the present study.

For pre-university students, a local standardized English test - The Malaysian University English Test (MUET), must be completed before they attend any bachelor's degree programs. MUET is a test designed to measure the English language proficiency of pre-university students as an entry requirement into tertiary education. The standardized test comprises all the four language skills of listening, speaking, reading and writing. For MUET reading component, candidates will be assessed on their ability to comprehend different types of texts. The texts vary in length and level of complexity, which refers to the language and content. The assessment covers the following:

**Malaysian University English Test (MUET)
Reading Component (800/3)**

1. Comprehension

- skimming and scanning
- extracting specific information
- identifying main ideas
- identifying supporting details
- deriving the meaning of words, phrases, sentences from the context
- understanding linear and non-linear texts
- understanding relationships
 - a. within a sentence
 - b. between sentences
- recognizing a paraphrase

2. Application

- predicting outcomes
- applying a concept to a new situation

3. Analysis

- understanding language functions
- interpreting linear and non-linear texts
- distinguishing the relevant from the irrelevant
- distinguishing fact from opinion
- making inferences

4. Synthesis

- relating ideas and concepts
 - a. within a paragraph
 - b. between paragraphs
- following the development of a point or an argument summarizing information

5. Evaluation

- appraising information
- making judgements
- drawing conclusions
- recognizing and interpreting writers' views, attitudes or intentions

Similar to TOEFL and IELTS, many reading comprehension skills proposed by Davis (1944) are also tested in MUET. However, according to Benedict and Shabdin (2021), reading texts in MUET requires learners to comprehend 95% of English vocabulary but many texts fall short with lexical coverage reported to be between 80% to 90% using a 3000-word family base. Thus, this scenario suggests that reading passages in MUET may present higher lexical difficulty compared to TOEFL and IELTS in terms of vocabulary demands. Malaysian Examination Council (2019) in their correlational research between MUET and IELTS found a strong positive correlation between MUET and IELTS Reading band scores, indicating that higher MUET Reading scores tends to align with higher IELTS reading scores. The MUET Reading paper consists of 10 texts with 40 objective questions to be completed in 75 minutes, spanning between A2 to C1 context based on the Common European Framework of References (CEFR) (Malaysian Examination Council, 2019). The constructs focus on foundational academic comprehension with progressive difficulties. Referring to the demand of reading constructs, high scorers managed to deploy metacognitive strategies more flexibly while considering the pressure of having to complete the test within the time frame (Phakiti, 2003). In other words, proficient readers can decide when to skim, scan, re-read, infer or synthesize – the kind of decisions proposed by Janis & Mann (1977). Vigilant readers who are careful and time-aware, systematically support high-quality task performance while reading under stress. Whereas others who are avoidance (hypervigilant, buck-passing and procrastination) are penalized under time pressure. Therefore, although ESL learners are aware of the metacognitive strategies they can use while reading academic materials, the decisions made play an important role in accomplishing reading comprehension.

2.5 METACOGNITIVE AWARENESS IN ACADEMIC READING

Past research has shown that academic reading comprehension goes beyond merely understanding individual words, sentences or even texts (Buehl, 2023; Dore et al. 2018, Kintsch, 2018). It is a process that encompasses a complex combination of readers' language proficiency, background knowledge, and the use of reading

strategies (Erni, 2021). As ESL learners in higher institutions need language and reading strategies to decode written knowledge, Kuhn (2022, p.3) suggested four key operations that need to be performed in university reading:

- i. Students must identify and consolidate statements by describing, excerpting and referencing information.
- ii. Students must relate the extracted statements to existing knowledge from other texts to develop correlations and associative knowledge stocks.
- iii. Students need to read statements and evaluate the developed knowledge contexts by tagging statements as important, complementing available knowledge. Classify them by context and commenting on statements.
- iv. Students need to logically structure their findings and memorize them as new knowledge.

ESL learners' engagement in such deep reading necessitates mental processes involving all areas of the brain, a significant time investment in high cognitive load. Kuhn (2022) further added that this type of reading is vulnerable to distractions, it requires motivation, attentiveness and focus.

Anderson (2002) regarded readers' awareness (in this study, the TESL pre-university students) to monitor and regulate academic reading strategies while they are reading, as 'metacognitive awareness'. ESL learners' metacognitive awareness is an essential element to consciously direct reasoning processes and effectively employ strategies during reading. Similarly, Flavell (1976) explained that metacognitive awareness or metacognition refers to "one's knowledge concerning one's own cognitive process and products or anything related to them" (p.232). In other words, ESL learners possess understanding of their cognitive processes while reading academic materials, and they can utilize that understanding to select the most effective strategies to solve problems. The state of knowing and understanding the cognitive process while reading academic texts empowers ESL learners to take active roles and strategic approach to academic reading, enhancing comprehension, critical thinking and learning outcomes.

2.6 READING MATERIALS AND MULTIMEDIA REPRESENTATIONS FACILITATING ACADEMIC READING

Empirical research has uncovered major social shifts in reading, as reported by UNESCO in 2014. It was claimed that there have been two significant changes in the last five decades. The first shift is from textual to visual media, and the second shift is a transition from long-form to short-form texts facilitated by the introduction of digital screens. Thus, in relation to students' metacognition in academic reading, Flavell (1976) added that metacognition also includes "the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective" (p.232). This highlights the importance of ESL pre-university students choosing reading materials and information to facilitate meaningful reading and to acquire new knowledge.

Academic reading focuses on the concentration of important fundamental comprehension skills which are necessary for understanding, analyzing and discussing academic documents including academic textbooks, journals and articles, research reports (Kaoropthai et al. 2019), academic essays, online resources and websites, fiction and non-fiction books, and news articles and current affairs. Different academic documents affect ESL students' reading skills differently. Academic textbooks and research articles provide comprehensive information and are organized in a manner that facilitates academic reading. Through research reports, they can sharpen their critical thinking skills while reading the in-depth analysis of findings and explore studies that are conducted in different disciplines. This also helps them to expand their knowledge and understanding of different subjects. In addition, fictional reading materials expose ESL learners to narrative structures and creative writing styles, while non-fiction reading materials offer opportunities to discover different topics and genres. ESL learners are able to develop their reading skills and stay informed about global issues through reading news articles. News articles often present information in a short and accessible format, making them suitable for academic reading practice.

Apart from the noticeable benefits textual reading brings to ESL learners, some language learners do not find reading as a means to improve academic reading skills. Some ESL learners prefer to use multimedia references instead. Chalari & Vryonides, (2022) revealed that their participants had increased dependency on digital technologies which may have affected their traditional reading practices. With the innovative use of educational technology, there is a vast opportunity of options for language learners to not read, but to just watch and listen to more interactive and engaging ways of acquiring new knowledge. Past research has proven that such multimedia representation can also assist academic reading comprehension. Tobar-Munoz et al. (2017) focused on English learners reading comprehension augmented reality game-based learning tool. They found no difference between the results of augmented reality game-based reading comprehension learning and the traditional reading comprehension learning approaches. However, Tobar-Munoz et al. (2017) further explained that this multimedia tool has assisted the English language learners to be more motivated and display greater interest in problem solving, and exploration during reading activities. Such behaviors are important in learning academic reading to enhance ESL learners' depth of understanding, critical thinking, engagement as well as transferability of knowledge while reading complex and challenging texts. Kaboocha & Elyas (2018) conducted a different research on vocabulary acquisition and retention using YouTube videos. These videos were used as part of the instructions in English learners' reading class. The crux of the matter is when English language learners do not have sufficient vocabulary, they will struggle to comprehend English written texts. The results revealed a significant improvement in the learners' vocabulary achievement. In addition, multimedia representations can assist English language learners with their schemata and contextual information that support academic reading. ESL learners who have watched documentaries or even video lectures of the same topic they encountered in written texts; already have the foundation understanding of the content knowledge. This will make academic reading experience more comprehensible and meaningful. In view of the use of multimedia representations in assisting academic reading comprehension, it shows that the role of multimedia tools scaffolds academic reading skills, which is found important to promote academic reading comprehension.

Previous research has suggested that to develop in-depth understanding of English texts requires two important elements, a sustained emphasis on instructions for reading comprehension as well as scaffolded reading strategy practices (Brevik, 2019). Thus, these two elements are important for TESL pre-university students as they are preparing for flipped academic reading sessions. Their discovery of new knowledge through reading texts is crucial, but having the skills to assist the textual analysis is equally important. Reading will always remain as a fundamental skill for academic success; however, TESL pre-university should also actively develop academic reading skills alongside multimedia-based learning. This form of multimodality in academic reading benefits readers in many ways. Varaporn and Sitthitikul (2019) claimed that multimodal tasks do not only propose critical and analytical thinking skills for readers, but most importantly enhance intrinsic motivation and learning autonomy; a condition desirable by TESL pre-university students.

2.7 DECISION-MAKING SKILLS (DMSK) AND DECISION-MAKING STYLES (DMST) IN EDUCATION

Herbert Simon, an American economist and a popular scientist is known for his multiple contributions in psychology. His approach touches on different areas of psychology; perception, imagery and thinking (Campitelli, 2010). Simon's approach highlighted the constraints of people's cognitive system, the influence of expertise on decision-making process and the direct empirical study of cognitive processes involved in decision-making. His theory The Bounded Reality Theory which is built upon the psychological issues in the economic sector, was then adapted by other public sectors including the academic scholars for education management and leadership styles. Academic scholars then adapt the theory to classroom teaching and learning. Among the earliest research conducted was by Lee & Porter (2010). Their study 'Bounded Reality in Classroom Teaching' reported that seemed to provide a valuable framework to understand teachers' expectations and differential treatment in classroom teaching. They further added that similarly, students too construct and reflect on their mental models of the world to make sense of their situation, solve problems, and make decisions. Both teachers and students are controlled through

employment of bounded rationality. Having said that, Buluq, et al. (2017) conducted a research on students' performance and decision-making skills. The result shows that female students scored better. They believe that the reason is making decisions depends on experiences and accumulation of experiences in picking the suitable alternative among the alternatives offered, and this is own by students through study and reading. They further added that female students are known to be more diligent, therefore, have more experience than male students. Thus, this shows the highlights of academics acknowledging the importance of decision-making skills among learners. Independent reading during the Flipped Classroom preparatory stage requires ESL learners to actively interact with references they could access independently. They need to have the ability to identify and choose which information they feel suitable for reading purposes (Hamid et al. 2020). Hamid et al. (2020) further added that readers have the authority to decide their reading path, the kind of information they would like to access, and in which order they are viewed and gathered. The arrival of Big Data (BD) era has affected how readers read. In this era with BD, there is a potential to provide support for decision-making in various contexts (Tang & Liao, 2019). However, the literature specifically discuss on pre-university students' decision-making styles in academic reading is under-researched.

Building on the importance of decision-making skills, while Scott and Bruce's framework on General Decision-making Styles (1995) highlights the dispositional tendencies individual brings to everyday decision, Conflict Theory of Decision-making proposed by Janis and Mann's (1977) extends this discussion by emphasizing the processes learners adopt to cope with complex and high-stakes choices. Within academic context, decision-making styles are not only cognitive dispositions but also metacognitive strategies which determine how students plan, monitor and assess their engagement with texts (Mouratidis & Michou, 2011). In academic reading especially for ESL learners, the ability to be vigilant – carefully searching, evaluate and integrate, has been shown to correlate with in depth comprehension and critical literacy. On the contrary, Patton et al., (2016) claim students who procrastinate or buck-passing often led to superficial reading and limited engagement with complex texts. To add, exploring decision-making in academic reading captures why some readers fail despite knowing reading strategies. Afflerbach et. al (2008) clearly

explained that it is important to acknowledge that reading strategies are not always successful; a young reader may choose to read fast to finish before their classmates rather than reading carefully to understand the text. Thus, this suggests that exploring decision-making styles in academic reading is significant, as it highlights the cognitive and metacognitive processes that support readers ability to navigate various information sources especially in the Big Data era.

2.7.1 Decision-Making Models Related to Language Learning

Exploring into other decision-making models relevant to language learning environments empower academics to create personalized, effective and motivating teaching and learning environments that could facilitate language acquisition progress of varied backgrounds and abilities. Understanding other related model encourages flexibility and innovation on English teaching and learning, allowing ESL students to tailor their independent reading approach and for English instructors to tailor their teaching instruction to the be personalized and meet the evolving needs of their students. Below are some other decision-making models related to English language teaching and learning:

2.7.1.1 Satisficing Decision-Making Model

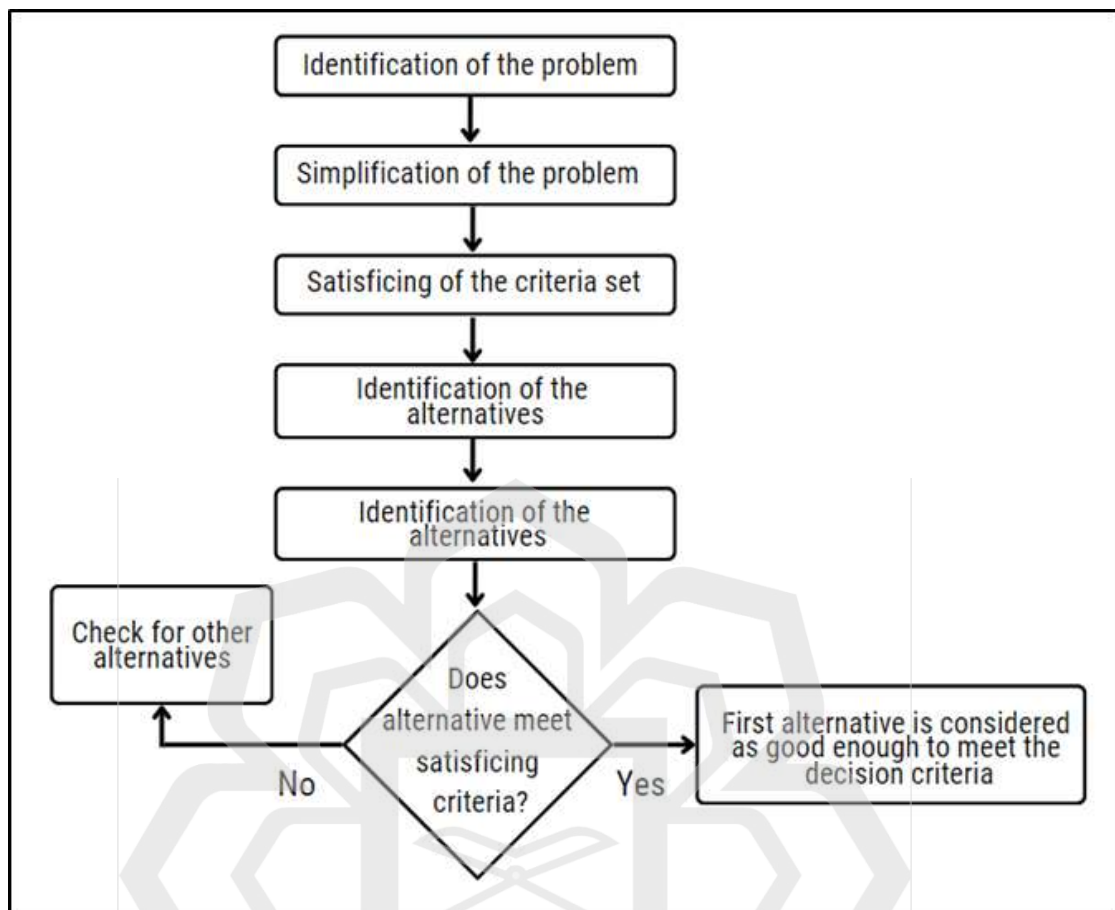


Figure 2.1 Satisficing Decision-making Model (Herbert, 1956)

The Satisficing Decision-making model is proposed by Herbert A. Simon (1956), a cognitive approach to decision-making proposes that individuals often making choices that are satisfactory or good enough, rather than looking for the finest results. This model focuses specifically on the threshold-based selection of ‘good-enough’ choices during decision-making to meet their immediate goals. Decisions are made by establishing thresholds and choose the first option that meets their specific set of criteria. This model asserted that people have aspiration level and once an alternative meets that satisfactory standard, their decision-making process will end, and they will not spend more seeking the absolute optimal possibility. This flexible approach acknowledges the diversity preferences and allows for more adaptive and student-centered environments. In the context of language learning, specifically academic reading, satisficing reading behaviour is evident when learners make

strategic compromises because they experience cognitive overload or linguistic difficulty. Grabe and Stoller (2011) explained that while reading, learners often prioritize comprehension over detailed analysis, selectively attend to important sections of the text or rely on simplified materials when faced with dense academic discourse. These reading behaviours reflect satisficing decisions, where learners balance comprehension demands with their perceived language proficiency and constraints faced. However, adapting this model is not suitable because learning in a flipped classroom environment, TESL pre-university students are bound to many factors such as time and accessible materials they can find and read prior to attending the real-time class. The Satisficing Decision-making model on the other hand, does not focus on such limitations.

2.7.1.2 Multi-attribute Decision-making Model

Multi-attribute Decision-making Model (MADM) is a concept that has been developed over the years by multiple researchers and scholars. According to Zavadskas et al (2008), one of the earliest and most influential figures in the development of MADM are Howard, (1966) and Keeney & Raiffa (1976). MADM refers to the ranking or selection of limited schemes that consider several attributes or factors. It is used to unravel decision-making issues when the decision variables are distinct and the number of decision-making schemes is limited (Feng et al. 2022).

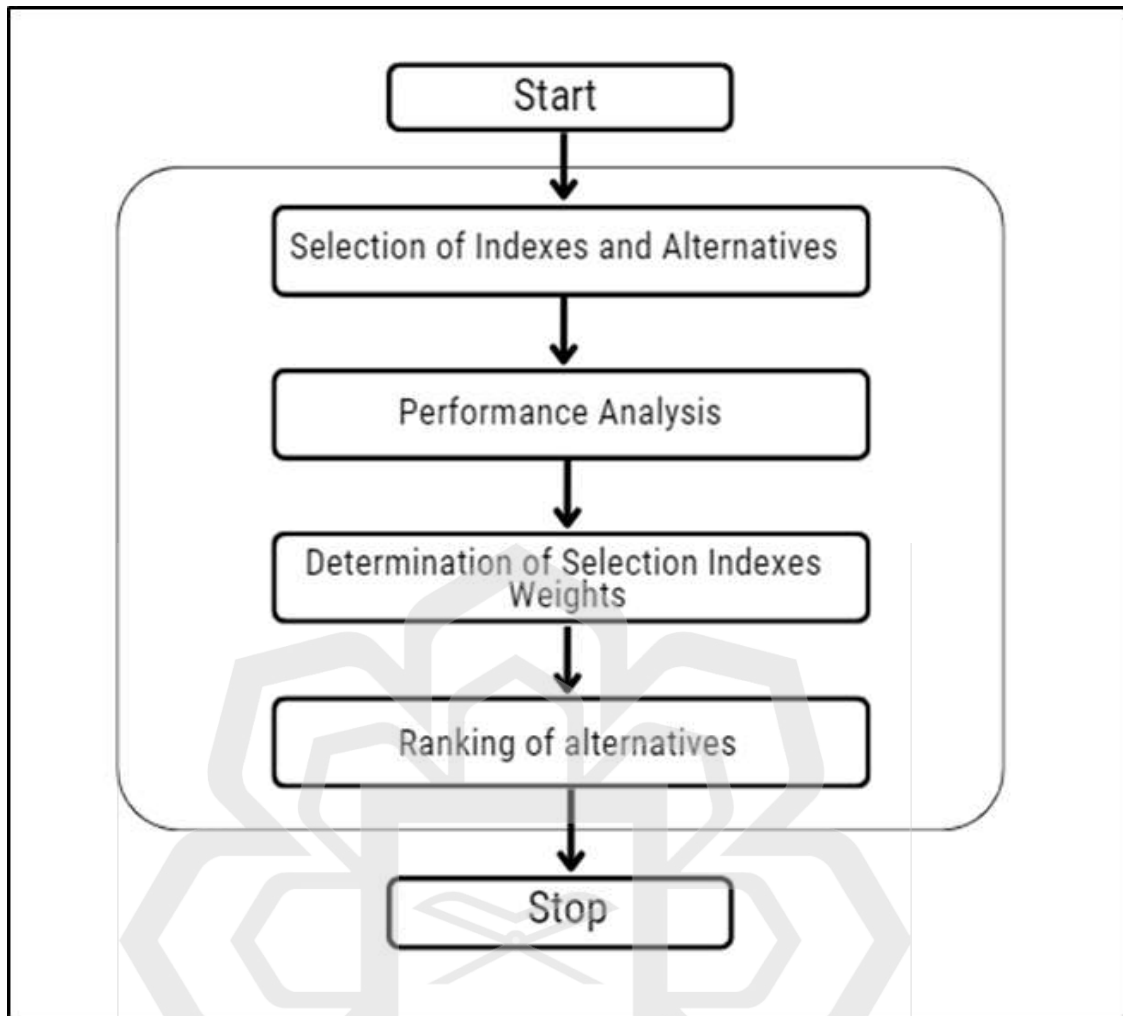


Figure 2.2 Multi-attribute Decision-making Model

In relation to the present study, to achieve better flipped learning efficiency, Arch & Blazic (2007) claimed that application of MADM in different disciplines has proven that the model applicative value is universal. MADM can explain how learners assess different attributes when choosing reading materials such as text difficulty, its relevance to learning objectives and availability of support resources, length of the chosen text. However, due to MADM inherent complexity of objective things and quantitative nature of MADM, it is challenging to capture students' understanding in academic reading solely through precise numerical values (Hu, 2023). Thus, this decision-making model is not suitable to support the exploratory nature of the present study.

2.7.2 The Different Concepts of Decision-Making in Academic Reading and Metacognitive Reading Strategies

In academic reading, decision-making and metacognitive reading strategies are two critical components that contribute to readers' ability to engage with and to critically assess texts. While metacognitive reading strategies are closely related to self-regulation and awareness of one's thinking process, decision-making focus on higher order cognitive processes such as evaluating evidence (Zopounidis & Parlados, 2010) and its credibility or weighing arguments (Songer & Yamamoto, 2023) of selected texts.

Decision-making in academic reading involve readers ability to assess the quality of information, assess logical coherence, identify biases, and consider multiple perspectives (Kuhn, 2000). Such abilities in readers allows them to judge whether conclusions made after reading a text are reasonable based on the evidence provided and to decide if additional information is needed to support the claim (Yuksel & Yuksel, 2012). Decision-making is a dynamic process which requires critical thinking and judgement, allowing readers to analyze the strength and weaknesses of a text being read.

Metacognitive reading strategies on the other hand, focus on the reader's awareness and control over their reading processes (Brown, 1978; Flavell, 1979). Metacognition reflects readers' understanding of a text, monitor comprehension and adjust strategies as needed to optimize understanding (Schneider et al., 1988). To illustrate, a reader could stop and reread a text if they do not fully understand, think aloud to clarify meaning, or summarize key points to reinforce understanding (Baker & Brown, 1984). These strategies help readers actively engage with the text and to be aware of their comprehension and employ alternative strategies to improve understanding.

Both decision-making skills and metacognitive reading strategies are interrelated that both work together to leverage the quality of reading comprehension. Metacognitive strategies provide the framework for awareness that allows readers to adjust reading strategies to achieve comprehension. Meanwhile, decision-making skills come into play when readers have to apply higher order thinking skills like analyze the validity of the arguments, assess evidence and consider opposing viewpoints.

Thus, while metacognitive reading strategies help regulate the reading process and ensure comprehension, decision-making skills enable readers to critically evaluate the content, making judgements about the credibility of the selected references. This an important aspect of the present study. TESL preuniversity students are English advanced language learners based on the requirements they need to meet when entering the course, exploring their decision-making in academic reading leads to a deeper understanding on how advance readers deal with challenges in independent academic reading within a time-sensitive situation that requires not only comprehension, but also the application of higher order thinking skills.

2.7.3 Addressing ESL Pre-University Students as Decision Makers in Flipped Classrooms

In Malaysia, the Flipped Classroom approach is rather new for pre-university students. The current shift in the education system allows opportunities for educators to experiment with language flipped classes during the pandemic. This is seen as an opportunity to understand the flipped classroom approach on a different spectrum.

In flipped classes, students who portray indifferent behavioral activities are generally viewed by all psychologists to be rooted in decision-making (Tanglang & Ibrahim, 2016). For this reason, in the context of Flipped Classroom approach, TESL pre-university students must develop good decision-making skills to help them in academic performance and achievements. Their strategies and engagement in flipped language classes are seen as part of the decision-making process, a more naturalistic perspective of the students' cognitive process while learning academic reading in a flipped environment. TESL pre-university students' decision-making, preparation and

participation in a flipped language classroom are influenced by many factors. According to Woods (1997), students' perceptions, expectations, and the goals they wish to achieve are some of the factors that influence engagement in class. This is also relevant to students who are learning in a flipped classroom setting. All these aspects are important to academics to prepare a secure platform for these pre-university students to participate in flipped classes.

Mackall (2004) explained that there are five aspects of a decision-making process, namely identification of problems, composing alternative decisions, thinking about risks and consequences, determining and evaluating decisions. Budi et al. (2019) further elaborated that, during the process of problem identification, individuals can set systematic goals, describe problems, analyze and interpret questions, be responsive, and be creative in addressing an issue. Meanwhile, in terms of developing alternative selections, people must be able to gather information and develop alternative options that can be taken. They further added that when considering risk and consequences, individuals must be able to estimate the benefits and risk of a decision, see the impact of decisions that will be applied, and make decisions based on several available alternatives. The aspects of determining decisions include the ability to plan decisions, implementation, and commit to decisions that have been taken. Once a decision is made, individuals should have the capacity to assess the outcomes of decisions that have been taken, evaluate the effects of implementing the resolution and be able to effectively strategize for future choices (Budi et al., 2019).

All these five aspects of decision-making significantly reflect language skills and strategies which are crucial in building a holistic language learner. This is aligned with Bloom's Revised Taxonomy Model developed by Anderson, et al. (2001). In the revised model, The Knowledge Dimension classifies four types of knowledge that learners are expected to acquire or construct: ranging from concrete knowledge to abstract knowledge. The four types of knowledge proposed in the model are: Factual knowledge, Conceptual knowledge, Procedural knowledge, and Metacognitive knowledge. This process consists of multiple phases that outline key cognitive, creative and critical thinking abilities needed to achieve well-rounded analytical decision-makers. Applying it develops the ability to make careful judgements and

metacognitive awareness (Anderson et al., 2001) which is valuable for the ESL pre-university students to tackle complex academic reading texts. Considering these essential elements as the foundation of flipped classroom preparation and engagement, instructors are able to design the direction of language class activities for flipped classrooms.

The Knowledge Dimension Model is illustrated in Table 2.2 below.

Table 2.2 The Knowledge Dimension Model

Concrete Knowledge		Abstract Knowledge	
Factual	Conceptual	Procedural	Metacognitive
Knowledge of terminology	Knowledge of classifications and categories	Knowledge of subject-specific skills and algorithms	Strategic knowledge
Knowledge of specific details	Knowledge of principles and generalizations	Knowledge of subject-specific techniques and methods	Knowledge about cognitive tasks, including appropriate contextual and conditional knowledge
		Knowledge of criteria for determining when to use appropriate procedures	Self-knowledge

Malaysia's aspiration towards digitalizing education has gained strong and enthusiastic supports from the higher education institutions. The Malaysian Ministry of Higher Education (MoHE) has made significant efforts to realize digital education encompassing the necessary facilities funded through 2021 budget. She further added that RM50 million was approved to upgrade the Malaysian research and education Network (MyREN). Nevertheless, despite the extensive support given by the Ministry of Higher Education, it is the students in HEIs who ultimately win the benefits of these initiatives. Therefore, it falls upon the academics' responsibilities to explore the

genuine requirements, ensuring optimal experience for students especially those who are in the preparatory stage of higher education. The findings of such research serve to aid the HEIs to design personalized learning experiences and achieve the aspiration of Malaysian Ministry of Higher Education in the near future.

2.8 THE FLIPPED CLASSROOM APPROACH

The concept of flipped classroom was first introduced in 2007 by two high school chemistry teachers from Woodland Park High School, Jonathan Bergmann and Aaron Sams. Both Bergmann and Sams recorded live lessons and broadcasted them online for their students who have missed those lessons (Bergmann & Sams, 2014). The flipped classroom's slogan is much like the concept itself: Turning learning on its head (Noonoo, 2012). Bristol (2014) explained that the primary objective of this educational approach is to give students a foundation in the subject before the course begins. Flipped classroom method provides opportunities for learners to access the parts of the course they will study appropriate for individual learning and to also perform problem-solving activities (Bishop & Verleger, 2013). In a flipped classroom, prior to attending a class, students receive direct instructions from different sources like recorded materials or handouts. They have to read and understand the content before the class begins. During class, students devote the session to practicing and apply new concepts they have learned with the support of the instructor and classmates. In short, flipped classroom shifts the teaching and learning process from the group to the individual learners (Flipped Learning Network, 2014). Less time is spent on group lectures because students have already engaged with the knowledge they need before attending class. As a result, the group learning space is transformed into a dynamic, interactive learning environment where the class instructor guides individual students as they apply concepts and creatively engage in the subject matter.

Sahin and Kurban (2016) in their book entitled ‘The Flipping Approach to Higher Education: Designing Universities for Today’s Education’ highlighted that the Flipped Classroom model overcomes a significant weakness found in a traditional language classroom. Traditionally after lecture, while students are working in their own, they are expected to use the new knowledge in higher cognitive activities that involves the need of applying, analysing, and evaluating. When the students are expected to cognitively function at their highest-level, they have poor access for supports from the instructor and classmates. Herein lies the weakness of the traditional approach. In a flipped classroom, knowledge transfer takes place before class through given reading materials and supplementary materials explored by the students. These are, according Bloom’s Revised Taxonomy, are the Lower Order Thinking Skills (LOTS) tasks that are generally involve watching, remembering and understanding the new knowledge learned (Sahin and Kurban, 2016). Their learning is more flexible and personalized. Hence in real-time class sessions, students can concentrate more on the Higher Order Thinking Skills (HOTS) proposed in the Bloom’s Revised Taxonomy (Bloom et al., 1971).

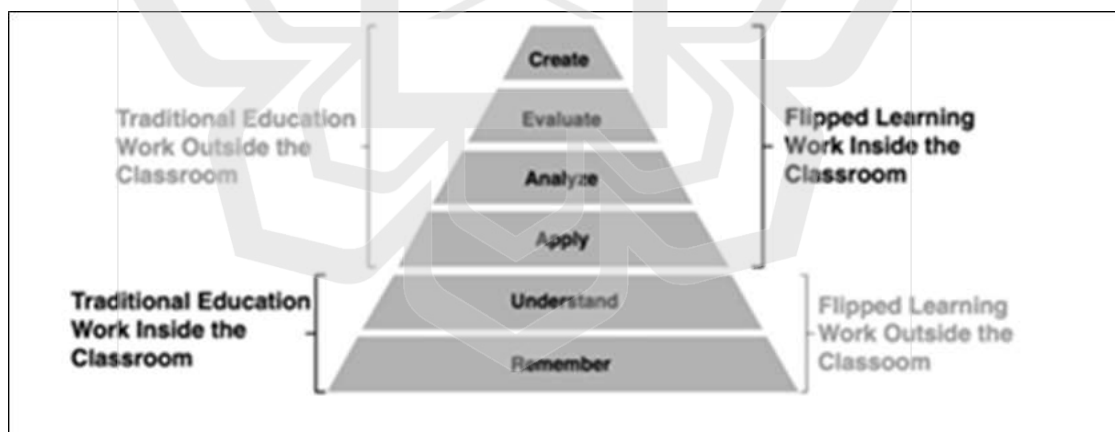


Figure 2.3 The aspects of traditional and flipped classroom mapped against Blooms’ Revised taxonomy (Bloom et al., 1971) and Bergmann & Sams (2007) definition of Flipped classroom proposed by Sahin and Kurban, (2016)

According to a group of all experienced Flipped Educators from the Flipped Learning Network (2014), to conduct a successful flipped classroom session and to ensure students are engaged in flipped learning, instructors must incorporate the four pillars of flipped learning into their practice, F-L-I-P.

Table 2.3 The Four Pillars of F-L-I-P™ (Flipped Learning Network, 2014)

F	Flexible Environment
Flipped Learning enables the utilization of diverse learning modalities. Educators frequently reconfigure their learning environments to facilitate a lesson or course, catering to either collaborative activities or alone study. They establish adaptable environments where students have the freedom to determine their own learning schedule and location. In addition, instructors who implement the flipped classroom model demonstrate adaptability in their expectations of student learning timelines and in their evaluations of student progress.	
L	Learning Culture
In the traditional teacher-centred approach, the instructors assume the role as the main provider of information. In contrast, the Flipped Learning model intentionally transitions education to a student-centred approach, wherein classroom time is devoted to delving into topics more extensively and generating substantial learning prospects. Consequently, students engage actively in the process of constructing knowledge as they participate in and assess their learning in a way that is personally significant.	
I	Intentional Content
Flipped Learning Educators consistently think about the ways they might employ the Flipped Learning model to facilitate the growth of students' conceptual understanding and procedural fluency. They determine the content they must instruct and materials students should explore independently. Educators use Intentional Content to maximize classroom time by implementing student-centered, active learning strategies which are tailored to the grade level and subject matter.	

P	Professional Educator
The role of a Professional Educator is more crucial and frequently more challenging in a Flipped Classroom compared to a regular one. Throughout the class, they consistently monitor their students, offering them immediate and relevant feedback, and evaluating their performance. Professional educators demonstrate a reflective approach in their teaching, collaborate with one another to enhance their instructional methods, embrace constructive criticism, and maintain composure while managing a dynamic classroom environment. Professional Educators play less visible but crucial responsibilities in a flipped classroom, as they are the vital component that enables Flipped Learning to take place.	

According to the Flipped educators, (Flipped Learning Network, 2014), within a flexible environment, instructors have to provide time frames and space that allow students to reflect on their learning as needed. Instructors will continually observe the students to make appropriate adjustments while teaching and learning take place. Students are given the opportunity to learn content and demonstrate mastery differently. The learning culture allows students to engage in meaningful activities without depending on the instructor. These activities are scaffolded and made accessible to all students through differentiation and responses by the instructor. Intentional content in flipped learning refers to the relevant content curated by the instructors. These contents are given in direct instruction and can be accessed by the students independently. Most importantly, to ensure students benefit from flipped classroom sessions, instructors as professional educators must be available to all students for individual, small group, and class feedbacks in real time as needed by the students. Instructors will also conduct ongoing formative assessments during real class time through observations and recorded data for future instructions. Collaboration and reflection with other instructors are crucial for instructors to improve teaching and learning.

Many have documented the Flipped Classroom approach in Malaysia (Rahman et al, 2019). Tertiary level educators have already moved from traditional teacher-centered learning to a much more student-centered learning. In response to the Malaysia Education Blueprint, Rahman et al. (2019) also reported that there is a growing number of educational institutions adopting Flipped Classroom approach into their curriculum as a vision to achieve the designed learning outcome. They further added that the approach enables educators to develop active classrooms through different teaching and learning ideas. Even before the pandemic, Osman et al. (2017) have noted that this approach improves the implementation of higher order thinking skills among students as the approach is based on the fact that active learning is personal, and happens in an interactive environment. Touchton (2015) in his research found that Flipped Classroom approach yielded superior result in students' learning as compared to traditional instructional classrooms. A research conducted by Harun and Husin (2017) proved that a flipped classroom environment allows a wide range of pedagogical approaches to be used, therefore educators have a flexible range of approaches that could be tailored to each student's learning style. Other researchers (Al-Zahrani, 2015; Chang & Lin, 2019; Othman & Rahman, 2023) contend that learning activities in flipped classrooms serve as a crucial means of promoting student-centered learning.

Various studies have proven that Flipped Classroom approach is effective to promote ESL learners' engagement in learning. This teaching and learning approach does not eradicate the teaching and learning process in the classroom; instead, it develops cognitive bridges between the in-class processes and the out-of-class process and ensures an uninterrupted execution of the learning process (Guo, 2019).

2.8.1 Asynchronous Learning: The Preparation Stage for Flipped Classroom

In a flipped classroom approach, prior to attending real-time class, students are given instructions regarding the activities they should do during asynchronous learning. In addition to the assigned course materials given for them to read, they are strongly encouraged to engage in supplementary academic reading on their own. English instructors can provide guiding instructions to support the students' engagement while

they search for additional reading materials that promotes comprehension (Chen Hsieh et al. 2017).

The pre-university students' engagement in additional reading prior to real-time class session serves several purposes. To begin with, reading additional materials provides exposures and practice with more complex academic texts as it builds vocabulary size, and reading strategies (Suk, 2017; Hao, 2016). Nation & Macalister (2020) in their book explained that as readers read widely, they encounter new vocabulary repeatedly, building breadth and depth of lexical knowledge. This promotes fluency in reading, a basic reading skill needed especially by pre-university students. Also, Chen Hsieh et al. (2017) believe that reading additional materials with more complex text that requires students to extend reading time, builds students' concentration and persistence in reading. Pre-university students who spend their time to read around the topics given by the instructors develop these cognitive habits through challenging texts that encourage deeper metacognitive strategy and cognitive engagement as they work on the complexities. Thus, the allocation of time for supplementary academic reading during the preparation stage of flipped classroom strengthens the pre-university students' perseverance in reading academic texts, then they expand knowledge (Ismael, 2021) that fuels academic success with comprehension and discussion of concepts planned by the instructor during real-time class.

Although students can benefit from additional reading during the preparation stage of flipped classroom, there are also challenges that must be addressed by academics. Students have limited background knowledge and cognitive resources to effectively identify and evaluate the most useful relevant information from the overwhelming amount available (Akçayır & Akçayır, 2018). Similarly, this will cause problems for pre-university students in deciding relevant information to read and use during flipped classroom. Also, they may also discern more and less credible sources while they were independently selecting supplementary academic reading references. This according to Tang & Liao (2019) is a risk of exposure to misinformation.

The Lower Order Thinking Skills (LOTS) of Bloom's Revised Taxonomy – Remembering, Understanding, and Applying, correspond directly to the self-regulated activities that the ESL pre-university do while engaging in reading additional academic texts to prepare for a flipped classroom setting. The ESL pre-university students identify relevant prior knowledge on reading selections, take vocabulary notes and recognize key factual information to support retention (Surjosuseno, & Watts, 1999). Activating these techniques builds their comprehension. To develop better understanding, Dagostino et al. (2014) explained that students summarize academic texts, interpret meaning, they then relate concepts to personal contexts and translate complex ideas into simpler terms to self-check their understanding of the reading texts. These efforts develop deeper understanding. They added, by utilizing reading annotation strategies, posing critical thinking questions, making inferences and comparing sources require students to actively apply analytical skills to process data. These fundamental cognitive elements which are centered around remembering information, creating meaning and skill application (Schultz, 1982), enable students to independently engage with academic materials while working at their own pace Dagostino et al. (2014). This allows for the allocation of collaborative meaningful real-time classes that can focus more on advanced tasks like higher-order analysis, evaluation and knowledge creation. Hence, LOTS in the Blooms' Revised taxonomy are directly mapped to self-regulated academic reading phases, enabling the versatility of flipped classroom approach.

2.8.2 Synchronous Learning: The Real-Time Class in Flipped Classroom

A Flipped Classroom approach also acts as a means to enhance students' engagement (Rahman & Hashim, 2020). In real-time flipped classroom class activities, the focus revolves around facilitating pre-university students in small groups as well as whole class discussions for collaborative analysis (Vitta & Al-Hoorie, 2023; Liaghatdar, 2018) of the academic reading texts they have already completed before attending class. Mansoor (2021) claimed that such activities correlate with pre-university students' self-reports of engagement. In this situation, Bloom's Higher Order Thinking Skills (HOTS) are put into effect.

Flipped Classroom model improves higher order thinking (Zhang, 2023; Long et al,2017). Bloom's Higher Order Thinking Skills is a thinking process that involves cognitive and metacognitive domain (Stayanchi, 2017). HOTS occurs when the pre-university students relate newly learned information with the stored information in memory and then rearranges and extends this information to accomplish a purpose or to find possible answers in complex situation (Mitani, 2021; Lopez & Whittington, 2001). As a result, instructors are able to spend more quality time for meaningful and interactive class time as well as coaching students (Samaiei & Ebadi, 2021) on areas they struggled with while reading independently. Group projects and in-class intellectual discussions enable the students to jointly examine supplementary reading materials during asynchronous learning (Fahmi et al., 2020) to identify patterns interpret significance and study authors' use of language. With basic comprehension of the texts and vocabulary covered, students can better critique the authors' points of view, assess credibility of the sources selected, and compare the quality of arguments in the texts they have already read (Zwick, 2018; Mizbani & Chalak, 2017). Then, by synthesizing their perspectives, they generate fresh and original ideas that incorporate previously acquired knowledge. Given that the students have already acquired basic understanding of texts independently, instructors can make the most of real-time class time by focusing on advanced analyses, debates, critical discussions, and create applications. The advance cognitive processing centered deeper on students' evaluations, connections, and constructive activities which will result to their comprehension and then advances to reading mastery across contexts (Fisher & Frey, 2014; Alonzo et al., 2009). Thus, the Higher Order Thinking Skills proposed by Bloom's Taxonomy are obviously in line with the collaborative knowledge building supported by the flipped classroom approach.

2.8.3 Flipped Classroom Approach on e-Platform

For the present study, it is also important to address the Flipped Classroom approach on e-platform, as the use has been highlighted by the Ministry of Higher of education (Yusoff, 2021 March 23rd). This transformative approach has been on online platform during the recent Covid-19 pandemic and the continuation is seen important to the Malaysian education system. The online flipped classroom is similar to the traditional

flipped classroom model where students are encouraged to prepare for class by completing some pre-class activities. However, according to Stohr et al. (2020), unlike the traditional face-to-face flipped classroom approach, students in virtual flipped classrooms do not meet face-to-face, but fully online. This illustrates that remote ESL students have to be more independent when it comes to learning English. They receive instructions fully online and interaction happens only during online classes.

In the context of the online Flipped Classroom approach, students' engagement has always been related to their participation in assigned online activities. Such engagement is crucial to achieve intended learning outcomes particularly during synchronous online discussions. Thus, it is imperative to consider the right techniques to promote learners' engagement in online flipped classroom sessions, as an opportunity for students to maximize their potential in improving academic performance. To ensure learners' participation in online classrooms is important but, monitoring learners to attend online classes alone does not guarantee the benefits they will get from what is presented during class (Greener, 2020). This echoes Bandura's Social Cognitive Theory (Bandura, 1986) which emphasizes that simply being present in class does not necessarily lead to learning. Paying attention to the learners' preparation could solve the problem of having learners who are passive during online classes. Tao et al. (2020) said that remote learners who have watched the assigned short instructional videos or read materials independently before class can be effective in making the learning process begin prior the class. Hence, this shows how important the preparation stage is for remote learners before they attend online flipped classes. Abuhmaid & Mohammad (2020) affirmed that learners who are well prepared play a positive role in reorienting their attention to learning. Their study also reported that integration of flipped learning in online setting has shown positive effects on learners' learning attention and learning evaluation.

The Flipped Classroom approach has emerged as a transformative approach in online language learning. Capone et al. (2017) suggested that to ensure a successful flipped classroom session, instructors should foster active engagement among learners, encouraging them to apply the newly acquired knowledge in various real-world contexts. This is particularly true when the flipped classroom model is used for language teaching and learning. Learning a language like English in a flipped

classroom setting demands active participations from the learners in assigned task (Nogoud, 2025). This situation leads to enhance the development of both productive and receptive language skills. Similarly, language learners leverage and exchange the newly acquired knowledge from asynchronous learning, thereby maximizing the benefits from the online flipped classroom sessions. During online flipped classroom sessions, instructors play an important role in supporting remote learners through scaffolding, coaching, and facilitating them in their English language proficiency. Drawing from the benefits of online Flipped Classroom approach and building upon the learners' acquired knowledge, language learners should eventually possess the capability to share their point of views, differentiate opinions and think critically in the language.

Learning a language remotely is difficult if the pedagogical approach is not tailored within the remote learners' capacity. Dass (2001) in his study found that the remote learners faced problems with their English language courses. He further added that among the problems encountered was study-related problems, contributing to 74.9% in the findings; a clear indication that the learners encountered challenges while learning independently. During online Flipped Classroom sessions, educators' role is primarily focused on facilitating language learning as instructors. Shivacheva-Pineda (2020) asserted that a lecturer's pedagogical guidance on learners is limited because the learners' preparation depends more on their abilities to self-organize and self-direct their learning. Hence, in order to fully adopt online Flipped Classroom as part of the pedagogical approach in English language teaching, English instructors must first understand how ESL learners work remotely behind the screen before and during virtual classes. This is because, in the same study conducted by Shivacheva-Pineda (2020), she observed that learners who were not prepared were not actively involved during virtual classes. Spatial distance in online learning could somehow demotivate, hence make it is tough for the ESL learners to maintain the attention and provide feedback. In light of this scenario, one of the solutions to encourage active engagement among remote ESL learners during virtual classes is through guidance and educating them on the preparation stage of virtual learning.

2.8.3.1 Asynchronous and Synchronous Learning in Flipped Classroom on e-Platform

Unlike monotonous traditional and online English classes, attending a flipped class requires pre-university students to take a more active role in their preparation. Online flipped learning also involves a bichronous learning concept; asynchronous & synchronous learning (Martin et al. 2023). According to Farros (2020), previous research proved that the blending of both asynchronous and synchronous learning showed several advantages which includes improvement of learning outcomes for online classes. It is undoubtedly important to explore the activities pre-university students need to involve as a preparation to maximize the learning outcomes during online flipped classes. Fowler (2019) added that inclusivity of asynchronous learning in online learning has also decreased withdrawal rate during online classes. Florence Martin, Drew Polly and Albert Ritzhaupt developed a conceptual model for Bichronous Online Learning (figure 2.4). They believed that online learning is a continuum of both learning concepts. During asynchronous learning, students will engage to learning tools such as emails, announcements, discussion forums, recorded videos and many other learning tools to prepare them for flipped classes, in this case, synchronous learning. In real-time online flipped classes (synchronous learning), instructors will use tools like instant messaging, interactive white boards, video and audio conferencing for discussions.

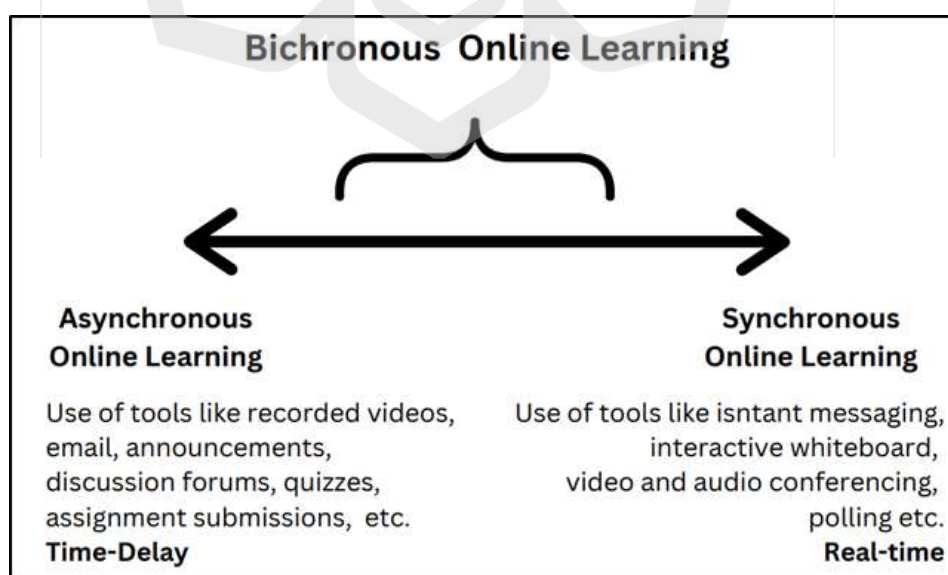


Figure 2.4 Conceptual model for Bichronous Online Learning (Martin et al. 2020)

Similarly, in an online Flipped Classroom approach, asynchronous learning offers flexibility for online learners to access shared course materials or other needed reading materials independently to support their learning later during virtual class sessions. During asynchronous learning, Parveen (2016) claimed that the opportunity of delayed responses allows remote learners to use their critical thinking skills because there is sufficient time for them to keep reflecting about a problem they have just learned. Such opportunity could develop divergent thinking. As a result, spontaneity expressions during face-to-face virtual session is replaced by constructed responses if learners utilize time given during asynchronous learning. This condition learners' readiness is vital because at this stage, they are responsible for learning foundation knowledge that supports to facilitate higher levels of engagement and critical thinking skills during synchronous learning or the virtual face to face sessions Tomesko et al. (2022). Real-time online classes will then be meaningfully occupied with additional opportunities for engagement, flexibility and personalized learning because instructors have more time to spend with each individual learner. As learners have already spent their time engaging with the course content during asynchronous learning, this can lead to better comprehension, retention, and application of knowledge.

2.8.4 The Flipped Classroom Approach as an Agent of Change

Flipped Classroom Model indirectly counters a concern that current generation is lack of reading habits (Sahin & Kurban, 2016). Rather than struggling to spur engagement with the given texts, the preparation stage (asynchronous learning) that requires independent reading allows students to self-direct early interactions with content from the texts. Abdelhalim (2017) asserted that the reading activities result in stimulating and interpretive in-class discussions and utilize critical reflection while reading and engaging with the texts. Instructors can then reinforce active reading strategies to extract information as well as motivate students to critically analyze the texts while independent reading takes place (Alghonaim, 2020). Most importantly, within this model, students can also take the ownership of selecting supplementary reading materials for deeper exploration. Offering such flexibility to self-pace and personalized their reading activities before real-time class enhances input processing. This is because reading itself is a complex process that entails students' experience,

intellectual abilities, and understanding of reading materials (Hassan et al., 2021). Finally, during real-time class, more time can be allocated for application of concepts and discussion for the students to better understand the academic reading assignment given.

The Flipped Classroom approach is more than merely shifting activities. It transforms learning experience for academic reading skills in several ways. Through asynchronous learning, students build background knowledge that will then allow in-person time to focus on active and personalized learning (Rahman et al, 2019). Flipped Classroom approach provides flexibility for language learners to pace and revisit complex academic references. This activity enhances input processing (Johann et al., 2022; Hung, 2021). As they engage in reading, through the choices of additional readings, the activity fosters students' independence and personalized their path in understanding topic (Guay, 2021) that will be taught during real-time class sessions. Also, during the reading activities, students will develop cognitive strategies like critical analysis of texts that is crucial for reading comprehension as well as to advance in academic reading skills (Can, 2016; Aghaie, 2012).

A proposed model that highlights the phases or time in flipped learning environment is developed by Prust et al. (2015) Figure 2.5 illustrates the proposed model learners' engagement in terms of time segmenting. The letters **L**, **M** and **H** in figure 2.5 represent the Low, Medium, and High levels of learners' engagement which is segmented into pre-class, in-class and post-class. According to them, learners' engagement cycle should ideally be at the desirable phase. Referring to the proposed model, in a flipped classroom, Prust et al. (2015) believed that learners have already learned that engagement during preparation stage is (asynchronous learning) is mandatory, hence, requires a medium amount of effort and time.

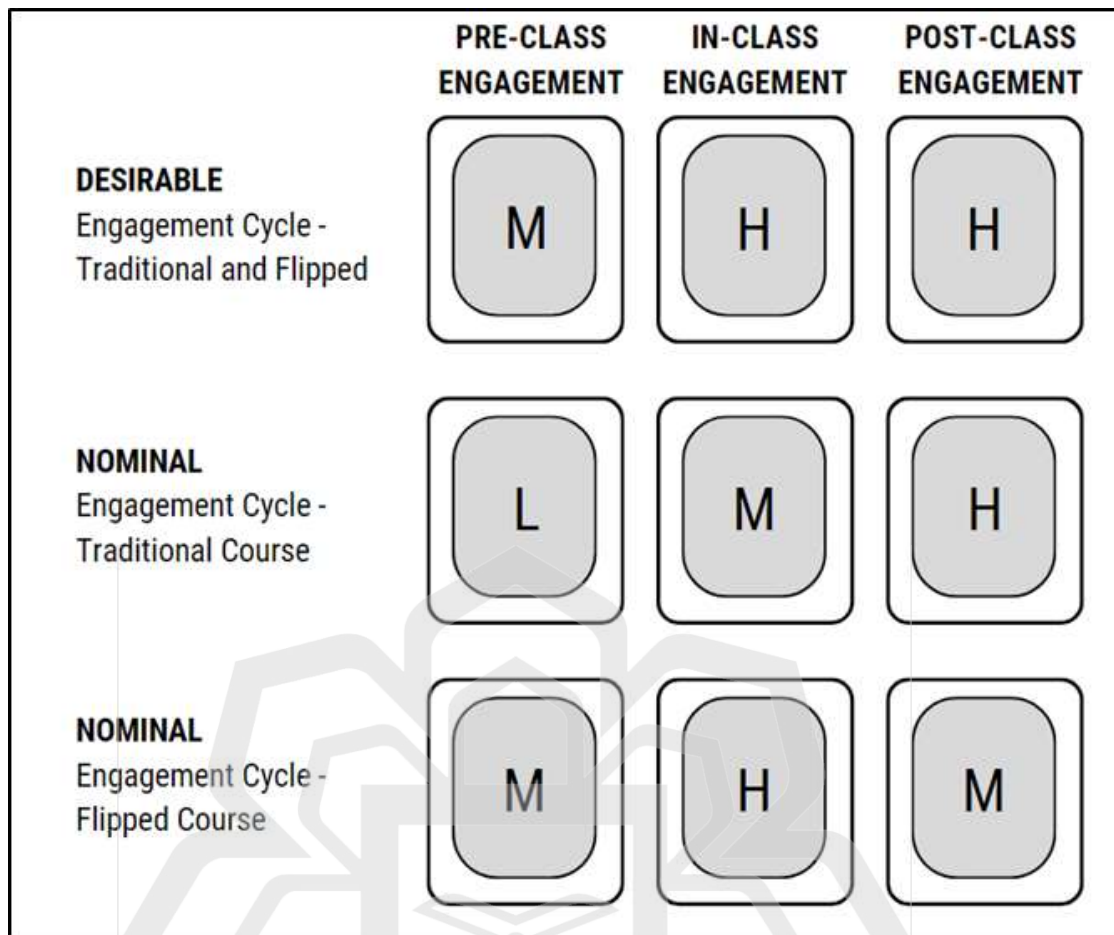


Figure 2.5 Proposed Model for Time Segmenting Student Engagement (Prust et al., 2015)

Furthermore, they believed that learners maybe perceived that they have learned the materials sufficiently and are able complete post-engagement activities satisfactorily. However, Prust et al. (2015) added that the learners may not likely put additional ‘independent effort’ into solving more complex or challenging problems. This may be due to their perception of believing that engaging in pre-class activities during asynchronous learning is enough (Prust et al., 2015) without considering the need to have the effort of reading or learning beyond what is provided by the instructor. As for pre-university students, this matter must be highlighted so in-class engagement during traditional or even online flipped classroom can be more meaningful.

2.8.5 The Rationale of Flipped Classroom Model for this Study

The Flipped Classroom Model offers a platform for TESL pre-university students to actively participate in reading academic materials by engaging in reading activities outside the classroom. The requirement that students engage with the assigned materials before attending courses is already known to them. Students are already aware that they must interact with the provided materials prior to attending classes (Nogoud, 2025). For this reason, exploring TESL pre-university students who are learning academic reading in the Flipped Classroom approach exposed the researcher to a better understanding of how these TESL pre-university students decide on exploring other reading materials to better understand on the assigned topics. Through reading activities outside of the classroom, the Flipped Classroom approach provides a platform for the TESL pre-university students to actively participate in reading academic reading materials independently. The pre-university students are ‘forced’ to read additional academic materials independently before they attend real-time class. They are bounded by the limited time given, and within the accessible resources they could find. Because of this, the researcher gained a better understanding of how these TESL pre-university students choose to read additional materials in order to gain a deeper understanding of the assigned topics through investigating TESL pre-university students who are learning academic reading in the Flipped Classroom approach.

2.9 THE UNDERPINNING THEORIES

There are three prominent theories that describe how reading is learned. First, is the traditional bottom-up model. This model proposed by Flesch (1955) concentrated on texts in printed form. But due to its reliance on the formal features of the language, particularly words and structures, this reading model has always been criticized as being insufficient and flawed (Mather, 2023). Second, in addition to what is written on a piece of paper, Goodman (1967) believed that readers’ schemata or prior knowledge also played a huge part in learning reading (Haynes, 1989). This model was brought about by a paradigm shift in the cognitive sciences that occurred during the 1960s (Monaghan et al. 2002; Soler, 2016). The top-down reading model by Goodman

(1967) suggested that reading is a dialog between readers and texts that involves an active cognitive process where the construction of meaning is significantly influenced by the reader's prior knowledge. In conjunction with these two models, reading is a meaningful interpretation of printed or written symbols, while comprehension is a result of interaction between the reader's perception of graphic symbols, language proficiency and the reader's knowledge of the world, (Ngabut, 2015, Karami & Khajavi, 2021). A different view by theorists of interactive reading models like Rumelhart (1977) asserted that both top-down and bottom-up reading processes appear to happen concurrently, at least for advanced readers. He believed that reader's mental image and graphic information are both necessary for comprehension. Rumelhart's (1977) interactive model of reading emphasized flexible processing and multiple information sources (Carrell et al., 1988), which is closely related to context of the present study, exploring ESL pre-university students' decisions in reading academic materials from multiple resources during self-regulated learning within a flipped classroom approach. The interactive model of reading according to Rumelhart (1977) emphasizes readers' diversity, text novelty, and cultural interpretations (Alvermann et al., 2013). As the ESL pre-university students read academic texts, mitigating these elements is essential for self-regulated reading comprehension as a preparation to attend flipped classroom. However, Rumelhart's (1977) interactive reading model was developed before the extensive use of multimedia educational contents which highlights that the model does not directly nontraditional reading texts. Also, the inclusiveness of readers' cultural interpretation is not being studied. Thus, in relation to the present study, Rumelhart's (1977) interactive model does not support the current evolving trend of reading.

2.9.1 Flavell's Model of Metacognition

Flavell (1979) model of metacognition on the other hand, acknowledge a wider range of applications in regard to reading comprehension. While both metacognition theory and interactive model offer frameworks to understand the reading process, they provide different perspectives. The interactive model situates reading within a transaction between the reader and the text, shaped by sociocultural context. In comparison to other metacognitive theories, this theory highlights the cognitive

monitoring and control readers can employ to actively make meaning of the content being read. In his model, he acknowledged applications which included text reading activities, oral skills, listening skills, writing, language acquisition, memory, attention, social interactions, and self-instruction (Flavell, 1981). He described metacognition as a person's knowledge concerning her own cognitive processes and products or anything related to them (Flavell, 1979). Within this context, thus, Flavell's model of metacognition's wide range of applications best describe the TESL pre-university students' self-regulated academic reading activities as it involves not only reading texts, but other multimedia learning content that involves other subskills like listening and social interactions.

In addition, he described metacognition as the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive elements or data on which they relate (Flavell, 1979). He further added that metacognitive knowledge consists of a belief about personal attributes, tasks features, and strategies (Flavell, 1981). Flavell (1979) believes that a wide range of intellectual activities are observed through the actions and interactions of four basic components: i. metacognitive knowledge, ii. metacognitive experience, iii. Cognitive goals or tasks, and iv. cognitive actions or strategies as illustrated in Figure 1.2. Each of these components plays an important role in the context of academic reading.

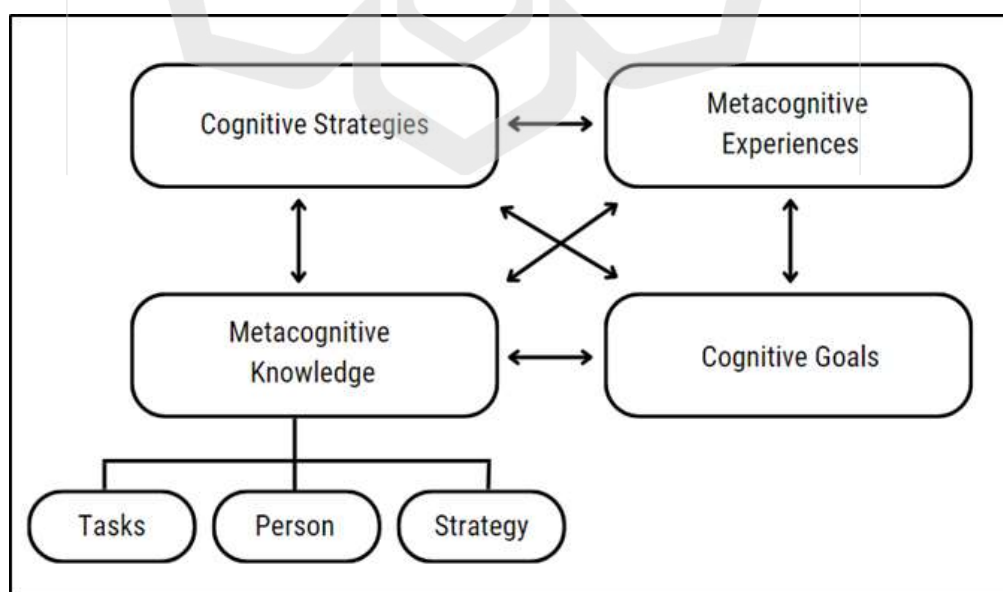


Figure 2.6 Flavell's Model of Metacognition

Metacognitive knowledge refers to a person's understanding and awareness of their own cognitive processes and the factors that influence them. Grabe (2009) explained that ESL readers respond to reading tasks by evaluating the demands using metacognitive knowledge and decide on the strategies that match their skills to comprehend the texts and retain information effectively. According Flavell (1979), there are three major categories of Metacognitive knowledge:

1. Task: The information available to readers during a cognitive enterprise. Students' understanding of the tasks at hand and its' requirements.
2. Person: The nature of readers as cognitive processors. Students understand their own weaknesses as readers.
3. Strategy: Strategies to achieve subgoals and goals during cognitive process.
4. Students understand the strategies available to tackle the tasks and their potential effectiveness.

Metacognitive experiences according to Flavell (1987) arise when they are explicitly demanded in a certain situations like unfamiliar and novel situations, situation with important consequences, as well as situation with expectations. The experiences enable readers to guide and regulate reading processes. Cognitive Strategies according to Flavell (1979), is the mental processes and techniques to achieve cognitive goals. Cognitive goals are referred to as the specific objectives set during reading activities. The goals may include understanding the main ideas of a reading material, identifying evidence, or synthesizing information from several sources. Flavell (1979) highlighted that if the reading outcome holds significant importance, readers tend to exercise greater vigilance and scrutiny in monitoring their judgements and decision-making processes. The mental processes include planning strategies, monitoring strategies, and evaluation strategies. Also, empirical studies reveals that students could highly metacognitive awareness yet still make ineffective decisions when reading if they are under pressure (Efklides, 2011; Mokhtari & Reichard, 2002). In metacognition, decision-making is influenced by one's profession and level of expertise (Colombo et al., 2010). She added that individual decision-

making styles modulates this facet of metacognition that highlights the significance of considering that when aiming to improve decision-making skills through metacognition, the degree of metacognition is directly tied to the specific decision tasks one must face, in this case, self-regulated academic reading prior to attending flipped classroom sessions. In other words, decision-making is one of the executable cognitive strategies that enable effective control over one's reading and comprehension. It regulates reading activities such as revising approaches, monitoring comprehension, evaluating strategies. All these aspects were investigated by making reference to decision-making (Colombo et al., 2010). The TESL pre-university students apply these processes to actively decide when and how strategies like re-reading difficult sections, approaching different references, or asking classmates and instructors for clarification (Malcolm, 2009). Thus, Flavell's Model of Metacognition supports the present study by spotlighting the importance of TESL pre-university students to utilize decision-making styles which is derived to regulate their cognitive process when they are reading academic texts independently.

2.9.2 Bounded Rationality Decision-Making Theory

In a flipped classroom, traditional learning is inverted. Students prepare for class by engaging with instructional materials independently. So, by providing materials to the students who have limited cognitive capacity before they attend class, allows them to process information at their pace. This situation aligns with Bounded Rationality Theory. Herbert A. Simon introduced Bounded Rationality Theory (BRT) in 1957 through his first book, *Models of Man: Social and Rational*. The theory suggests that when people make decisions, they are bound to limited cognitive resources, incomplete information, and the constraints imposed by their environment. People also use intuition and experience to make decisions in a limited range of time (Herbert, 1957). Gigerenzer & Selten (2002) specified three classes of decision-making processes that the Bounded Rationality Theory typically specifies:

1. *Simple Search Rules*: The process of search is modelled on step-by-step procedures, where a piece of information is acquired, or an adjustment is made to it, and then the process is repeated until it is stopped.

2. *Simple Stopping rules*: Search is terminated by simple stopping rules. For example, by choosing the first information that satisfies the aspiration level. This rule can change as a consequence of the length of search or other information. Also, simple stopping rules do not involve optimization calculations such as computation of utilities and probabilities to determine the optimal stopping point.
3. *Simple decision rules*: After search is topped and a limited amount of information has been acquired, a simple decision rule is applied, like choosing an information that is favored by the most important reason.

Bounded Rationality Theory is particularly valid in explaining the role of decision-making in academic reading within a Flipped Classroom approach. In the context of this study, what Herbert Simon (1957) has proposed is a clear representation of the academic reading activities experienced by TESL pre-university students during the preparatory stage of flipped classrooms (Aziz et al. 2021), which causes various challenges for the instructors during teaching and learning. Due to the constraints experienced by the students, they may exhibit a tendency to overlook the criticality of decision-making processes that involve metacognitive strategies while reading. However, by following the principles of BRT, they can break the large amount of information down into smaller chunks, prioritize what is relevant and important that leads to making decisions within the limited time frame during asynchronous learning before they attend classes, which is illustrated in Figure 2.7.

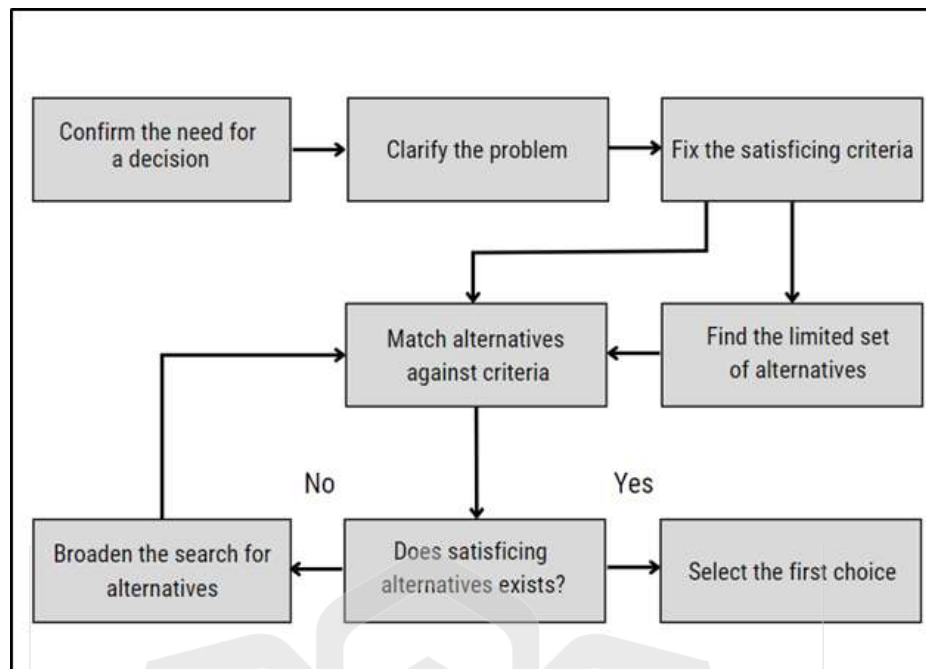


Figure 2.7 Bounded Rationality Decision-Making Theory (Herbert,1957)

BRT acknowledges that decision-making is limited by cognitive constraints like time and information processing capacity. Thus, individuals often use satisficing criteria to make decision within such condition. Satisficing criteria refers to the thresholds that individuals use to determine when a decision is acceptable, even if it may not be the best choice (Simon, 2008). Satisficing criteria is observable in today's digital society. A well-known phenomenon, the "information overload", is noticeable among novice readers (Zheng, 2015). To deal with information overload, a typical reader will choose to take just as much information as needed. This approach is described as a common decision in overload situations (Figure 2.7) and an exemplar of bounded reality (Mocker & Spear, 1982). Bounded rationality helps to explain how students may make decisions that help them cope with complexity in academic reading, such as seeking simplified summaries or depending on peer discussions for clarifications rather than making independent deep inquiries. In the context of the present study, the pre-university students may prioritize finding satisfactory rather than optimal solutions when selecting reading strategies or comprehending academic text, realizing that they would then attend the real class time. Thus, the decision-making style aligns with the principles of BRT, which suggests that decisions are made based on limited information and cognitive capacities.

2.9.3 Blooms Revised Taxonomy

Blooms Revised Taxonomy is a framework that classifies educational goals and learning objectives. Blooms Revised Taxonomy extends the Original Taxonomy (Bloom et al.,1971) into a two-dimensional matrix that aligns knowledge and cognitive processes, which is valuable in examining and understanding students' thinking and learning processes. The revised taxonomy separates the noun and verb components into two separate dimensions: the *Knowledge Dimension* (noun aspect) and *Cognitive Process Dimension* (verb aspect) as illustrated in Table 2.4 and Table 2.5.

Table 2.4 Structure of the Knowledge Dimension in the Bloom's Revised Taxonomy (Anderson et al. 2001, p.308)

- | |
|---|
| <p>A. Factual Knowledge: The basic elements the students must know to be acquainted with a discipline or solve problems in it.</p> <ul style="list-style-type: none">Aa. Knowledge of terminologyBb. Knowledge of specific details and elements <p>B. Conceptual Knowledge: The interrelationships among the basic elements within a larger structure that enables them to function together.</p> <ul style="list-style-type: none">Ba. Knowledge of classifications and categoriesBb. Knowledge of principles and generalizationsBc. Knowledge of theories, models, and structures <p>C. Procedural Knowledge: How to do something; methods of inquiry, and criteria for using skills, algorithms, techniques, and methods.</p> <ul style="list-style-type: none">Ca. Knowledge of subject-specific skills and algorithmsCb. Knowledge of subject-specific techniques and methodsCc. Knowledge of criteria for determining when to use appropriate procedures <p>D. Metacognitive Knowledge: Knowledge of cognition in general as well as awareness and knowledge of one's own cognition.</p> <ul style="list-style-type: none">Da. Strategic knowledgeDb. Knowledge about cognitive tasks, including appropriate contextual and conditional knowledge.Dc. Self-knowledge |
|---|

Table 2.5 Structure of the Cognitive Process Dimension in the Blooms Revised Taxonomy

1.0 Remember:	Retrieving relevant knowledge from long-term memory.
1.1	Recognizing
1.2	Recalling
2.0 Understand:	Determining the meaning of instructional messages. Including oral and graphic communication.
2.1	Interpreting
2.2	Exemplifying
2.3	Classifying
2.4	Summarizing
2.5	Inferring
2.6	Comparing
2.7	Explaining
3.0 Apply:	Carrying out or using a procedure in a given situation.
3.1	Executing
3.2	Implementing
4.0 Analyze:	Breaking material into constituent parts and detecting how the parts relate to one another and to an overall structure or purpose.
4.1	Differentiating
4.2	Organizing
4.3	Attributing
5.0 Evaluate:	Making judgment or decisions based on criteria and standards.
5.1	Checking
5.2	Critiquing
6.0 Create:	Putting elements together to form a novel, coherent whole or make an original product.
6.1	Generating
6.2	Planning
6.3	Producing

Table 2.5 explains in detail the (verbs of) cognitive aspects of Blooms' Revised Taxonomy, from *Remember* as the lowest order thinking skill to *Create* as the highest order thinking skill presented in Figure 2.8. Students' responses in a flipped classroom setting reflect how they understand, apply and engaged with academic reading prior to attending class.

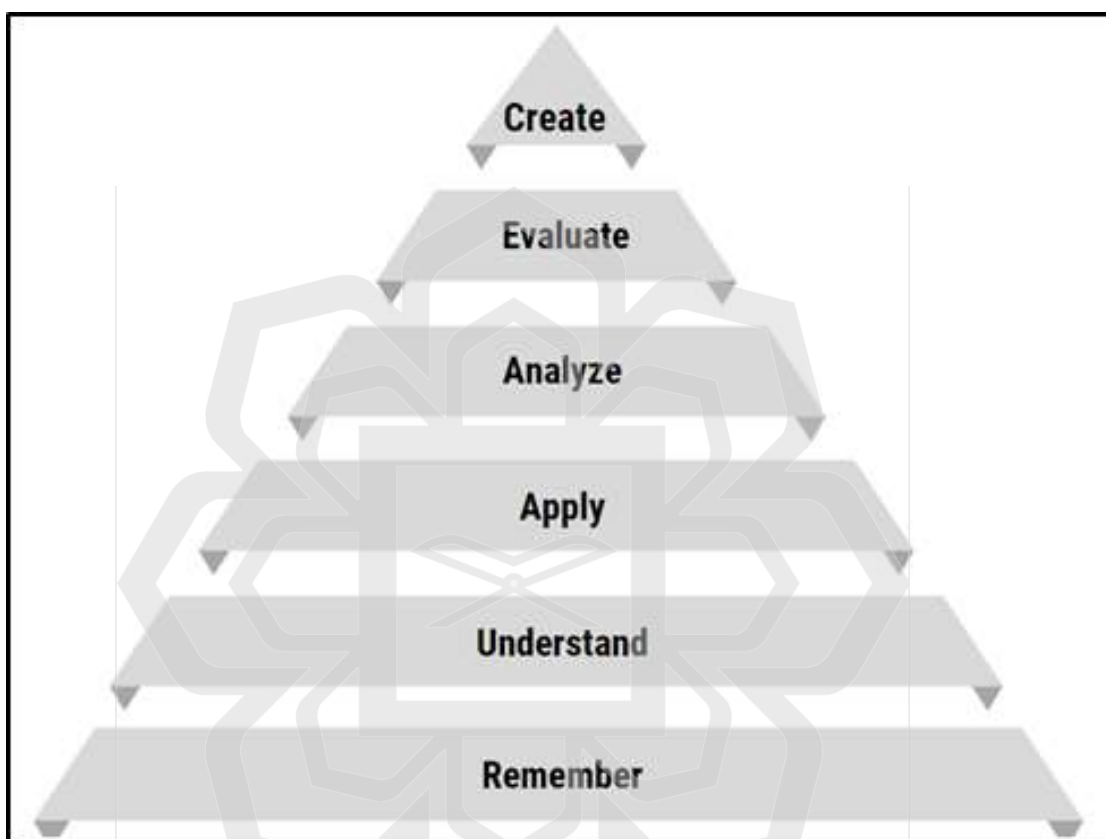


Figure 2.8 Hierarchy of Bloom's Revised Taxonomy

In a Flipped Classroom, students are first exposed to new materials shared by the English instructor, then they are encouraged to look for other reference to support the given information. During class time, students will engage in discussion and application activities. Using the taxonomy, the researcher can observe and analyze how these pre-university students engage in academic reading activities and make decisions while learning in a flipped environment; specifically, when looking at the thinking skills they are using when reading texts and exploring other reading materials outside class time. Also, to look at whether the pre-university students remember facts

and details, analyze arguments and evaluate the credibility of information read. Such activities provide insights into their decision-making process. Thus, Bloom Revised Taxonomy serves as a useful framework to explore how pre-university students decide while engaging in academic reading in a technology-enhanced flipped classroom environment. Hierarchy in the taxonomy can help researchers to evaluate and focus on the students' efforts to improve critical thinking (Huong et al., 2018) and their capabilities in decision-making. The higher levels in Bloom's Revised Taxonomy require students to analyze, evaluate and create. These skills require strong decision-making abilities. Hence, strong decision-making skills are essential to achieving higher order and complex cognitive processes represented in the top tiers of the taxonomy.

2.9.4 The Conflict-Theory of Decision-Making

Janis and Mann (1977) Conflict Theory of Decision-making proposed that the dependence on a particular coping pattern or decision-making style is determined by the presence or absence of three pre-existing conditions. Mann et al. (1997) explained that for decision makers, there are three antecedent conditions and four basic decision-making styles illustrated in Figure 2.9. In the present study, the TESL pre-university students have experienced learning an academic reading course in a flipped classroom approach. The situation in which they also experienced decision-making while reading for academic purposes in a flipped classroom setting, is a reflection of this theory. The antecedent conditions proposed as illustrated in Figure 2.9, mirror the condition of asynchronous learning phase. The participants are informed of the reading activities they need to do before attend the real-time flipped classroom session. As part of the class instruction, they were asked to explore other related information based on the course materials given. Lastly, the participants were aware and understood the time frame given for asynchronous learning, where they should spend time for independent learning through academic reading activities.

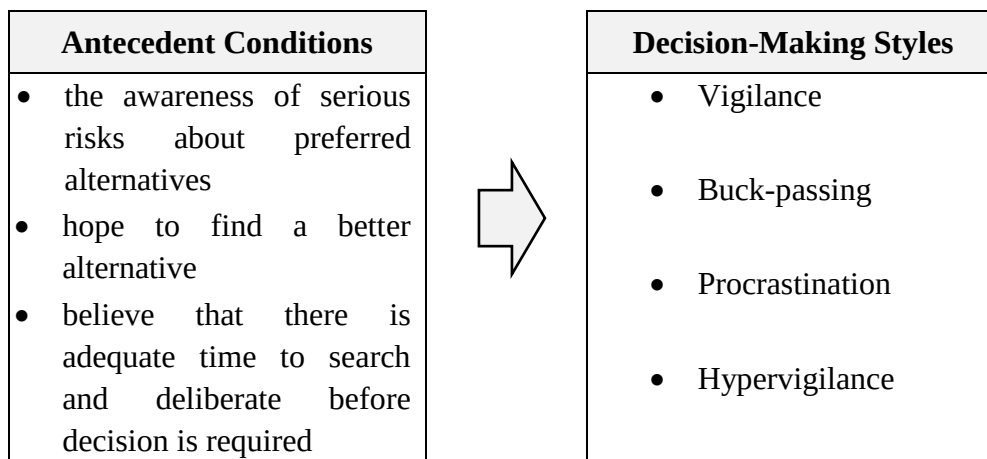


Figure 2.9 Three Antecedent Conditions of Decision-making Styles

From the aforementioned theories, this study relied upon established theories and previous studies to build a perspective to explore the importance of decision-making during academic reading within flipped classroom approach. The present study explores TESL pre-university students' decision-making styles in academic reading within an innovative approach – the Flipped Classroom approach. Hence, each of the theories presented are chosen to support the derivation of decision-making in metacognitive academic reading within the context of Flipped classroom approach.

2.10 SUMMARY

Overall, reading literacy is the cornerstone for success and plays a pivotal role in improving the trajectory of a society. However, reading literacy alone is insufficient to achieve the educational goals outlined in the Malaysia Education Blueprint as well as Malaysia's national vision of transforming Malaysia into a reading nation by 2030. In the 21st century, reading literacy extends to digital platforms which require triangulations of different sources, navigating through ambiguity, distinguishing fact and opinion to construct knowledge that would continue to grow and deepen to ensure equal advancement at all levels of society (Ismail et al., 2024). Not only that, 21st century skills are also incorporated in in these initiatives which also responds to Higher Education 4.0 Framework to guide Malaysia's future education initiatives. According to the Ministry of Higher Education (2018) the primary objective is to

ethically and morally upright citizens who are spiritually grounded to face the challenges of IR4.0, agile governance, research and innovation, and talent planning and future-ready curriculum. Kenayathulla et al., (2019) further argued that graduates need 21st century skills such as problem-solving and analytics, decision-making, organisation and time management, risk-taking and communication to survive the rapidly evolving industries of the 21st century to compete a worldwide scale and possessing global competence.

Therefore, the new insights explored by present study on decision-making styles in academic reading among TESL pre-university students gel the three important elements of Malaysia's future education: reading literacy, digital competency and most importantly decision-making as one of the aspects in the 21st century skills. The TESL pre-university students representing one of the largest public universities in Malaysia is hoped to act as a catalyst to a more diverse research and innovation of decision-making in reading literacy that could continuously respond to the initiatives taken by the Malaysian government.

2.11 CHAPTER SUMMARY

This chapter explored the literature of decision-making styles, reading literacy and flipped classroom approach. The literature review examines underpinning theories that hold the foundation of decision-making styles, the instructional approach used, as well as the current issues related to the topic studied.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter provides an overview of the research methodology and procedures used to investigate the selected TESL pre-university students' decision-making styles in English academic reading within a Flipped Classroom approach. The academic reading activities took place during asynchronous learning stage, which is the preparation stage of the flipped classroom approach applied in an Academic Reading course.

Chapter Three further explains major aspects of this study which includes the research design, study samples and informants, the research instruments, data collection and data analysis procedures, issues on validity and reliability, data triangulation as well as the pilot study conducted to answer the research questions and achieve the research objectives.

3.2 RESEARCH DESIGN

The knowledge on research design will inculcate a researcher's ability to evaluate and use research results with reasonable confidence. Kothari (1993) defines a research design as the conceptual structure, which collection and dimension include data identification, procedure and data analysis. Thus, choosing the correct research design is particularly important because it moulds most of the other choices a researcher will make, that includes choices of methods for sampling (Vogt, 2008). Creswell (2014) further explained that a research design involves procedures that span the steps from wide-ranging assumptions to detailed methods of data collection, analysis and interpretation. Also, selection of research design should depend on which is one best suited to answer the research questions (Tashakkori & Teddlie, 1998). In view of this, the present study employed a qualitative research design, proposed by Creswell

(2013) which represents a series of procedure to gather, organize, and integrating data resulting in detailed research finding. The researcher used qualitative research design to explore and characterize the TESL pre-university students' decision-making styles in English academic reading within a Flipped Classroom approach and proposed a preliminary framework of decision-making styles in academic reading that could assist English second language learners and academics in the teaching and learning of English academic reading within a similar pedagogical approach.

Based on the literature review presented in Chapter Two, qualitative research design is believed to be a suitable design for the present study. While existing literature on students' decisions in English academic reading (Bachman, 2021, Barberg, 2022; Mizrachi et. al, 2019) predominantly used quantitative research designs, qualitative research design is equally valuable to profoundly illuminate the experiences of TESL pre-university students. Due to the nature of the present study, it involves a diversity of opinions and responses from the respondents' perspectives to share their experiences in decision-making while engaging with academic texts. Dörnyei (2007) emphasized that employing instruments like interviews, observations, and verbal protocols enables deeper descriptions of "not only what students are doing, but also why they are doing it" (p.38). Given the multifaceted nature of language learning decision-making, using qualitative research design creates a platform for the TESL pre-university students' voices to emerge that capture the 'dynamic and situated complexity' of their decision-making while reading academic texts (Papi & Hiver, 2020; Menard-Warwick, 2008) within a platform – Flipped Classroom approach, that demands independent reading activities (Goedhart et al., 2019; Tomas et al., 2019). The qualitative analysis coding revealed themes related to different spectrums of participants' decision-making in academic reading that questionnaires alone may not capture. As a result, qualitative research design will help the researcher to gain deeper understanding of the actual phenomenon (Creswell, 2013). The present study focused on describing and explaining the students' decisions while reading academic materials. Thus, manipulating its possible causes was not feasible. The researcher accepted the situations as they naturally occurred and probe them only when necessary to clarify the gathered information based on the protocol and procedure designed to maintain consistency and avoid the Hawthorne effect.

Furthermore, employing a quantitative research design for this study is inappropriate and highly difficult. This study was not designed to assess theories nor to identify cause and effect of the variables. Instead, the study aims to gather data from multiple sources that cannot be interpreted by statistic measurements to connect theoretical paradigms and related strategies to explore people's experiences (Creswell, 2013) and reveals answers to 'how' and 'why' on the case studied based on the selected interview questions to obtain authentic data (Stake, 2010). Thus, quantitative research design seems overly restrictive when it comes to exploring TESL pre-university students' experiences in decision-making while engaging in reading academic texts. The present study requires data collection from multiple sources such as structured interview, observation, recorded materials, and reflection logs which cannot be obtained through quantitative design (Cresswell, 2014). Based on the nature of this study, there will be no quantifiable data that needs statistical analysis to compare the variables, hence, making quantitative research design inappropriate for this study.

Therefore, this study employed qualitative research design as it is interpretative and the most suitable research design for the researcher to explore TESL pre-university students' decision-making styles in academic reading. To add, the present study did not adopt statistical analysis as it focuses on the product rather than the process of investigation (Davidson, 2023). The researcher was more concerned about her research as 'characteristically exploratory, fluid and flexible, data-driven and context sensitive' (Mason, 2002, p.24). Thus, qualitative exploratory research design was chosen as it offers in-depth understanding of the phenomenon.

3.2.1 Research Approach: Case Study

Under the qualitative research design, the present study will employ case study to explore the selected TESL pre-university students' decision-making styles in academic reading within a Flipped Classroom approach. Qualitative exploratory case study is found to be the most suitable approach for the researcher to collect detailed description and analysis on the desired information from the unit of the study (the case) and the product of the investigation which provided relevant data naturally from

its pure sources (Merriam & Tisdell, 2016). In addition, referring to the research questions presented in Chapter One, the ‘how’ questions are exploratory, where the researcher deals with the tracing of operational processes rather than incidence or frequencies (Yin, 2018).

Similarly, Cresswell (2007, p.73) explained that case study as a “qualitative approach that researcher explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information”. Stake (1995) believed that researchers should view case as a bounded system and inquire into it not as a process, but rather as an object; he proposed that this research approach is more beneficial to study people and programs (Yazan, 2015). Yin (2003) on the other hand, believes that case study addresses the “how” and “why” questions concerning the in-depth on a ‘case’ and to also retain a holistic and real-world perspective. To add, Barritt (1986) believes that qualitative case study has the potential to enhance our understanding of the way things appear to someone else and through that insight, lead to improvements in practice. Cresswell (2009) further added that a qualitative case study may fill a gap in the existing literature, establish a novel perspective, or address a concern with an understudied group or population. Merriam’s (1998) definition of case study is broader, as “an intensive, holistic description and analysis of a bounded phenomenon such as a program, an organization, a social unit, an individual or a process. Her definition aligns with the intention and nature of the present study, to reveal the TESL pre-university students (as a social unit) decision-making styles in academic reading (the case) embedded in the preparation of attending English flipped classrooms.

Yin (2003) emphasized heavily on the structure of case study in which the researcher found suitable for the present study. There are three types of case study suggested by Yin (2003): Descriptive case study, Explanatory, and Exploratory. First, descriptive case study presents a complete description of a phenomenon being studied within its context. Secondly, Yin’s (2003) explanatory case study explains how events happened by comprising findings based on cause-and-effect relationships (Kähkönen, 2011 January). Lastly, Yin’s exploratory case study aims to explore new or under-researched areas where there is little existing theoretical or empirical understanding in the investigation of the real-world environment (Yin, 2014). Furthermore,

experienced researchers in qualitative studies have identified case study research as a stand-alone qualitative approach and is expected to capture the complexity of a single case, and the methodology that enables this has developed within the social sciences (Ebneyamini & Sadeghi Moghadam, 2018).

Yin (2014) has suggested two research designs for case studies: multiple case study and single case study. Multiple case study explores multiple cases with different contexts, whereas a single case study involves a single unit of analysis within the same context to be studied. In both types of case study, Yin (2014) added that a case can be embedded or holistic. An embedded case is where several units of analysis are studied within a case. On the other hand, a holistic case is where the case is the unit of analysis. Based on these definitions, to explore the case in this present study, the researcher adopts the single-case study design by Yin (2018); decision-making styles in academic reading (the case) embedded in the preparation of attending English flipped classrooms (the context) illustrated in the diagram below. To add, the single-case study holistic design by Yin (2013) is adopted because it represents the study conducted which is to explore only a single unit of analysis; the TESL pre-university students. The participants in this study were considered to be the most representative of the research objectives. Thus, holistic single case study is suitable for the study as the findings in this case serve to reveal the trends of thoughts and opinions. The TESL pre-university students have shared characteristics which allow the researcher to explore their experiences in greater depth.

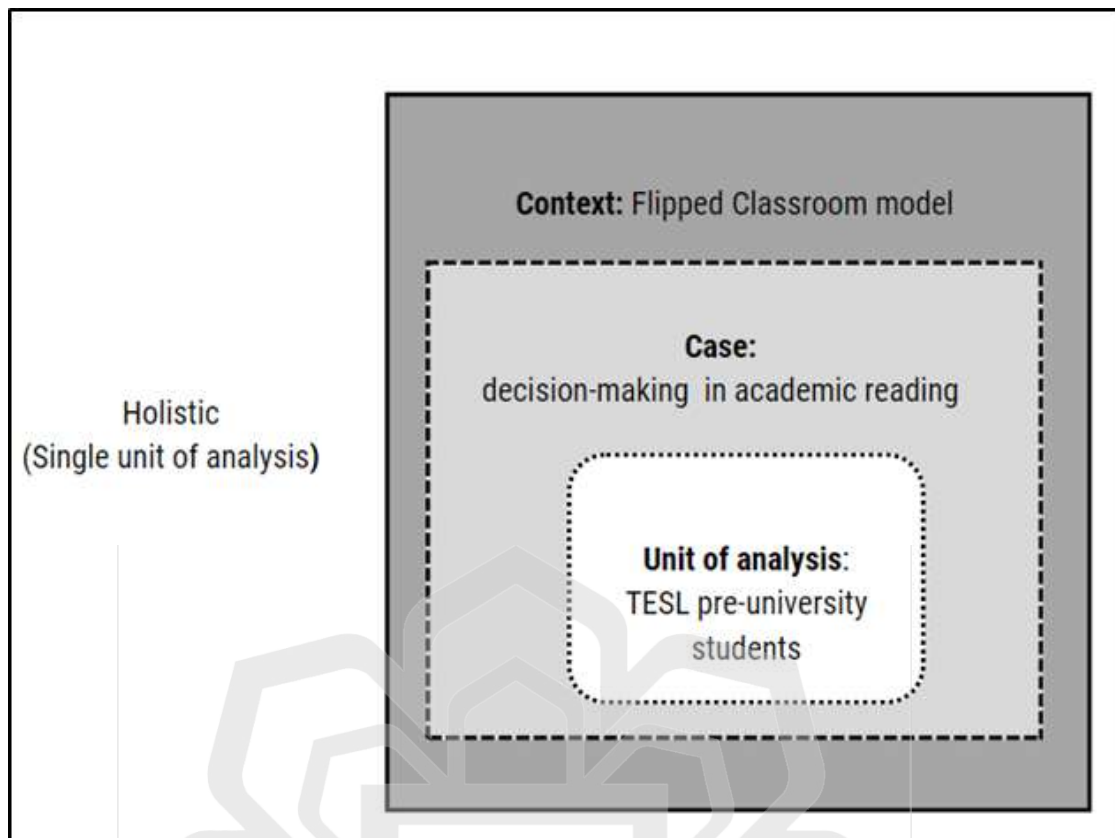


Figure 3.1 Single Case study Holistic Design (Yin, 2013)

In addition, as a novice researcher, the single case study design helps to avoid the researcher from being overwhelmed by the collection of data and the analysis. Yin (2009, p.162) highly recommended that novice researcher to start with “a simple and straightforward case study” because he believes that novice researchers are likely to face difficulties in conducting case studies. This may discourage the researcher from completing the study. Table 3.1 visualizes the research design for this study.

Table 3.1 Illustration of Research Design

RESEARCH OBJECTIVES	METHODS	RESOURCES
RO:1: to investigate the selected TESL pre-university students' perception on decision-making skills during academic reading for flipped classroom.	Structured Interview	TESL pre-university students
RO2: to investigate how the decision-making skills during academic reading facilitate the selected TESL pre-university students' engagement in a flipped classroom.	Observation	TESL pre-university students
RO3: to characterize the reading materials preferred by the selected TESL pre-university students' for flipped classroom in academic reading classes.	Structured Interview	TESL pre-university students
RO4: to identify the decision-making styles demonstrated by the selected TESL pre-university students in academic reading for flipped classrooms.	Reflection log	TESL pre-university students

3.3 STUDY SETTING

Casteel & Bridier (2021, p.343) indicated that in research, a target population is 'the specific, conceptually bounded group of potential participants to whom the researcher may have access that represents the nature of the population of interest'. A target population can cover a large area and consist of any size in which the research is interested in, and permit the results of the study to be generalized. For this study, the target population are pre-university ESL learners majoring in English language studies and they have experienced flipped learning at tertiary level. This study was conducted in one of the public universities in Malaysia, involving a TESL pre-university program.

Although academic reading is an important skill for all ESL learners in higher institutions, the selection of the targeted population is motivated by different reasons:

- a) There is a lack of empirical data that focuses on pre-university ESL learners' independent language learning specifically on academic reading, in Flipped Classroom model (Tan et al., 2022). Academic Reading course offered by the TESL pre-university program in University B includes Flipped Classroom approach as one of their teaching methodologies.
- b) In the context of English academic reading skills, attention should be given to ESL pre-university students who are in their early tertiary education because Kung and Aziz (2020) reported that the dismal results showed by Malaysian secondary school students on international reading assessments suggest that they lack the necessary skills for reading. Thus, the selection of target population was made to ensure that participants of this study are highly proficient in the target language, hence focus can be given to how they navigate academic reading skills and strategies or other decisions made for that matter.
- c) Although most of the big data on educational studies focused on learners' behaviours and performances (Baig et al., 2020), a comprehensive review on ESL pre-university students majoring in English studies is still under-researched within this spectrum – decision-making skills in academic reading.

3.3.1 Context of the Study

The researcher has identified two English preparatory programs offered by two public universities in Malaysia – University A and University B. To ensure the inclusion criteria are met, the researcher studied the entry requirements of both programs. English pre-university program in University A requires applicants to have minimum of Grade C in Bahasa Melayu, History, Mathematics or Additional Mathematics and a minimum of Grade B for English and any Islamic Religious subjects for Sijil Pelajaran Malaysia. English pre-university program in University B requires the

applicants to score A in English subject, A- in any three subjects other than English and credit (grade C) in Mathematics or additional mathematics and applicants must pass written tests (Reading and Writing tests) as well as interview. Due to inclusion criteria outlined to ensure participants are able to provide rich, meaningful and relevant information about the case under investigation, the English program from University B was selected.

The present study took place in TESL pre-university program in one of the public universities in Malaysia, University B. The researcher initiated the application process by submitting a formal application to conduct her research with the TESL pre-university students. Letter of application was sent to the department of Academic Research & Innovation. Following the application, she attended an interview and subsequently received the approval to proceed her research. A class of thirty students was assigned for her research. Thereafter, the researcher submitted necessary documents to the university's Research Ethics Committee (REC) and received ethical clearance from the university (REC/02/2024 (ST/MR/42)). This phase was important to ensure compliance with the institutional research standards.

3.3.2 The Participants

The researcher chose purposeful sampling for this study based on the research objectives; to explore and gain insights from the phenomenon observed (Merriam & Tisdell, 2016). A purposeful sample of thirty TESL pre-university students majoring in English language studies from a public university in Malaysia was selected for the study. These TESL pre-university students were chosen with a purpose – they should be able to provide rich and relevant information to respond to the four research questions. Based on the research objectives of this study, the TESL pre-university students represent the most (Yin, 2014) based on the criteria needed for the study. They shared many similar characteristics which allowed the researcher to conduct research in greater depth.

Creswell (2013) suggested nine strategies for purposeful sampling - extreme case, theory or concept, critical, opportunistic, maximal variation, typical, homogeneous, snowball and confirming/disconfirming sampling. Homogeneous purposeful sampling is adopted to gather data from the participants. As suggested by Saunders et al, (2019), this type of purposeful sampling provided in-depth exploration to reveal regularities and differences of findings based on the detailed criteria to identify trends in the specific case studied. The researcher established detailed criteria in this purposive sampling directly responds to the objectives of this study and to guide the identification of information-rich case (Kiely & Hartman, 2023; Forman, et. al, 2008). The researcher believes that homogenous purposeful sampling is the most effective approach in this study to gather data from limited resources based on the central research question of the present study: to explore. Homogenous purposeful sampling was also suitable for this study because the participants are all TESL pre-university students who have experienced learning the target language in flipped classes and they have experienced reading academic materials independently. Aligned with what was mentioned by Creswell and Plano Clark (2011), their knowledge and experiences with the phenomenon being explored qualify them for the present study. To add, these participants are homogeneous because they were selected from the same site, and other similar characteristics such as age, academic background, and experiences.

Based on the inclusion criteria, the participants identified have experienced flipped classroom while learning English language. They must also be proficient in using the target language. The entry requirement to attend the TESL pre-university program for English subject in Sijil Pelajaran Malaysia, is A, which concludes that the TESL pre-university students are highly proficient English language learners. Due to the nature of the English pre-university program they are currently in, these TESL pre-university students are assumed to have advanced reading skills, reading strategies, as well as reading comprehension skills compared to ESL learners from other programmes. Their advanced language mastery and vocabulary puts them in a strong position to engage in English texts deeply, allowing study of decision-making in academic reading unencumbered by basic reading comprehension barriers.

3.3.2.1 Selection of Participants

The researcher selected nine participants for her study. This small sample size was use aligned with the aim if this study; to do an in-depth qualitative study. Cresswell (2014) argued that a researcher should have small sample size to represent an active process of decision-making styles based on many factors such as the context of the study, method of data collection and type of generalization needed for the purpose of conduction an in-depth qualitative case study. He added that the sample size in qualitative case study should not be too small as this could make data saturation difficult to achieve. Aligned with Creswell's (2014) claim, a systematic review on sample sizes for saturation in qualitative research conducted by Hennick & Kaiser (2022) further elaborates that data saturation from in-depth interviews were most reliably observed specifically between 9 to 17 participants. Merriam & Tisdell (2016) mentioned that small sample size allows a qualitative researcher to communicate effectively and meaningfully with the participants. This focused engagement allows the researcher to capture more detailed and richer data as the participants feel more comfortable sharing their thoughts and experiences. Also, such close interaction builds trust and rapport, important to reveal nuanced insights that are central to qualitative inquiry. Additionally, the researcher did not intend to generalize the findings. Rather, the study focus is to provide detailed understanding of the specific phenomenon being studied.

3.4 ROLES OF THE RESEARCHER

The researcher played a critical dual role in this study for qualitative data collection. She is the flipped Academic Reading class instructor and she also the participant observer for the sessions. The researcher then collected data and implements the analysis (Creswell, 2007). This dual role is essential to understand the dynamics of flipped classroom approach. She facilitated the course content and simultaneously collected observational data responding to the research questions. In qualitative research especially in case studies, Creswell (2013) acknowledges that researchers often take an active role within the context being studied. He added that qualitative researchers can be participant observers who are actively involved in the setting while

collecting data. Iacano et. al (2009) and Evered & Louis (2001) concluded that knowledge acquired through '*inquiry from the inside*' is inherently more relevant to the participants. Given these roles, the research paid careful attention to potential biases that may arise from these overlapping roles.

3.4.1 Researcher as Flipped Classroom Instructor

As mentioned in Chapter One, the Academic Reading course was conducted in two sessions per week: two hours per session through a flipped classroom approach. For this research, data was collected only during the first session because this is when the introductory of each subtopic took place. A week prior to each real-time class, the instructor will share course materials through Google Classroom. The materials comprise of the topic and subtopics they will learn during real-time class in the following week. This preparatory step allows them to have ample time to independently read and conduct research at their own pace, promoting deeper understanding and readiness for in-class activities. The TESL pre-university students were aware of the responsibility to read and research on additional materials needed to assist their comprehension of the assigned topic. It is important to note that to ensure the authenticity of the students' independent academic reading processes, the researcher did not intervene or influence their reading habits before the scheduled class sessions.

During the first session of real-time class which served as the introductory phase for the topic, the instructor collected data by actively prompting students to respond and reflect on the content they have studied earlier. During this phase, the instructor refrained herself from traditional direct teaching. Instead of delivering lecture, she acted as an instructor who attentively listened and responded thoughtfully to students' answers to her prompts regarding the topic they were learning. This situation allows them to actively construct their own understanding based on the pre-class materials they have read. By responding to their ideas and questions rather than providing explanation upfront, while focusing on students' responses during this phase, the instructor captured authentic insights and reactions related to the new topic. This is essential for evaluating pre-university students' responses in regards to their

comprehension of the and in class engagement. Field notes were taken while listening to their responses.

3.4.2 Researcher as Observer

During the two hours, while prompting and responding to the students' discussion, the researcher systematically collect data based on their responses, interactions and engagement levels. Detailed notes were taken on the nature of pre-university students' contributions, depth of their understanding and engagement. The researcher maintained her reflective stance throughout the session while balancing her facilitative responsibilities. This is important to ensure she correctly observe students authentic learning experience within the flipped classroom environment. Her role as facilitator during class allows ample time for her to complete field notes, enabling her to capture rich and authentic responses from the students. Because the students came to class prepared, the real-time class session was not rushed, and the researcher was actively involved in guiding the discussion, she managed to attentively document the dynamics and insights during the flipped learning process.

Furthermore, Greenbank (2006) insisted that the researcher must also describe relevant personal aspects which includes experiences and biases. It is important to qualify her to conduct the research. The researcher has been in the tertiary education field for 17 years. Her roles vary between teaching responsibilities, academic research and supervision, as well as administrative work., she has also received the Excellent Service Award (Anugerah Perkhidmatan Cemerlang) in her eighth year of service. She graduated with a Bachelor of Education in TESL (minor in Counselling studies) and pursued her passion in English language teaching with Master in Education (TESL) and did her minor in Instructional Technology. Her experiences allow her to relate the discussion with the participants to explore and have a deep investigation on how TESL pre-university students make decisions in academic reading during asynchronous learning to attend flipped classes. While collecting data during interviews and class observation, interview protocols were followed to control biases and any conflict of interest between the researcher, the participants, and the higher institution involved.

3.5 DATA COLLECTION PROCEDURES

For this qualitative case study, the researcher employed two types of analysis, descriptive analysis and thematic analysis.

The descriptive analysis aimed to present a detailed account of the participant's grade of academic reading course in semester one and semester two, score for The Malaysian University English Test (MUET) and their reading strategies using the Survey of Reading Strategies (SORS), an established instrument proposed by Mokhtari and Ravi Sheorey (2002). The researcher strongly believes that a detailed account of the participants involved is important to ensure that study of decision-making in academic reading unencumbered by basic reading comprehension barriers. The researcher was given access to the participants' results for Academic Reading course in semester one and semester two, as well as their score for The Malaysian University English Test (MUET). The Survey of Reading Strategies (SORS) was digitized using Google Form. The results were then tabulated in Chapter Four.

The thematic analysis was used to answer the four research questions. The researcher used four instruments: semi-structured interview, document analysis (class observation checklist and researcher's field notes) and participants' reflection log.

3.5.1 Semi Structured Interview

Interviews provide a more-in-depth understanding of the participants. Experiences and perceptions towards a certain topic. Interviews also allow researchers to ask open-ended questions, allowing participants to provide more detailed answers and explain their decisions or experiences. This richness of data helps to build a more comprehensive picture of the research topic. Denzin & Lincoln (2018) explained that semi structured interviews can make better use of the knowledge-producing potentials of conversations by allowing much more flexibility for following up on aspects or issues that are deemed important by the interviewer, and interviewees have a greater chance of becoming visible as a knowledge-producing participant in the process itself. To add, while conducting the interview, a question can influence responses to other subsequent questions. Thus, the researcher could prompt or ask sub-sequence

questions to explore more responses from the participants' views, experiences, and opinions about decision-making while they were reading academic materials independently. For the semi-structured interview, open-ended questions were developed based on several aspects of the case being studied, such as the participants' perceptions on the three flipped academic reading classes they have attended, their decision-making while reading independently, the preferences on materials they have read, challenges while reading independently, solutions to overcome the challenges.

For this study, to understand the case, 20 participants were interviewed. The researcher made arrangements with the participants to set suitable place, date and time for them to come and feel comfortable for the interview. During the planning, the researcher explained about confidentiality and prepared consent forms for them to sign before conducting the interview. This is a crucial step to confirm their participation in the study and to include some personal information such as their academic results (See appendix A) The researcher also shared the approval letter from the university's research ethics committee (REC/02/2024 (ST/MR/42)) (See Appendix B). The interview sessions were conducted face to face during the first phase of the study. The open-ended questions developed were used in a flexible manner to encourage assist the participants to share information regarding the case. During the interview, participants' responses were recorded in written notes as well as audio recording. Both actions were taken to ensure that data collected were reliable and comparable for the study (Young et al., 2021).

While interviewing the participants, the researcher made certain that participants had enough time to understand the interview questions, allowed space for the participants to ask questions for clarification. The researcher responded to them to accordingly and give explanation on the issue being explored. Simultaneously, participants were given freedom to structure their responses to make them feel comfortable. They were also guided to communicate regarding the related topics. Part of the researcher's effort to build good rapport with participants (Yin, 2017), the participants were convinced that there were no right and wrong answers in their responses. Such affirmation was important so that the participants feel comfortable and feel free to express their views and opinions based on their own perspectives guided by the researcher. Youell and Youell (2011) further added that have a good

rapport with the participants reflect the quality of harmony, recognition and mutual acceptance between the participants and the researcher. Thus, the interview session generated rich data while at the same time ensuring respect is maintained between researcher and participant (Guillemin & Heggen, 2009). To check the credibility of the generated themes, the trustworthiness and validity of the themes derived from the data were assessed.

3.5.1.1 Interview Protocol

To establish a systematic approach to data collection for the present study, a structured interview protocol was developed to ensure consistency in data collection, facilitating in-depth exploration as well as to uphold ethical standards throughout the interview process. The researcher developed the protocol based on the four research questions to ensure that the collected data are aligned with the study's theoretical framework. The protocol was crafted with the intention to capture participants' perspectives on the case being investigated. Interview questions were designed to encourage open-ended responses, allowing the participants to express their thoughts and experiences in their own words. The researchers incorporated probes and follow up questions to ensure that she could capture deeper exploration of the responses and no important information was overlooked.

There are three main sections in the interview protocol. First, the researcher initiated each interview session with explanation of the aim of the research, the nature of the interview and the role of the participants. Each participant was given an informed consent form that outlines confidentiality, the voluntary nature of participation in the study, and the expected duration of the interview. The consent form was generated by the university's Research Ethical Committee's online system. The participants were also encouraged to ask questions about the interview process before agreeing to proceed. Next, the core section of the protocol contains a series of questions that are open-ended, designed to address the four research questions. These interview questions were organized thematically to ensure that relevant areas will be covered. Lastly, before concluding the interview, the participants were asked a few

reflective questions and prompts based on their initial responses. This was important to provide opportunities for them to add any additional thoughts. (see Appendix C)

During the pilot study, prior to the actual data collection stage, the researcher had also piloted the protocol with three participants who were not from the study samples to assess clarity and its effectiveness. The researcher rephrased some of the words and phrases used to match the TESL pre-university students' general knowledge on the phenomenon. Also, minor revisions were made to improve the flow of the interview sessions. The researcher reconsidered the venue of the interview which was initially conducted in a library. She then changed the venue to one of the offices that was available to get a quieter environment.

3.5.2 Class Observation Checklist and Researcher's Field Notes

In the second phase, three sessions of flipped classroom on Academic Reading course were observed by the researcher. The three sessions observed was the introductory sessions of two topics designated according to the Academic Reading course information: 'Make Inferences and Draw Conclusions' and 'Identify Deductive Reasoning, Inductive Reasoning and Assumptions in Arguments'. According to Yin (2003), a single case study holistic design, allows a researcher to signifies "the logical sequence that connects the empirical data to the study's initial research questions and ultimately, to its conclusion" (Yin, 2002, p.20) Thus, from the observed flipped classroom sessions, the researcher was able to explore the extension to which decision-making skills in academic reading play its role facilitating participants' engagement for flipped academic reading classrooms, as a respond to research question 2 (RQ2). The TESL pre-university students' engagement during class was observed based on a Cognitive rigor matrix adopted from Hess et al. (2009). The matrix (see Appendix D) clearly relates Bloom's Revised taxonomy and depth of knowledge proposed by Norman Webb (1997). While the researcher acted as the instructor, she kept a copy of the matrix with her as she interacted with class. Each student who responded in class, either to her questions or to their peers will be noted in the matrix. The researcher labelled the depth of their answers and responses based on the matrix. Having a collection of data from the whole class gave the researcher a

clearer view of the class dynamic and interactions that took place. She also noted additional information that reflected the observed case. A qualitative researcher must take note every relevant detail to capture the richness and complexity of the observed phenomenon (Smit, & Onwuegbuzie, (2018).

During the three class observations, a field note (see Appendix E) was used to capture non-verbal data such as the participants' engagement in class as well as the environmental factors that the researcher was not able to explore through interviews. She noted what she had seen, heard and experience while observing the responses during flipped academic reading classes. Taking notes while observing provide additional context to participants' verbal responses, enriching the overall understanding of the research. Through field notes, the researcher was able to capture immediate responses and reflections during the data collection process. To add, disclosure of detailed field notes allows greater assessment for individual studies in the metasynthesis process and increase the ability to realise credible synthesis (Phillippi & Lauderdale, 2018). These insights assisted her to be more aware of her biases and provide a space for self-reflection which is essential to maintain the objectivity in qualitative research. Descriptive note was used to capture every incident happened rather than recording the classes because video recording was prohibited by the University's Research Ethics Committee (REC). Although the researcher also acted as the instructor, she had ample time to write notes because of her role as a flipped classroom instructor was to only guide and prompt students to maintain discussions during the three introductory sessions. The researcher had the opportunity to maximize her experience both as the instructor and the observer. She also managed to keep her notes up to date by gathering first-hand information from the participants. After each session, the researcher spent time to reread and re-evaluate her impressions and challenge her pre-existing assumptions to avoid or minimize confirmation biases while she was jotting notes during the session. According to Saldana (2015), initial notes may only capture surface-level observations but rereading them helps the researcher to identify patterns and connections that were not obvious during the initial notetaking. Data from interview was used to triangulate and cross-validate information from both sources to get valid, reliable and convergent data (Creswell,

2013). This allows a fuller and more reliable understanding of the case and provide consistent or complementary findings that strengthen the reliability and validity.

3.5.3 The Reflection Log

At the end of the semester, in the last phase, the participants were asked to write a reflection log related to their reading activities, specifically on how they make decisions while engaging in academic reading. The reflection log is guided with constructs developed by Mann et al. (1997); with the intention to explore participant's decision-making styles (RQ4) (See Appendix F). In the reflection log, the participants were asked to elaborate on how decisions were made while they were reading independently. They were also encouraged to share challenges and solutions in relation to the decisions made while they were reading. A Likert scale was also added alongside the open-ended constructs to offer a comprehensive understanding of the participants' decision-making styles. The collected data is used to support and triangulate the gathered data from the previous stages. While they were writing the reflection log, the researcher was also there to assist for clarification. Charmaz (2014) asserted that the researcher's presence to clarify prompts or guiding the participants in real-time helps to maintain the accuracy and clarity of the data. To add, a researcher's presence according to Creswell (2013) helps to establish a sense of trust and honesty between the researcher and participants which could enhance the quality of data.

The researcher reached data saturation when participants provided sufficient information through multiple phases and reiteration process. This stage involves multiple instruments and methods to respond to the research objectives. For data collection and analysis, the researcher followed a three-phase process: open coding, axial coding and selective coding (Alhassan et. al, 2023; Strauss & Corbin, 1990, p. 96; Qureshi & Unlu, 2020). Throughout this process, the researcher was able to identify the saturation point where no new information emerged and further coding became unfeasible. At his point, the researcher found no additional unique themes, patterns, or codes. For a qualitative study, achieving data saturation was crucial as it reveals deeper understanding of the situation and the case being studied (Glaser & Strauss, 2017). From the data saturation and emergent themes, 9 out of 20 participants

were selected as they shared the same novel insights and noticeable pattern has emerged from the data.

3.6 ETHICAL CONSIDERATIONS

Ethical considerations were a central aspect of the present study. This aspect is important to assist the researcher in managing ethical issues that surface during data collection in the field and during analysis as well as preparing qualitative reports. Creswell (2014) asserted that to conduct research, a researcher should emphasize standard ethical consideration. Charmaz (2014) further explained that researchers should be actively involved in protecting participants anonymity and they must ensure the participants' experiences are represented authentically, especially when working with vulnerable populations. To maintain confidentiality and anonymity of the participants, they were assigned pseudonyms. Also, the name and location of University B was not revealed to protect the institution and the community they are working with.

Prior to the study, the researcher had an interview with the director of University B's Pre-university program and the dean of the TESL pre-university program. The researcher shared her intentions and aims of the study. She was then granted to proceed with the study and submitted her proposal to the Malaysia Ministry of Higher Education. After her proposal defense, she made some amendments and submitted the final proposal to University B's Research Ethics Committee and received an approval letter from the committee (REC/02/2024 (ST/MR/42)) and the participants' consent form (See Appendix A) that was attached together with the approval letter. At this stage, the panel experts during the proposal defense and experts from University B's Research Ethics Committee played an important role in evaluating the research questions and the method used in this study. Yin (2011) suggested that researchers need to actively employ structured review procedures to ensure that their findings are valid and reliable. Thus, this study followed a process that ensured the research meets the required standard ethical consideration.

The process of data collection is illustrated in Figure 3.2.

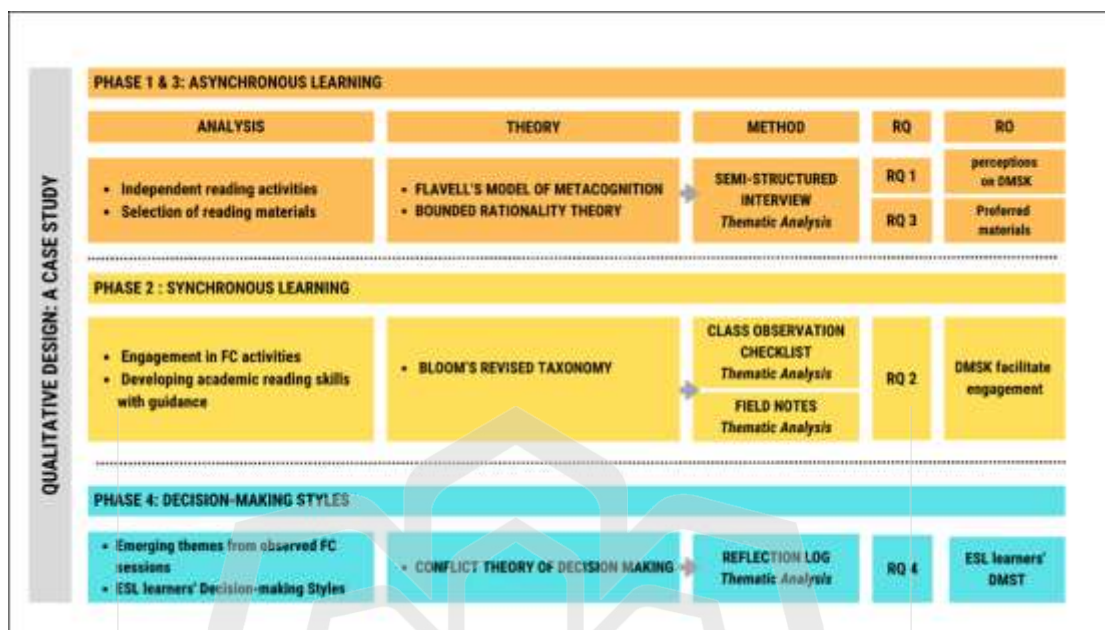


Figure 3.2 Illustration of the Procedural Design

The process of data analysis is illustrated in Table 3.2:

Table 3.2 Illustration of the Data Analysis Procedures

Aspects	Methods	Data Analysis Procedures
RQ1: ESL Learner's Perceptions on decision-making skills	Structured Interview	Thematic analysis
RQ2: Role of decision-making skills facilitate engagement	Observation Checklist Field Notes	Thematic analysis
RQ3: ESL Learner's Preferred Materials	Structured Interview	Thematic analysis
RQ4: ESL Learner's Decision making styles	Reflection log	Thematic Analysis

3.7 DATA ANALYSIS PROCEDURES

Qualitative data obtained in this study went through a hierarchical approach of Thematic Analysis for case-by-case analysis and Thematic Synthesis for cross-case analysis. For case-by-case analysis, the researcher followed a three-phase process: open coding, axial coding and selective coding (Alhassan et. al, 2023; Strauss & Corbin, 1990, p. 96; Qureshi & Unlu, 2020). Then, followed by Thematic Synthesis (Thomas & Harden, 2008), where the researcher combined and reinterpreted the themes cross the nine cases.

3.7.1 Interview Transcript

Interview sessions with the participants were recorded. The audio recordings were then transcribed using Microsoft 365 audio transcription feature. Relistening to the audio recordings and reread the verbatim is a crucial process to ensure that the data captured is accurate and respond to the research questions. The transcriptions included discourse units and some non-verbal cues such as pauses and fillers that are relevant to the context. Accurate transcription of the audio recordings is important as it serves as the foundation for the subsequent qualitative data analysis. Before the researcher proceed with data analysis, she conducted member checking for the interview transcription. Each of the participant was given a copy of their audio transcription for them to read and give their consent. After they have read the transcription, a digitized consent form was given to them for approval (See Figure 3.5). Next, the researcher begins the analysis by reading through the transcribed data multiple times to get sense of the overall content; a step that is known as familiarization of data (Braun & Clarke, 2006). This step helped the researcher to become immersed in the data, thus, making it easier to identify recurring ideas or significant patterns (Khaled Ahmed et al., 2025). Through inductive thematic analysis (Creswell, 2019, p. 164; Naeem, et al., 2023), the researcher started coding the data. Inductive thematic analysis allows qualitative researchers to build initial codes, codes and themes from bottom-up by arranging the data into increasingly more abstract units of information (Creswell, 2019). Initial coding involves highlighting and labelling statements or quotations of the transcription that seem important and relevant as a response to the research questions.

Once initial codes are developed, she looked for reoccurring patterns and group the similar codes in broader themes. The researcher tabulated the themes to aid visual representation of significant aspects of the data that are relevant to the research questions. Then all the themes were reviewed to confirm that they are coherent and accurately represent the data. The inductive thematic analysis (refer Figure 3.3) process illustrates reading back and forth between researcher's database and the emerging themes until she has established a comprehensive set of themes.

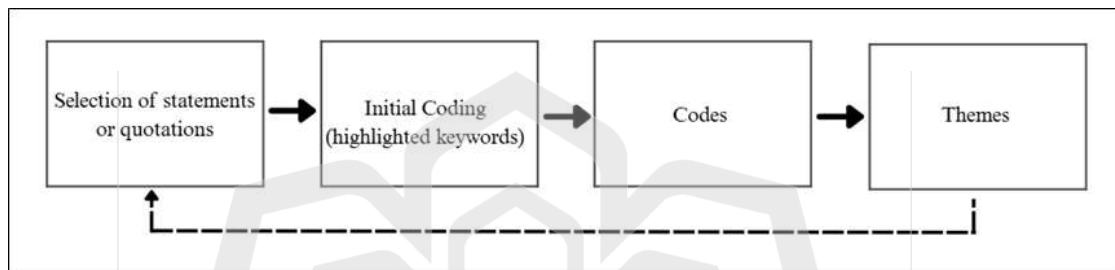


Figure 3.3 Inductive Thematic Analysis for case-by-case analysis

At this stage, the researcher compared the themes with the original discourse units to ensure that her analysis is grounded in the participants' experiences. To assist researcher's documentation, decisions, and tracking the thematic analysis process, she also used *Atlast.ti* software to record her data as an audit trail. This process is important for the researcher to enhance transparency, rigor, and credibility of the study - through documentation of every aspect of the interview process (Akkerman et al., 2006; Wolf, 2003).

3.7.2 Observation Checklist

While observing the participants' engagement in the three flipped academic reading classes, the researcher used Cognitive rigor matrix adopted from Hess et al. (2009) to explore their understanding of the topic discussed. The researcher as an observer jotted the responses and categorized them according to the matrix. The Cognitive rigor matrix provides a framework to assess cognitive complexity of students' responses and the depth of their engagement. Additional information regarding class

engagement were noted too. The description gave in-depth understanding (Lim, 2024) to the dynamic of the flipped academic reading classes. As mentioned earlier, qualitative data collected during the observation involved the whole class, which was 29 pre-university students. Thus, the researcher started arranging the data according to the 9 participants selected for the study. The researcher focused on their cognitive engagement in class: the answers they gave to questions posted by the instructor, how active the participants contribute to discussions or activities, and how they interact with their classmates and whether they helped each other to comprehend complex concepts in academic reading. The researcher also noted the extent to which the participants reflect on their own understanding of the topic discussed. Next, the researcher introduced two themes: Active engagement and Passive engagement. Based on the coded data and observed level of engagement, the researcher supported her analysis with additional notes written in the matrix as well as researcher's field notes. While reading the data for thematic analysis, the researcher triangulated her observations with data collected from the interview session.

3.7.3 Researcher's Field Notes

In researcher's field notes, the researcher wrote the flow of the three flipped academic reading classes and students' dynamic while sharing their knowledge based on what they have learned independently prior to attend class. As suggested by Creswell (2013), researchers should use field notes to describe what researchers have observed and later to be read as evidence for their study. For this study, field note was used to support class observation checklist. Like observation checklist, the descriptive field notes include researcher's experiences, data collection that she did not capture while using the observation checklist as well as her reflections after each flipped academic reading session. The written descriptions allowed the researcher to access the participants' attitude towards academic reading in the real classroom setting. The researcher coded the data collected and arranged them according to the two themes developed: Active engagement and Passive engagement. The researcher triangulated the data from her field notes with class observation checklists and interview.

3.7.4 Reflection Log

At the end of the semester, participants were asked to write a reflection log on how decisions were made while they were reading academic materials as prior to the three fled academic reading classes. The reflection log is guided with constructs developed by Mann et al. (1997); with the intention to explore participant's decision-making styles based on decision-making skills and preferences in academic reading explored earlier. Similarly, the researcher repeated qualitative data analysis through coding process. Then, the codes we grouped into four decision-making styles suggested by Janis & Mann's (1997) Conflict Theory of decision-making. To support the participants' reflection logs, the researcher revisited the other three instruments for triangulation in her analysis.

After all the qualitative data are analysed across cases and instruments used, the researcher synthesized the findings from the nine cases to generate higher level themes using Thematic Analysis (Thomas & Harden, 2008) illustrated in Figure 3.4.

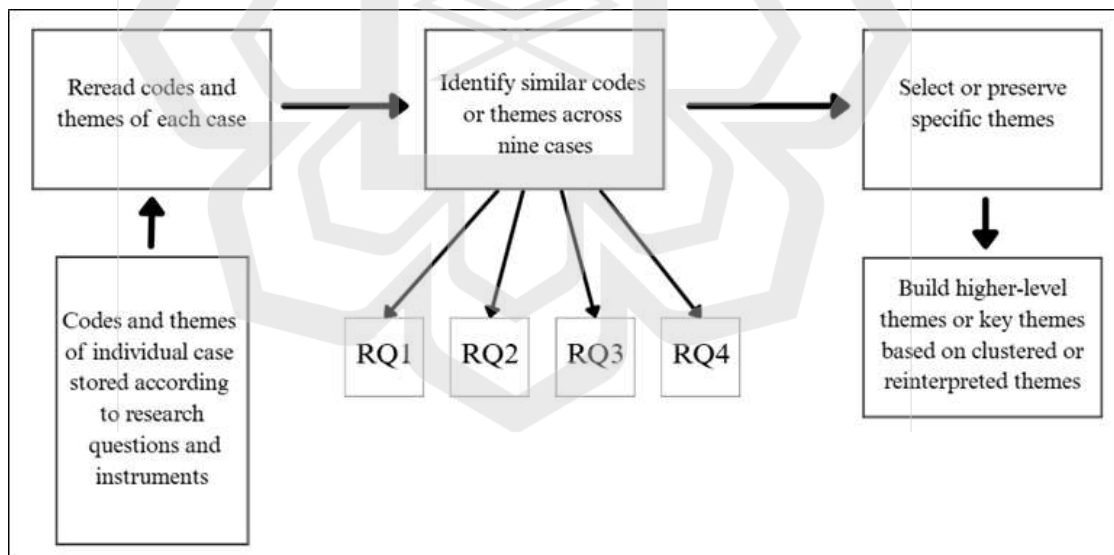


Figure 3.4 Thematic Synthesis for Cross-case Analysis

3.8 ESTABLISHING CREDIBILITY AND TRUSTWORTHINESS

Qualitative research is an inductive process by nature where it involves building theories or patterns from the data collected rather than testing existing models or theories. Qualitative researchers use this their data and look for patterns or regularities then formulate broader generalizations or theories based on their findings. Glaser and Strauss (1960) highlighted that inductive approach is essential for exploring new phenomena where existing theories are either insufficient or non-existent. Creswell (2013). Thus, in qualitative research, credibility and trustworthiness are foundational for producing reliable, and ethically sound research that often deals with subjective data such as personal experience, perceptions and behaviour. By establishing credibility and trustworthiness, the researcher ensures that the findings accurately reflect participants' realities and is not influenced by personal interpretations. This strengthens the research validity.

One of the ways to maintain these two aspects of qualitative research is to establish rigour in the research design and data collection, which includes developing well-defined research questions, selecting appropriate participants and data sources, rigorous process of research methodology, as well as data analysis (Creswell, 2014). Patton (2002) added that building trust with participants while ensuring their anonymity and confidentiality is also crucial as a step to maintain integrity. For the present study the researcher has taken several strategies to enhance credibility and trustworthiness of her research, such as through data collection over a designated time frame, interrater reliability, data triangulation, member checking, through peer review to challenge the researcher's insights and interpretations and audit trail.

3.8.1 Period of Time

The time frame of qualitative research is important as it allows the researcher to collect rich, detailed and contextually accurate data. Also, the extended time frame allows the researcher to build rapport with her participants (Creswell, 2014), study patterns over time and gain deeper understanding (Khalid Ahmed, 2024; Patton, 2002) of the context being studied. The researcher spent fourteen weeks with the

participants, a period that is equivalent to one semester of the TESL pre-university program. A period that is sufficient for the researcher's roles in the present study.

During the first two weeks of the designated time to conduct data collection, the researcher build rapport with the pre-university students assigned to her. For Week 3 to Week 7, she acted as the class instructor for the flipped Academic Reading course. Teaching and learning took place based on the topics outlined in the Academic Reading course, standardized for the whole program. In Week 3 prior to conducting the interview sessions, she received written consent from the participants. Then, the researcher conducted interview sessions following the interview protocol. The interview sessions were conducted out of class time, based on the participants availability. Then, the researcher proceeded with the three class observations between week 8 to week 12 according to the course information. As mentioned earlier, the researcher's observation took place only during the introductory session. Finally, between week 13 and 14, she conducted a session with the participants to fill in the reflection log in week.

It is important to note that that every week of the semester, the person in charge of the Academic Reading course held a meeting to discuss about the teaching and learning of academic reading. The discussion included discussion of course materials that will be shared for the following week, as well as sharing sessions on instructors' experiences on subtopics they have covered for the week. This was an excellent practice for the Academic Reading team to ensure standardization of teaching and learning for the course.

Figure 3.5 is the visual representation of the researcher's work within the fourteen weeks.

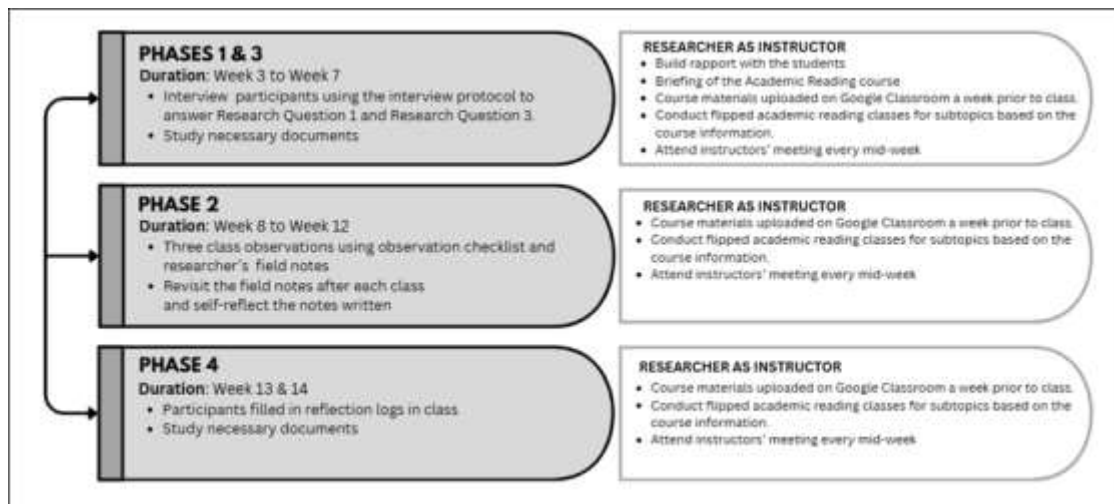


Figure 3.5 Period of Time for the Study

3.8.2 Member Checking

Next, the researcher returned the interview transcription to the participants for verification. This process is called member checking. It is one of the most important strategies for enhancing credibility of qualitative research (Lincoln & Guba, 1985, p.883). After the participants have read their interview transcript, they must give their consent through a digital form the researcher prepared using Google Form. This verification process is to ensure that findings for the study accurately represent the participants' perspectives and experiences. This verification process also helps to clarify any misinterpretations or misunderstandings, thus, allow the researcher to confirm the validity of the data gathered. Creswell (2014) argues this process is a valuable strategy to validate the interpretations made by the researcher. Thus, member checking procedure adds to the trustworthiness of the findings, ensuring the themes align with the participants authentic experiences and perceptions. Figure 3.6 illustrates the participants' verification for their interview transcriptions.

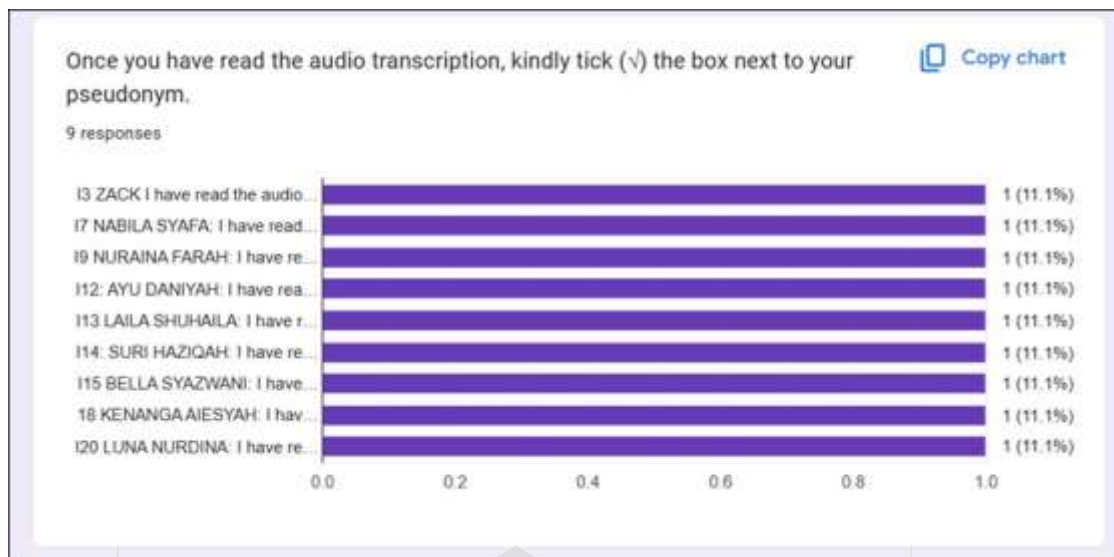


Figure 3.6 Digital Consent for Member Checking

3.8.3 Peer Review

Peer review in a qualitative study refers to the process of having another researcher or an acquaintance who was not involved in the study but shares the same knowledge and area of expertise to have an external check on the research process. This process is to ensure that the findings are not solely of the researcher's perspective. Maxwell (2013) asserted that peer review allows for the identification of hidden assumptions and biases that could otherwise undermine the objectivity and trustworthiness of the study. For the present study, during the Academic Reading meeting for instructors, the researcher took the opportunity to share her progress and findings with the team. Also, she referred to another researcher from a different university for discussion to challenge her interpretations.

3.8.4 Inter-Rater Reliability

In qualitative research, it is critically important that researchers can demonstrate how they translate data into findings and the readers have confidence that the findings represent the studied phenomenon. Within this urge, inter-rater reliability (IRR) plays an important role to improve the consistency and most importantly transparency of the

qualitative case study data in terms of the rigor of how constructs and codes were developed from the raw data (Cole, 2023).

The researcher has consulted six experts for inter-rater reliability. For this study, the instruments used were approved by three experts and themes developed were approved by another three experts. These experts are from different public universities in Malaysia. The two panels of experts and their areas of expertise are tabulated in Table 3.3 and Table 3.4.

Table 3.3 Panel of Experts for Instrumentation

	Department / Faculty / University	Areas of Expertise
1.	Professor from Language Academy Studies Department Universiti Teknologi MARA, Malaysia.	Educational Technology, Instructional Design, and Curriculum Development
2.	Associate Professor from Centre for Academic Leadership / Faculty of Education, Universiti Teknologi MARA, Malaysia.	Educational psychology
3.	Associate professor from Academic Assessment and Evaluation Division, The Office of the Deputy Vice Chancellor (Academic and International), Faculty of Education, Universiti Teknologi MARA, Malaysia.	Educational Technology, Alternative Assessment

Themes in this study were validated by the panel experts listed in Table 3.4:

Table 3.4 Panel of Experts for Theme Validation

	Department / Faculty / University	Rater score
1.	Associate Professor from Major Language Studies, University Sains Islam Malaysia	90.9%
2.	Associate Professor Language Academy Studies Department Universiti Teknologi MARA, Malaysia.	86.4%
3.	Senior Lecturer from Language Academy Studies Department Universiti Teknologi MARA, Malaysia.	90.9%

The inter-rater validation was important for the study to develop intersubjective consensus as suggested by Miles and Huberman, (1994).

3.8.5 Triangulation

Triangulation is a process that involves multiple data sources, methods or perspectives to confirm the research findings. Triangulation is the key to cross-check findings and ensure their validity. Denzin (1978) and Patton (2002) emphasize that triangulation helps mitigate bias by incorporating multiple data sources, methods or research ensuring that conclusions are reflective of the actual data and not shaped solely by the researcher's views. For this study, the researcher used methodological triangulation to analyze participants' decision-making while reading academic materials independently for flipped classes. Besides that, the researcher also used theory triangulation to see the relationship between Flavell's Model of Metacognition, Bounded Rationality Theory, Bloom's Revised Taxonomy and Conflict Theory of Decision-Making. Triangulation strengthens the overall rigor of a qualitative study by validating findings through different approaches ensuring they hold up under scrutiny (Flick, 2018).

3.8.6 Audit Trail

An Audit trail is a record of how a qualitative study was carried out and conclusions were made by the researchers. It is a transparent description of the steps taken throughout a research project, supported by a thorough collection of relevant documentation (Given, 2012). Carcary (2020) suggested that trustworthiness in qualitative inquiry could be established through developing a physical and intellectual research audit trail – a strategy that involves maintaining an audit of all key stages and theoretical, methodological, and analytical decisions, as well as documenting how a qualitative researcher's thinking evolves throughout a research process. For this study, *Atlast.ti* v24 software was used for analysis and as a cloud to keep her data. It was practical to use the software because retrieving documents and records was easy.

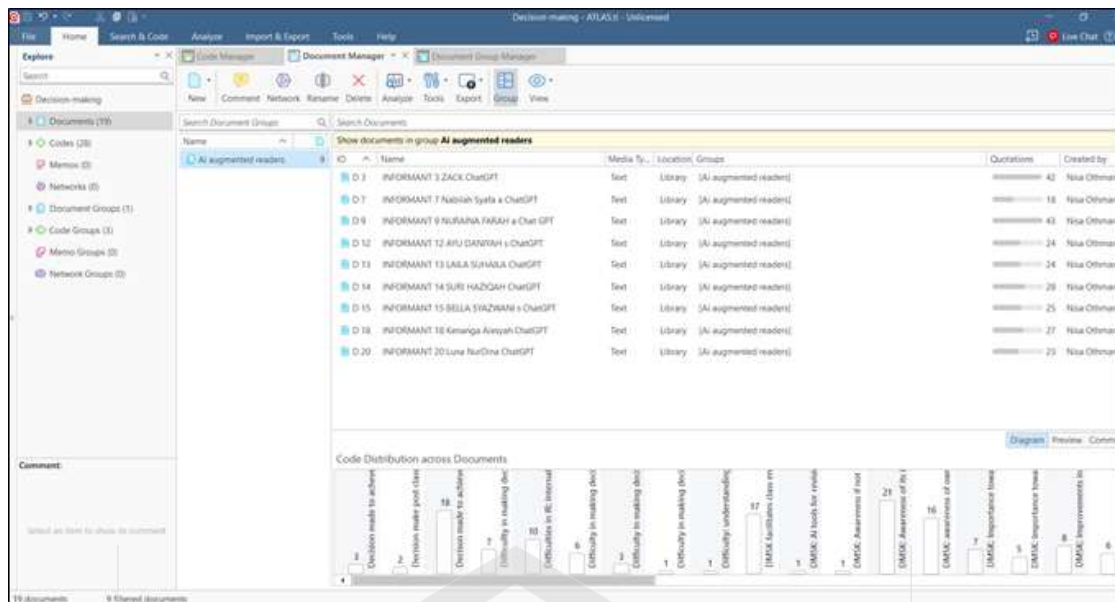


Figure 3.7 Visual representation of Atlast.ti v24

3.9 TRANSFERABILITY AND DEPENDABILITY OF THE STUDY

Transferability and dependability are two important aspects related to trustworthiness of a qualitative study, confirming the findings to be reliable, consistent and applicable to other contexts. Lincon & Guba (1985) explain that transferability emphasizes on the importance of providing thick descriptions of research context which includes the setting, conditions and participants involved. They further added that transferability involves the ability to transfer the research findings beyond the specific study to other similar groups or situations. The researcher did a pilot study to test the research questions and methods if both can be applied in actual research setting. Other than that, the researcher believed that understanding the actual research situation is important for the readers as she strongly believe that the findings are beneficial not only for second language learners and English instructors, but also for students from other disciplines who have to read English academic materials and references independently for flipped classes. Thus, providing detailed description is important to increase the transferability level of the study.

Merriam (2009) claims that even the study is repeated, dependability ensures that the research process and findings remain consistent. To increase the level of dependability or consistency of the study, triangulation method was used to enable the stability of data collected over time and conditions. To check dependability of the qualitative study, the findings were peer-reviewed by those who have the knowledge and experience in the research area.

3.10 CHAPTER SUMMARY

This chapter explains the research methodology that was employed for this study in detail. The qualitative case study approach was used to gain more comprehensive understanding of the phenomenon. The researcher has also thoroughly explained the context of the study, the sampling as well as unit of analysis involved. Two types of data collection were employed, descriptive analysis and thematic analysis. Possible ethical issues throughout the progress of this study were mentioned and addressed. Finally, credibility and trustworthiness of this study were elaborated through the strategies taken by the researcher.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 INTRODUCTION

This chapter presents the research findings attained based on the selected qualitative research method and instruments to respond to the four research objectives of this study which are highlighted and discussed in the previous chapter.

The findings are organized in the following sequence: first, the participants' demographic profiles focusing on their academic status and application of metacognitive reading strategies. This is followed by a case-by-case analysis then a cross-case analysis. The entire structure is designed to address the four research objectives, presented across four phases:

Phase One: Perception on decision-making skills during academic reading.

Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement.

Phase Three: The characteristics of academic reading materials

Phase Four: The decision-making styles in academic reading

To systematically and comprehensively collect clear data in all four phases, the researcher applied a reiteration procedure on ambiguous information and reached data saturation point during the process (refer Figure 1.3). The researcher, drawing on her knowledge and experience with guidance by her supervisory committee, organized the collected data into themes and subthemes for clearer understanding. The researcher followed three phases of qualitative data analysis: develop initial codes, cluster them into categories and build themes. The data analyzed were then reviewed repeatedly to identify relevant codes, which were then categorized into key themes based on literature as well as experts' discussions.

4.2 PARTICIPANTS' ACADEMIC BACKGROUND

For this study, there were nine participants involved. These participants are pre-university students who were in their second semester in a TESL foundation program in one of the public universities in Malaysia. They were selected based on the criteria of purposeful sampling suggested by Creswell (2014). Each of the participant was assigned with a pseudonym to protect their identities and to maintain confidentiality and privacy (Creswell & Poth, 2018). The nine pre-university students who volunteered were fondly referred to as Zack Ali, Nabila Syafa, Nuraina Farah, Ayu Daniyahh, Laila Suhaila, Suri Haziqah, Bella Syazwani, Kenanga Aiesha, and Luna Nurdina. The academic background of each participant focuses on 3 aspects: i. Grade for semester 1 semester 2 of Academic Reading course ii. The Malaysian University English Test (MUET) result and iii. result from the Survey of Reading Strategies (SORS) that measured the participants' metacognitive awareness and perceived use of reading strategies (Mokhtari & Sheorey, 2015).

4.2.1 Zack Ali

Zack Ali's grades in academic reading course improved from B+ in semester one, to A- in semester two, reflecting his effective choices of reading strategies to achieve academic reading goals during his second semester. As MUET scores aligns with the Common European Framework References (CEFR), Zack Ali's Band 4 in MUET indicates that he is an independent English user, CEFR B2. Based on his scores in the Survey of Reading Strategies (SORS) (3.8 – 3.9), this shows that he has high awareness of the strategies he uses in academic reading activities. He used a balanced approach across GLOB, SUP, and PROB strategies. The 3.9 score in PROB indicates that he as a strong problem-solving strategy, focusing on resolving comprehension challenges.

4.2.2 Nabila Syafa

Nabila Syafa scored B- in semester one for her academic reading course. She then managed to score an A in her second semester. She scored Band 4 in MUET which indicates that she is an independent English user, CEFR B2, according to Common European Framework References. With Survey of Reading Strategies (SORS) scores between 3.6 and 3.7 Nabila demonstrates high metacognitive awareness in academic reading. She somehow effectively uses support strategies which complements her consistency in global and problem-solving strategies. The improvement in her grade signifies careful selection in reading strategies and a focused effort towards academic goals.

4.2.3 Nuraina Fara

Nuraina Fara consistently maintained strong grades (A-) in the academic reading courses for both semesters, showed her ability to translate metacognitive reading strategies to her academic success. She scored Band 4 in MUET, which is equivalent to CEFR B2 in Common European Framework References. Among all nine participants, Nuraina Fara exhibits the highest metacognitive awareness with Survey of Reading Strategies (SORS) score above 4.0 across the 3 categories (GLOB: 4.3, SUP: 4.4, PROB: 4.3), an indication that she is advanced in choosing the strategies she used particularly in organizing and solving challenges in academic reading.

4.2.4 Ayu Daniyah

Ayu Daniyah scored B for academic reading course in semester one, and A- in the second semester. The improved grades indicates that her informed choices in reading strategies have helped achieve her academic goals. She scored Band 4 in MUET, which is equivalent to CEFR B2 in Common European Framework References which indicates that she is an independent English user. Her high scores for Survey of Reading Strategies (SORS) : GLOB (4), SUP (3.8), PROB (3.9) show that she effectively uses reading strategies to overcome comprehension difficulties.

4.2.5 Laila Suhaila

Laila Suhaila improved her academic reading grades from B in semester one to A- in the second semester. Her Band 4 score in MUET indicates that she is an independent English user (CEFR B2) according to Common European Framework References. Her SORS (Survey of Reading Strategies) high score across all three aspects shows that she has a strong understanding of task-demands and goal setting (GLOB 4). Scores for SUP (4.1) and PROB (4.1) revealed her consistent monitoring and selection of reading strategies, reflecting a balanced approach to improve her grades.

4.2.6 Suri Haziqah

Suri Haziqah showed strong academic consistency in academic reading; she scored A- for both semesters. For the Malaysian University English Test (MUET), she scored Band 4.5 (CEFR B2, independent English user). She scored high for Survey of Reading Strategies (SORS). Her GLOB score (3.9) indicates well-developed strategies to understand texts. Her SUP score (3.9) and PROB (3.7) reflects effective decisions and self-monitoring, enabling her to sustain strong academic performance for academic reading course.

4.2.7 Bella Syazwani

Bella Syazwani managed to improve her grades from B in the first semester to A- in the second semester. For the Malaysian University English Test (MUET), she scored Band 4. She is an independent English user (CEFR B2) according to Common European Framework References. Bella Syazwani scored slightly lower for Survey of Reading Strategies (SORS) although she is still in the 'High' category. Her GLOB (3.7) shows that she planned her academic reading carefully. Although her SUP (3.6) and PROB (3.6) are not as good, both reflect her capability to decide and adjust her reading strategies for academic success.

4.2.8 Kenanga Aiesha

Kenanga Aiesha showed a slight improvement in academic reading course. She scored B- in the first semester, and B+ in the second semester. She is an independent English user with CEFR B2 reflected in her MUET score, Band 4.5. Kenanga Aiesha scored slightly lower for Survey of Reading Strategies (SORS) although she is still in the 'High' category. Her score for GLOB (3.6) indicates that her focus on reading comprehension. Her scores in SUP (3.6) and PROB (3.7) highlights her ability to address challenges in academic reading, resulting in grade improvement.

4.2.9 Luna Nurdina

Luna Nurdina Improved her academic reading grades from B+ in semester one, to A- in semester two. She scored Band 4.5 in the Malaysian University English Test (MUET) which is equivalent to CEFR B2, an independent English user. Luna Nurdina is in the 'High' category for the Survey of Reading Strategies (SORS). Her GLOB score (3.7) reflects an understanding of how to set and achieve reading objectives. Her SUP (3.7) and PROB (3.7) scores show her ability to monitor reading strategies used as well as her understanding, contributing to her academic growth.

To have a better view of all nine participants, their academic background is tabulated as follow:

Table 4.1 Participants' Academic Background

Participants	Grade of academic reading course (Semester 1)	Grade of academic reading course (Semester 2)	The Malaysian University English Test	Survey of Reading Strategies (SORS)			
			(MUET)	GLOB	SUP	PROB	Level
Zack Ali	B+	A-	Band 4	3.9	3.8	3.9	High
Nabila Syafa	B-	A	Band 4	3.7	3.7	3.6	High
Nuraina Fara	A-	A-	Band 4	4.3	4.4	4.3	High
Ayu Daniyah	B	A-	Band 4	4	3.8	3.9	High
Laila Suhaila	B	A-	Band 4	4	4.1	4.1	High
Suri Haziqah	A-	A-	Band 4.5	3.9	3.9	3.7	High
Bella Syazwani	B	A-	Band 4	3.7	3.6	3.6	High
Kenanga Aiesha	B-	B+	Band 4.5	3.6	3.6	3.7	High
Luna Nurdina	B+	A-	Band 4.5	3.7	3.7	3.7	High

Referring to Table 4.1 above, the High-level performance in all Survey of Reading Strategies (SORS) categories suggests metacognitive maturity among the participants. The varied scores of GLOB, SUP and PROB in SORS represented in the table reflects individual strengths and areas of focus in apply metacognitive reading strategies, which all highlights their improvements in academic reading courses taken in 2 semesters. Each participant's decisions of academic reading strategies as seen in SORS score exhibit a strong alignment with Flavell's Model of Metacognition (1979) especially in the use of Metacognitive knowledge (planning and understanding task) and Metacognitive Regulation (monitoring and adjusting strategies). The participants' improved academic reading grades from semester 1 to semester 2 demonstrated their cognitive goals (Flavell's Model of Metacognition, 1979) have influenced their performance positively in academic reading skill course.

4.3 CASE BY CASE ANALYSIS

This section presents a case-by-case analysis of the nine participants' decision-making skills as they engaged in academic reading tasks given prior to real class time. This approach is a part of the flipped classroom model used in the Academic Reading course, aimed to ensure all TESL pre-university students read the materials given and independently engage in additional academic reading with the goal of fostering active engagement in the classroom. Then, the decision-making styles of these participants will be outlined at the end of this chapter, drawing on the decision-making skills each of them demonstrates.

The analysis is drawn based on participants' responses during the interview, in class observation, a guided reflection log, as well as the researcher's fieldnotes, all of which were used to identify emerging themes. The participants went through four phases to complete the cycle for this study. The first phase reported their perceptions on decision-making skills while reading additional academic materials independently. The second phase explored how the decisions made in academic reading during pre-class reading activities, facilitate their engagement in class within a flipped classroom approach. The third phase addressed the characteristics of preferred reading materials and the fourth phase highlights their decision-making styles in academic reading within a flipped classroom approach for the Academic Reading course.

The analysis began with transcribing the interviews. The transcriptions were then thoroughly reviewed multiple times, highlighting responses relevant to the research questions in this study. For this chapter, the researcher provides verbatims from the interview transcriptions to support the emerging themes. The themes were also supported by various evidences from the instructors' field notes and observation checklist to offer readers a clearer understanding of the themes that were explored in the four phases. In this section, the themes are organized according to each case aligned with the four research objectives.

4.3.1 Zack Ali

From the interview with Zack Ali, his responses show that he is a selective reader. Although he self-rated himself 7 as a reader, he acknowledged that he does not read much, but when he reads, most of his reading must be purposeful.

“Because I... I don't really read much, but if I read umm there may be something that I would like to find some information that I would like to gain knowledge or something” (DU4)

Even so, he also admitted that reading activities prior to class benefit him.

“I think... erm... the process of reading before you attend the class is really helpful for me because at least before I attend the class, I already know what I'm going to learn.” (DU8)

4.3.1.1 Phase One

Phase One: Perception on decision-making skills during academic reading within a flipped classroom approach.

Zack Ali claimed that the decisions he made while having to read academic materials independently had somehow helped him in some ways.

Theme: Clearer understanding of the topics.

“I think it improves a lot because I don't... I don't use... I don't really read right, but since I always came prepared to class... I think it I am getting better in understanding the context of the text.” (DU30)

“I think it's really important because the decision that I made when I was reading will affect my... my understanding in class. So maybe if I were, if I were lazy, I would just read it some... I'm not reading it properly, just... just read it once, but at least I would know, but then it affects my understanding in class when the lecturers are teaching.” (DU62)

Theme: To ensure the suitability of chosen materials.

“And of course, it's important because... If we were to read something that is not related, it will affect our understanding. So, I think when I'm deciding a reading material is really important so that we actually are able to read and gain the information that we really want to instead of ummm... gaining some other not really not related information.” (DU80)

Theme: Promote academic reading skills – Assist in memorization.

“And I think because if sometimes if the lecturer asks me and I don't know the answer. I, I never... I never regretted on reading because I think because of the mistake that I made when I cannot answer the answer, it makes me to memorize the answer and it helped me to always think about the... the answer.” (DU28)

Theme: Becoming an independent reader.

“Maybe making smarter decisions than last time because... last time I didn't... It's not that I don't read. I just rarely read... I just maybe... Just ask my friends. Or what about this? What about this? But this time actually independently read some of the materials that I found.” (DU76)

However, Zack Ali also shared that the decisions he had to make while reading academic materials independently was also quite challenging to him especially in choosing the right material.

Theme: Challenging.

Sub-theme: Vocabulary issues.

“Maybe it's sometimes to understand the words in the text. Sometimes the words might be... might be difficult, or maybe I don't really know what... what... what the topic is about.” (DU72)

Zack Ali's responses during the interview on decision-making skills while reading academic materials within a flipped classroom approach reveal significant personal growth as a reader although he faced challenges too. He did acknowledge that being aware of the decisions he had to make while reading independently enhanced his ability to achieve clearer understanding of the assigned topics.

4.3.1.2 Phase Two

Phase Two: Exploration on how decision-making skills during academic reading facilitate classroom engagement.

Zack Ali proudly explained that the decisions he made during academic reading prior to class, have made him more active in class.

Theme: Active class engagement.

Sub-theme: early preparation.

"...this semester my lecturer always uploads the Google Slides before the class, so it gives my classmates and me the opportunity to read before we attend to class. And due... due to the fact that we already have the... at least the basic knowledge, we tend to be more active because we are more familiar with the topic" (DU18)

The researcher also used an observation checklist; the Cognitive Rigor (CR) matrix (Hess, et al. 2009) to guide her observation on the participants understanding of the topics they were learning. It was evident that Zack Ali managed to grasp the concept learned during class without having the instructor to explain the topic in the beginning of the class. Zack Ali managed to explain, generalize and connect from a paragraph shared to come up with a complete sentence that represent an inference for the paragraph. This represents a deep understanding, where he has portrayed strategic thinking and reasoning in understanding the topic. ideas (Bloom's Taxonomy: Understanding; Webb's Depth of Knowledge: Level 3 Strategic Thinking/Reasoning). During the second class, while they were learning Inductive Reasoning and Deductive Reasoning, the researcher observed that Zack Ali managed to apply (Bloom

Taxonomy) the concept but based on the references given by the instructors as well as from his own readings. He followed the structure of Inductive Reasoning he had learned (Webb's Depth of Knowledge: Level 1 Recall and Reproduction). Zack Ali gave an example of a statement based on the learned structure. In the third class, using his own words, he explained the validity of Deductive Reasoning from a given paragraph, correctly. He also volunteered to answer a question during discussion; he managed to explained the structure of a paragraph, relate the structure to the concept learned and simplify his explanation using his own words (Bloom Taxonomy: Analysis; Webb's Depth of Knowledge: Level 2 Skills & Concept).

Through researcher's field notes written during the three class observations, it was evident that Zack Ali was able to respond to the instructor's questions and he managed to assist his classmates during in class discussions. In class, he showed interest towards the lesson and was able to respond correctly even during set induction. He looked comfortable and confident while participating in class activities during the flipped academic reading class.

4.3.1.3 Phase Three

Phase Three: The characteristics of preferred academic reading materials.

During the interview, Zack Ali was also asked about his preferences in reading academic materials. He highlighted a few aspects in choosing academic reading materials. He shared that when reading, he emphasized on the importance of engaging with topics that resonate with his personal interest.

Theme: Topic of interest.

"Maybe some something, something that interests me. Yeah, the topic. Something that I can relate or that I would like to know." (DU52)

Zack Ali also claimed that he is a visual learner, hence his preference for highlighted key points reveals his inclination towards structured and easily digestible information.

Theme: Highlighted keywords.

“Maybe some written text they... They maybe highlight... highlight some of the keywords or important points. And I think for a visual learner like me, those highlights or even mind maps are really helpful for me to remember the information in the texts.” (DU66)

Furthermore, Zack Ali explicitly mentioned that he does not prefer to read text, hence his reliance on multimedia references shows that he can absorb information easily when it is presented in short and engaging formats.

Theme: Multimedia references (videos).

“I think I'll maybe just look it up on Google and if there are a video or something, I would just click the link and see it. And I also sometimes just search for some information in TikTok. Yeah, TikTok is really helpful for me, I think. Because I, I don't like reading no longer text, so I just watch videos sometimes.” (DU46)

4.3.1.4 Phase Four

Phase Four: The decision-making styles in academic reading within a flipped classroom approach.

Zack Ali's guided reflective log analysis showed that he is a hypervigilant reader. He wrote that he would feel pressured having to read additional materials apart from the materials given by the instructor because he was afraid that he might miss useful information. Zack Ali was also well aware of his own mood while he was reading. He wrote that he will not let his current mood affect his decisions while he was reading, hence, choosing information or reading materials was not an issue for him. He added that while he was reading, he managed to overcome difficult decisions while reading and did not feel pessimistic about it because he is confident with the materials he has chosen to assist his comprehension of the assigned topics. He also added that after a decision is made while reading independently, he spent a lot of time convincing himself that he had made the right decision which he believed was important.

During the interview, Zack Ali was asked about other decisions he has made to ensure that he is satisfied with the readings prior to attending class. He shared that he decided to use ChatGPT to assist him further in reading comprehension. He claimed that having an Ai tool to assist him in reading comprehension has helped in better reading comprehension within the short period of time given before he attended classes. His decision on using Ai tool in reading is rooted from the preference of reading short text, avoiding cognitive overload while still manage to achieve the objective of the academic reading activities. In time-sensitive situations like reading academic materials for flipped classrooms, Zack Ali prioritized speed and relevance over depth and comprehension.

Theme: Ai augmented reader.

Sub-theme: Text simplification.

“...I don't really like reading long texts, so maybe I just search for something in ChatGPT to search for the points OK that I would like to know...” (DU12)

“...because I don't need to actually read long text. I just need to search and type in the information that I want to know. Then the Ai will point you will give me points about the information.” (DU14)

Also, using an Ai tool reflects his needs to read faster while still ensure the credibility of the sources.

Sub theme: A search engine.

“I often used AI before I do any research online and I took what I got from AI to start my research so that I know where to get my references.”

4.3.2 Nabila Syafa

Nabila Syafa rated herself as an average reader.

“I would rate myself... a 5 maybe. Because me, myself, I'm not really a reader. I don't really enjoy reading. So that's why I use ChatGPT.”
(DU4,6,8)

However, although she did claim that she does not enjoy reading, she strongly believes that independent reading before real-class time is beneficial.

“Yes, absolutely. I think it's really helpful since we're going to learn because obviously the lecturer's gonna ask you some questions about it. So... reading before the class really helps to comprehend the topic, even more, yeah.” (DU24)

4.3.2.1 Phase Once

Phase One: Perception on decision-making skills during academic reading within a flipped classroom approach.

According to Nabila Syafa, the requirement of independent reading activities before class contributed to her lack of confidence in choosing academic materials she has to engage with prior to real class-time.

Theme: Challenging.

Sub-theme: Not Confident.

“Because I do make a lot of mistakes. So, it eventually like really triggered me if, am I doing this right or wrong. So, I'm... it's like I'm scared, basically. So, I'm not that confident in decision-making, yeah...” (DU168)

Despite her lack of confidence, she acknowledged that making choices while she was reading for flipped academic reading classes is important for her critical thinking. Nabila was aware of her cognitive processes and she acknowledged the need to engage in higher order thinking skills. Such awareness is important suggesting that although her confidence might be lacking; she possesses the foundational understanding to improve her choices through practice and support while learning academic reading skills.

Theme: Promote critical thinking.

“You have to make decision; you have to come up with a conclusion when you read. So, either way or how you come up with your decision, after you read obviously you have to come up with a conclusion. So, it is important...” (DU170)

4.3.2.2 Phase Two

Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement.

The struggle she had during independent reading is evident during real class time. During the interview, she explained that although she has read the materials before class, the lack of comprehension has led her to a more passive role during class-time.

Theme: Passive class engagement.

Sub-theme: – poor comprehension.

“Some of them do, um... I think really, read before class, but most of them I think are like me as well, they don't really comprehend the topic really well.” (DU34)

In the interview, Nabila Syafa further explained that another reason for her passive engagement is partly due to her preference to work independently and the feeling of discomfort she had with group activities. Such personal preference contributes to a tendency to disengage from collaborative classroom environment, a classroom environment believed to benefit students, as suggested by the flipped classroom approach.

Sub-theme: Personality.

“Um... in terms of reading by myself, I don't really, uh... care that much because I love reading by myself. If my lecturer asks me, uh... do in groups of two, do in groups, I prefer to be alone... I... I tend to... if my lecturer asks me to do in groups, it gets me really, um... it triggers me. I don't really like it. Yeah...” (DU36,38)

Through the researcher's field notes, Nabila Syafa was absent during class observation due to health issues. However, since the researcher has been with her since the first week of the semester, it was evident that her engagement in class was a reflection of her attitudes. She performed better working individually than working with the classmates. The disengagement and discomfort she felt did not hinder her progress in academic reading classes.

4.3.2.3 Phase Three

Phrase Three: The characteristics of preferred academic reading materials.

When the researcher asked about her preferences in choosing academic reading materials, she expressed that using visual aids helped her in academic reading while she was independently. This indicates that graphical representation allows her to see relationships between ideas clearly and quickly.

Theme: Mind maps.

“I prefer visual like, um... mind map.” (DU136)

She also expressed that she prefers short texts, which are more digestible as compared to long paragraphs.

Theme: Short text.

“I... I just read, and then look for the like simpler notes instead of like, this big paragraph.” (DU136)

4.3.2.4 Phase Four

Phase Four: The decision-making styles in academic reading within a flipped classroom approach.

The researcher's analysis on Nabila Syafa's guided reflective log reveals that she is a hypervigilant reader. She would feel tremendous pressure when making decisions while reading additional materials because she was unsure if the materials that she has gathered on her own were relevant to the assigned topic. She added that she her decisions in reading academic materials can abruptly change due to the possibilities of small issues occurred during the reading process. She is pessimistic when choosing relevant academic reading materials because she had the tendency to think that what she has read might be wrong and cause embarrassment in class. After a decision is made while reading, Nabila Syafa shared that she had to spend a lot of time convincing herself that the reading references chosen were correct and relevant because she believed that she cannot think straight while making decision in a time-sensitive situation.

During the interview, she was asked about other decisions made that have assisted her in comprehending the assigned topics. She shared that ChatGPT has assisted her in the reading process. As a hypervigilant reader, adding Ai tool to her reading skills has helped her to avoid full text reading due to perceived effort. Hence instead, she opted for Ai assistance.

Theme: Ai augmented Reader.

Sub theme: Text simplification.

“And then ChatGPT will like, blurt out like some main points, but I don't take all of it, I just take the main points and just elaborate myself. For my understanding.” (DU70)

“I do read texts before. If I don't really understand it, then I use ChatGPT.” (DU72)

Sub-theme: Ai generated information.

“I really need to like search it online, use ChatGPT to compare, like more notes, the better for me.” (DU126)

4.3.3 Nuraina Fara

During the interview with Nuraina Fara, she told the researcher that she saw herself as a good reader but she has a selective reading habit.

“I would rate myself an 8. Because uh... I don't actually really read um, outside for my class actually. But um in reading class I'm more interested in reading the topics given.” (DU2,4,6)

When she was asked about her opinion learning academic reading within a flipped classroom approach, Nuraina Fara's responses during the interview shows that she was heavily dependent on the instructor to learn the assigned topics on academic reading skills.

“For what I um...understand, I'm afraid that what I've learned or I understand what the topic is actually wrong from uh... the right path, so I think um... the lecturer has to uh... guide me in understanding more on the topic.” (DU32)

4.3.3.1 Phase Once

Phase One: Perception on decision-making skills during academic reading within a flipped classroom approach.

Although Nuraina Fara has the tendency to depend more on the instructor, she acknowledged that the informed decisions she had to make while reading, benefits her comprehension in class.

Theme: Clearer understanding of the topics.

“Oh yes, because uh... when I entered the class, um... the... when we start doing the discussion, and there uh... that time, uhm... it finally clears up on what um... the question that always comes to my mind when I don't understand before uh... the class.” (DU18)

She also shared with the researcher that being aware of the need to know what to choose while doing reading academic materials, have also helped her in other subjects. This suggests that her decision-making skills in reading gets better once the initial uncertainty is resolved through the collaborative environment she had in the flipped academic reading classes.

Theme: Ability to apply to other subjects.

“Oh yes, for grammar. I can see that, yes. Cause um... before I attend to class, um... I have to acknowledge the terms that, eh the... the topic that we are going to learn before the class like um... past perfect... past perfect, um... present perfect, I have to do more practices before I come to class so that I can answer this... the lecturer's questions, when they ask me.” (DU36)

“...but also, it helps me to maybe outside from the academic reading when I want to um... search for articles or uh I want to read newspapers. Um... I can use the techniques... To apply it in other subjects.” (DU102, 104)

While acknowledging the fact that decision-making skills in academic reading has also helped Nuraina Fara in other subjects, she has also realized the need to be an independent reader.

Theme: Becoming an independent reader.

“Hmm. Yes... yes, um... because we cannot usually depend on our uh... lecturer to give us uh... materials. So, um... yeah, we have to uh... be independent.” (DU14)

Nuraina Fara emphasized that having to consciously select relevant materials and information while reading before she attended every academic reading class, highlights the importance of not wasting time on irrelevant academic reading materials.

Theme: Ability to work within the time frame.

“Yes, it's important, because, uhm... We have to acknowledge... Hmm. Because we don't want to waste any time on things that insignificant for us... while reading.” (DU210)

During the interview, Nuraina Fara mentioned that skimming and scanning academic reading materials before class is the improvement she noticed in her independent academic reading activities before she attended classes.

Theme: Promote academic reading skills – Skimming & scanning.

“Oh. Yeah, yeah, I can see that myself that from uh before I come to class, I will force myself to uh... skim and scan um before class because last sem I don't really do that cause um... the lecturer doesn't, didn't ask us to do so. So, I think that's the improve... improvement.” (DU34)

4.3.3.2 Phase Two

Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement.

The researcher asked if the choices Nuraina Fara had made while reading independently has help her engage in class, she shared that personally she tried to respond to class discussions, and this scenario was also evident among her classmates. She claimed that the decisions she made during reading prior to class has benefited her.

Theme: Active class engagement.

Sub-theme: knowledge sharing.

“Um... when a lecturer asks us to discuss and elaborate more about the topics in class, um... I tried to uh... give my opinions about the topic uh, that we are discussing on that time. So, I think um... my engagement in class is um... quite OK.” (DU22)

Sub-theme: motivation.

“Uhm... this semester I... I'm quite um... impressed uh... with my classmates' engagement in class because uh... I can see uh... the faces that always try to volunteer in um... giving their opinions and what they understand um... about the topic.” (DU24)

Sub-theme: Promote collaborative learning.

“From the last class, uh... last week my... my friends who sits next to me, she... she doesn't have the time to um... uh... skim and scan uh the slides before. So, uhm, she had no clues about what happening, so I teach her, I... I give explanation about what is premises, what I understand about what is premises, what is inference, what is conclusion. So, she already gets the idea and oh OK. That's very helpful.” (DU116)

“...it's actually um... comes from everyone in the class to read before the class, because uh... if only you who reads, if uh only you who the person who reads uh the material but not your classmates, then you cannot get the engagement and you cannot get the vibes of uh learning the topics um, uh, on that day.” (DU144)

During class observation, the researcher noticed her efforts participating in class activities. While the whole class was discussing a few questions on the topic ‘Making Inferences and Drawing conclusions’, Nuraina Fara volunteered to answer the second question posted by the instructor and she managed to justify her answer correctly. Her answer represents her ability to apply the concept she had learned independently and apply to an unfamiliar task (Bloom’s Taxonomy: Apply; Webb’s Depth of Knowledge: Level 1 Recall & Reproduction). During the second class, while they were learning Inductive Reasoning and Deductive Reasoning, the Nuraina Fara responded to the fifth question during the session. She managed to justify and explain the structure of the sentence. To show her understanding and application of what she had learned, she used her reasoning skills and evidence to justify her answer (Bloom’s Taxonomy: Apply; Webb’s Depth of Knowledge: Level 3 Strategic Thinking / Reasoning) by pointing out the structure of a paragraph that led to her correct answer. However, this time she did not volunteer; she was called by the instructor. In the third class, Nuraina Fara did not respond to any questions posted by the instructor. But the researcher observed that she was actively engaged in discussions with her friends.

During the three class observations, the researcher noticed that Nuraina Fara displayed her ability to apply concepts that she has learned independently to unfamiliar tasks given in class and managed to effectively justified her answers during class discussions. Her active engagement in peer discussions is evidently demonstrated through her commitment in collaborative learning even when she did not volunteer responses during in class activities with the instructor.

4.3.3.3 Phase Three

Phrase Three: The characteristics of preferred academic reading materials.

When Nuraina Fara was asked about her preferences on academic reading materials, she has a tendency towards choosing short texts and information presented in bullet points as they are less over-whelming and more immediately digestible.

Theme: Short texts.

“OK. I... I usually like to read, um... a short paragraph rather than long paragraph. Because I think more words uh... let me feel more sleepy.” (DU70)

Theme: Bullet points.

“...when I click one if um also I when I see long paragraph then I will not choose that website... will just choose where it gives me just a bullet point.” (DU186)

4.3.3.4 Phase Four

Phase Four: The decision-making styles in academic reading within a flipped classroom approach.

Nuraina Fara's guided reflective log explains that she is a vigilant reader. Her decisions in reading were based on evaluation of available alternatives. In her log, she shared that she considered all the alternatives she found in her reading because according to her, not all materials are useless, they may also give little useful information. While reading, she also considered the disadvantages of alternatives she found in her reading as a way for her to remember the knowledge better – by looking for the disadvantages. Nuraina Fara is a reader who is clear with her reading objectives before she engaged in reading. To decide on the best information or supporting reading materials for reading comprehension, she would give full effort in finding materials from different platforms such as Google for definitions, Tiktok for explanations, and Youtube for detailed explanations. She wrote that she had to truly

understand the reading `purpose to make sure that she could avoid gathering irrelevant materials and to ensure she is on the right track. When she had difficulties in reading, she would try to keep her thinking positive until she could find a good solution. While finalizing the reading materials or information, she was so careful in her choices to avoid upcoming misunderstanding during in class discussion.

In the interview with Nuraina Fara, the researcher asked her about other decisions that have helped her to solve her issues in reading and to better understand the assigned topics. She mentioned that ChatGPT has been a valuable tool in academic reading process, it took the role of a ‘teacher’ for her. Nuraina Fara also shared that she saw improvements in her reading skills since she started Ai assistance in reading.

Theme: Ai augmented Reader.

Sub-theme: Ai generated information.

“AI tools is very um... helpful for me because from there, if I want to save more times, um... rather than I skim and scan or maybe browse through the websites, I will just go to ChatGPT and ask questions like um... maybe I don't understand about the topic of inductive and deductive.” (DU78)

“So, I will try, uh... what is inductive? Um... the phrase and then when I send it, the ChatGPT will just give me um... plenty of explanations. (DU80)

“About the definition of inductive... inductive and then if I still not feel satisfied with the answer that the ChatGPT gives the I would type more, more and it will give more detailed explanations.” (DU82)

“Sometimes uh... ChatGPT gives me new and fresh ideas about uh... the topic, where actually it is out of... of my uh, perspective. So, I think it gives me new perspectives about the topic and can, I can understand more.” (DU86)

“I will ask for elaborations. Cause uh... ChatGPT is my second uh teachers actually? Uh. The first one is obviously the teacher, so, but our teacher is can, cannot, they cannot be with us 24 hours. So, when I want to ask for confirmation about my answer then I will use ChatGPT.” (DU98)

4.3.4 Ayu Daniyah

In the interview with Ayu Daniyah, she rated herself as an average reader as she believed that she has better English language skills in speaking than the other three language skills.

“I would rate myself as a reader, maybe a 6. Because I believe that as any... um English learner students like the... we have writing, we have like, reading and also like, listening and speaking. I’m more prone to umm... I’m more prone to doing better in speaking instead of reading and writing, listening.” (DU2,4,6)

When the researcher asked about flipped classroom her response was,

“By reading... if by reading the lectures notes and slides before going to class. I don’t think... the comprehension level towards the topics would be difficult to understand.” (DU12)

4.3.4.1 Phase Once

Phase One: Perception on decision-making skills during academic reading within a flipped classroom approach.

In the interview, Ayu Daniyah shared that her practical decisions had help her in other subjects like academic writing. Within the constraints of her assignments, her strategic decisions guided her to select topics that align with her strength and interest.

Theme: Ability to apply to other subjects.

“Every time like, we have to do... pick... we have to pick a theme in our writing assessments. So technically we do have to read articles and I think I’m more prone to picking problems in education. Because, yeah, it’s very easy for me and it’s for me... it’s very interesting when you can learn about like the cultures in education and what’s not.” (DU78)

Ayu Daniyah also mentioned that having to make her own decisions to explore beyond what the instructor has shared prior to class, exposed her to the different structures of texts.

Theme: Promote reading skills.

Sub-theme: Increase the ability to identify structure in texts.

“I think when reading academic materials, one thing I’ve learned is to separate... separate based on the based on the themes, for example. It... it may be separated in ways, methods, disadvantages.” (DU90)

During the interview, it was clear that Ayu Daniyah’s decisions while reading academic material was rooted from the challenges she was facing while reading academic materials which was the structure of texts.

Theme: Challenging.

Sub-theme: Structure of reading text.

“Engaging with the text, I think trying to find the... trying to find the main ideas and sometimes the comprehension level, yeah.” (DU82)

4.3.4.2 Phase Two

Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement.

Ayu Daniyah admitted that her participation in class was passive due to her personality. This is a reflection of the statement she had mentioned earlier that she preferred to be guided when learning academic reading in class.

Theme: Passive class engagement.

Sub-theme: personality.

“I would say my engagement in class is very passive... because sometimes I, as I said just now, I am very unconfident in myself because I feel like, what if the answer I'm about to give is wrong?” (DU16)

However, she did notice that other classmates were actively engaged during class.

Theme: Active class engagement.

Sub-theme: Good comprehension.

“So sometimes I just... I learned when my friends are giving answers and their opinion, I would jot down and yeah that's how it works. Because for me it does actually help for the view and from others perspective and whatnot.” (DU16)

“Yeah, some students, some of my friends are very actively engaged during the class. Umm, yeah.” (DU18)

While observing the class, the researcher noted that Ayu Daniyah was quite passive in class. In the first class while they were learning a topic on ‘Making Inferences and Drawing Conclusion’, she was called to answer the last question since the instructor noticed she was quiet. Ayu Daniyah managed to answer the question and justify her answer. She followed the learned concept and apply it to an unfamiliar task given by the instructor in class (Bloom’s Taxonomy: Apply; Webb’s Depth of Knowledge: Level 1 Recall & Reproduction). During the second class, while they were discussing ‘Identifying Inductive & Deductive Reasoning’, She responded to the first question in the second activity. Ayu Daniyah managed to explain why the given passage is a non-argument passage through the structure of the text. She correctly analysed the passage reflecting Bloom’s Taxonomy: Analyze and Webb’s Depth of Knowledge: Level 2 Skills & Concept. In the last class session, Ayu Daniyah did not respond to any question posted by the instructor. She was more observant to the discussion and answers given by her classmates. However, she did engage with peer

discussion with her classmates. During the three class observations, Ayu Daniyah showed her struggles in trying to engage in class activities. A lot of the time was spent on note-taking from information shared by her classmates and the instructor.

4.3.4.3 Phase Three

Phrase Three: The characteristics of preferred academic reading materials.

Ayu Daniyah prioritized content accuracy when it comes to selecting materials, that indicates that she monitored the quality and reliability of information which is important in academic context.

Theme: Content accuracy.

“And I think I’ll also pick based on the content accuracy...” (DU44)

Also, she shared that while selecting academic reading materials, she considered the language complexity and balanced this against her comprehension level. This indicates a self-regulated approach to academic reading as she avoids texts that are too challenging.

Theme: Language level.

“...and sometimes it's on language level too.” (DU44)

Ayu Daniyah said that she prefers texts that are not too short nor too long because she sought to optimize comprehension while avoiding cognitive overload at the same time. Her responses about overly short texts being “too simple” highlights her needs for depth to grasp concept effectively.

Theme: Short texts.

“It's not that short because if it's that short, it's too simple. I would be confused because there's no further explanation to that, but not too in-depth where it's too long, so it's just not that short and not that long.”
(DU42)

4.3.4.4 Phase Four

Phase Four: The decision-making styles in academic reading within a flipped classroom approach.

The analysis of Ayu Daniyah's guided reflective log revealed that she is a hypervigilant reader. She would feel pressured just thinking about the reliability of the reading materials while she was reading independently. She could also easily be doubtful with the choices she has made while reading if she is distracted. She shared that when she came across a difficult decision in reading, she felt pessimistic in finding a good solution due to her self-doubt in reading skills. She also shared that she would spend a lot of time convincing herself that her choices in reading to achieve comprehension were correct because of the fear of judgement by her surroundings. Ayu Daniyah has issues making decisions in a hurry hence she doesn't like to be rushed in reading academic materials because she felt that the points she gathered while reading would be disorganized.

Ayu Daniyah informed the researcher that she decided to use ChatGPT to solve her reading issues. She said that simplifying text using ChatGPT has helped her in reading comprehension.

Theme: Ai augmented reader.

Sub-theme: Text simplification.

“Umm if the... if the text is too lengthy, honestly, I would use the ChatGPT itself to summarize the text... um accurately, of course. Summarize the text and then match it with the text that I summarized, and then I read it again and then I can finally understand what's the text about.” (DU54, 56)

4.3.5 Laila Suhaila

Laila Suhaila believed that her attention span is quite short causing her the urge to finish her reading activities quickly. Due to the same reason, she rated herself as an average reader.

“I think I would rate myself between 5 to 6. Because... when I read something that is very long especially long texts, I don't find myself focused, uh... reading that text, cause my mind is like, I wanna finish this as quick as possible.” (DU 4,6,8)

Her opinion about flipped classroom:

“... somehow it also helps me um... later, when I come to class, I already know about what is going to uh... be discussed in the class” (DU16)

4.3.5.1 Phase Once

Phase One: Perception on decision-making skills during academic reading within a flipped classroom approach.

During the interview with Laila Suhaila, it was evident that she took full responsibility of her own progress in academic reading skills by carefully selecting reading materials she deemed beneficial. She thoughtfully evaluates her choices in reading to ensure they positively contribute to her skills in academic reading.

Theme: To ensure the suitability of the chosen materials.

“Um... yes, because I am the one who chose the... the topic, so I am expecting that these materials that I have chosen uh... can be beneficial for me.” (DU184)

Also, Laila Suhaila valued the time spent in class. Thus, decisions made while reading independently before class was important for her to prioritize readiness and organization so she can participate in class.

Theme: To be able to work within the time frame.

"I need to be prepared before going to class, I feel like um, I don't want to waste other people's time. I want to be, included in class, so I have to prepare." (DU190)

Laila Suhaila recognized that the information and materials she selected can shape her understanding and influence her thinking processes. She valued the role of critical thinking while learning academic reading skills.

Theme: Promote critical thinking.

"I think it is important... Because it is something that you read. And the information that you read will influence the way that you're thinking and the way that you understand the materials." (DU220)

"Making decisions... I think it's useful because... mmm... because later on we're going into degree, right? So, um... reading could be more challenging. And being able to make decision in choosing a reading materials is important." (DU226)

However, Laila Suhaila also felt that making decisions while independently reading academic materials was somehow challenging for her.

Theme: Challenging.

Sub-theme: Lack of guidance from the instructor.

"I find it mmm... quite challenging (in terms of comprehending the topic before attend class) Because I want to hear from the lecturer. I want to... uh, the information I want to have lecturer's... um... information. I wanna hear it from lecturers." (DU20)

4.3.5.2 Phase Two

Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement.

Laila Suhaila made it clear that although believed that her choices while reading independently benefits her in many ways, her engagement in class was still highly dependent on the instructor. She believed she was passive in class, expecting more input from the instructor.

Theme: Passive class engagement.

Sub-theme: Highly dependent on instructor.

“Like I said before, I prefer to hear it from my lecturer.” (DU188)

In the first class while they were learning ‘Making Inferences and Drawing Conclusion’, the researcher noticed that Laila Suhaila did not respond to questions posted in class. The researcher noticed that from her gesture, she was very observant to what was shared by the instructor. During the second class when they were learning ‘Identifying Deductive Reasoning, Inductive Reasoning, & Assumption in Arguments’, she was called by the instructor to answer question three during the first in class activity. She managed to answer the question correctly by explaining the structure of the paragraph to identify the premises and conclusion. In her own words, she gave reasons and justified with evidence which showed that she applied what she has independently learned, to an unfamiliar task (Bloom’s taxonomy: Apply; Webb’s Depth of Knowledge Level 3: Strategic Thinking / Reasoning). Similar to the first class, in the last class while they continue to learn Identifying Deductive Reasoning, Inductive Reasoning, & Assumption in Arguments, Laila Suhaila did not respond to any questions posted by the instructor, however she was observant to responses given by others during the in-class discussion and activities.

The researcher's field notes for all three classes showed disengagement in Laila Suhaila during class activities. Her attention was more on the lecturer than the responses from her classmates. She did follow through the collaborative learning activities planned by the instructor, but she was more of on the receiving end; observing than contributing to the dynamic of the collaborative learning.

4.3.5.3 Phase Three

Phrase Three: The characteristics of preferred academic reading materials.

Laila Suhaila prioritized accuracy in the materials she has selected to read, indicating a focus on reliable and credible sources. She evaluated her choices through the quality and trustworthiness of the content to ensure it aligns with what has been assigned by the instructor.

Theme: Content accuracy.

"I will... I will choose the content, that is... accurate." (DU110)

Her preference for familiar and interesting topics reflects her motivation to engage with materials that resonate with her existing knowledge.

Theme: Topic Familiarity.

"... and...topic familiarity. Because, something that is, um... something that I am interesting... interested in. Yeah." (DU118)

4.3.5.4 Phase Four

Phase Four: The decision-making styles in academic reading within a flipped classroom approach.

Based on Laila Shuhaila's guided reflective log, she is a vigilant reader. She considered all the alternatives she found while reading independently because according to her she likes to think of other ways to understand what has been

assigned. She said that she would look at both advantages and disadvantages of the alternatives she has before she makes a final decision while reading. She was very clear with the reading objectives because she loves to also read unnecessary and fun information related to the assigned topic like ‘fun facts’. Then, she would redirect her reading and decide the most relevant to the objectives of her reading. She believed that the decisions made were carefully done because she felt that it is important for her to have meaningful reading experience. Laila Shuhaila shared that on top of being really careful in the choices she made while reading academic materials, using an Ai tool had also helped improve her reading skills too.

Theme: Ai augmented reader.

Sub-theme: Ai generated information.

“I use it to understand the content of the reading materials. And I use it to... to understand meaning? Mmm... I give my opinion too.” [DU140]

“Talking to ChatGPT about the text helps me understand it better. When I share my thoughts, it gives me explanations and different viewpoints that I might not have considered. It also breaks down complicated ideas, which makes things easier to follow.” [IV2, DU2]

“I think it helps with reading skills too! especially when I get stuck, ChatGPT explains things clearly, which helps me understand better and feel more confident when reading” [IV2, DU4]

4.3.6 Suri Haziqah

Suri Haziqah rated herself as a good reader although she claimed that her attention span is quite short; she believes reading complex texts in one sitting bores her.

“Um... 7. Because I can’t read a whole text in one sitting. But I might get bored if, uh... if the text is too complex for me.” (DU2,4,6)

When asked about having to read before the real class-time, Suri Haziqah said the independent reading activities were beneficial for her as the lecture notes given have assisted her to read more as a preparation to attend class.

“I think it is helpful to me because uhm... since my lecturer provided us with many kinds of materials. Hmm. For the learning, I could take uh one of them as a... as an example for me to look out for my additional reading material.” (DU8,10)

4.3.6.1 Phase Once

Phase One: Perception on decision-making skills during academic reading within a flipped classroom approach.

During the interview with Suri Haziqah, she recognized that when she had to thoughtfully select additional reading materials, she saw improvements in her comprehension during class.

Theme: Clearer understanding of the topics.

“But uh... as I familiarize myself with the topic with the (selected) additional materials, when I am in the lecture, I think I get to understand better.” (DU22)

She also shared that as she is now well aware that decision-making skills are transferable skills that can benefit her across various context, both in academic reading and non-academic reading context.

Theme: Ability to apply to other subjects.

“So, I think when reading, when I apply a lot of skills in reading, it also could help me to read non-academic uh... reading materials better.” (DU128)

She added that her realistic decision-making skills she practiced influenced her motivation and enjoyment in reading.

Theme: Motivation to read.

“So, I will enjoy reading as a hobby better.” (DU128)

However, while reading independently, Suri Haziqah was also aware that she had issue in choosing the relevant topics or materials from the Internet, which highlights the challenges of navigating vast information sources.

Theme: Challenge.

Sub-theme: Difficulty to find suitable materials.

“Umm... I think just like I mentioned earlier, maybe it's uh... the topic suitability. Maybe there, even though the Internet is wide, but there are still some things that couldn't be found online because it may not suit the uh, the topic specifically.” (DU134)

4.3.6.2 Phase Two

Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement.

Suri Haziqah admitted that she engaged better with peer while in class as compared to answering questions from the instructor.

Theme: Active class engagement.

Sub-theme: Promote collaborative learning.

“I think with the lecturer I didn't engage much because I'm scared of answering, but with my uh... friends, I always ask them uh... if they do research about this topic and what... what did they find.” (DU24)

“I think if I'm sharing one to one, uh... it is better than last semester but in terms of sharing it in front of the class, I think it... it's not changing.” (DU30)

Suri Haziqah said that she has the motivation to share her knowledge and respond to the instructor when she believed that she had made the right choice in selecting information relevant to the topic discussed. She understood that she comprehends the topic better, hence, has the urge to share in class.

Sub-theme: Good comprehension.

“Yes, because I find myself when I got to find the correct reading materials, I usually will uh say my answer out loud, even though. the lecturer uh did, doesn't hear me, I still uh... get the courage to say my answer.” (DU34)

She further added that she also noticed that her classmates who managed to understand the topic before class, are more active in class.

“Because I... I think they are very... they follow the lecturer's orders very well. They do, uh... they find those uh, additional reading materials and they could answer uh... the lecturer's questions very well.” (DU142)

During researcher's observation for the first class, students were discussing about 'Making Inferences and Drawing Conclusion'. Suri Haziqah was called by the instructor to answer question 6. In her own words, she correctly justified her answer. The logical inference for the given paragraph she gave in question 6 reflects her ability to identify the structure of the paragraph and analyze it by breaking it into constituent parts (Bloom's taxonomy: Analyze; Webb's Depth of Knowledge Level 2: Skills & Concepts). In the second and third class where students were learning Identifying Deductive Reasoning, Inductive Reasoning, & Assumption in Arguments, Suri Haziqah did not respond to any of the questions posted by the instructor. The researcher observed that she was very passive while learning the topic. She did engage in small discussions but did not share what she had learned on her own, with her classmates.

Through the three class observations, Suri Haziqah faced challenges with the last topic that required her to apply critical thinking skills. Her engagement in class was a reflection of the difficulty in sourcing sufficient supplementary materials to enhance her understanding of the last topic: Identifying Deductive Reasoning, Inductive Reasoning, & Assumption in Arguments. Nevertheless, she did engage in class discussions as a passive recipient of the shared information, rather than actively contributing what she has read independently.

4.3.6.3 Phase Three

Phase Three: The characteristics of preferred academic reading materials.

Suri explained that she prefers short texts. This suggests that like others, she aimed to reduce cognitive overload and avoid overwhelming information.

Theme: Short texts.

“I think uh, uh... if... if articles, if I look out for articles, I will look out for uh... an article with short paragraphs.” (DU58)

She also claimed that she normally chooses familiar topics that aligned with her interests as this kept her engaged and motivated in reading academic materials.

Theme: Topic Familiarity.

“I think uh... I will find aaa... topics that uh... I am familiar with.” (DU144)

“Like, uh... If I read, I think if I read things that I like or I used to, I think it will make me more interested in reading, so I will be uh... actively reading this text instead of getting bored.” (DU146)

Suri Haziqah made it clear that she knew what her preferences are when it comes to reading academic materials. She values multimedia resources too, and recognized the benefit of integrating different formats to enhance her skills in academic reading comprehension.

Theme: Multimedia references – videos.

“Uhm... videos. Uh... YouTube videos also help me a lot as even though I am not a visual learner, but I think I enjoy uh... uh, myself looking at those uh... visuals that will help me understand the content better.” (DU64)

4.3.6.4 Phase Four

Phase Four: The decision-making styles in academic reading within a flipped classroom approach.

Based Suri Haziqah's guided reflective log, she is perceived as a hypervigilant reader. While engaging with academic reading, she would feel pressured when having to decide on choosing relevant reading materials because she feared that the ones chosen were not aligned with the topic assigned. She also shared that she could not be easily distracted by while making her decisions during the reading process. However, whenever she faced difficulties in reading, she felt pessimistic in finding a good solution because of the urged to align reading process with the reading task assigned to her. Also, making decisions while reading in a short time frame caused to have issues and doubts with the choices she made while reading.

Similarly, during interview with the researcher, Suri Haziqah shared that she opted using Ai tool too to assist her while reading academic materials independently. She claimed that using ChatGPT has helped her in reading comprehension for the assigned topic before attending the class.

Theme: Ai augmented Reader.

Sub-theme: Text simplification.

"Um... Because uh... some... Because a lot of texts have complex words that I cannot understand, even though those words are familiar to me, but when they are combined together, I can't seem to understand what the texts are about, so that ChatGPT helped me to simplify those texts." (DU80)

"I also look out for meaning on ChatGPT. Because uh... dictionary, uh... it has fixed meaning..." (DU82)

"Um... I also asked ChatGPT to paraphrase the sentences. Even though they already explained the context, uh... I may not understand why... why they have to use those words in the... in the context, then I ask ChatGPT to paraphrase so that I can see it clearer why these words are being used in this context, and I think it also helped me in reading other materials because I have seen many various of sentences. I think that will help me later when I am reading in other materials. To find... to make me understand better." (DU90, 92)

4.3.7 Bella Syazwani

Bella Syazwani self-rated herself as an average reader. Due to her short attention span, she explained that it is difficult for her to focus in reading.

“I think I would rate myself between 5 to 6 Because umm... personally I don't like reading and I don't read much.” (DU2,4)

When asked about flipped classroom, Bella Syazwani said that the reading activities before attending class will also help her reading activities in the future.

“I think it's (reading activity prior to real class-time) not only going to help me for the upcoming class, it's also going to help me in the future in case if I... I have to know things like general knowledge and all” (DU70)

4.3.7.1 Phase Once

Phase One: Perception on Decision-Making Skills During Academic Reading within A Flipped Classroom Approach.

Bella Syazwani emphasized on the importance of choosing relevant information and reading materials where she claimed that such awareness helped in academic reading comprehension.

Theme: Clearer understanding of the topics.

“Oh... I think that is super helpful to help me understand better even like, to have a little... uh grasp before I learned about the topic so that I'm not totally clueless when I learn it...” (DU6)

She believes that decision-making skills she developed in academic reading are transferable to other subjects and even to non-academic contexts.

Theme: Ability to apply to other subjects.

“I think it's not only going to help me for the upcoming class, it's also going to help me in the future in case if I... I have to know things like general knowledge and all.” (DU70)

Also, choosing relevant information and reading materials have helped her to stay focus in reading, showing her understanding of the challenges of staying engaged with academic materials and her effort to manage her attention.

Theme: To stay focused in reading.

“Yeah, I think it's very important to... uh to... to get you... stick with reading and not getting bored of it.” (DU100)

Bella Syazwani defined one of her challenges clearly when she had to make decisions in reading, that she does not like reading. Hence, she believed that due to her poor reading habit, she has little English vocabulary and this hinder her ability to make better choices as she reads academic reading materials.

Theme: Challenging.

Sub-theme: due to poor vocabulary.

“Because I think the longer paragraph would... uh bores me because uh I don't like reading, so I cannot read something that is long. It would bore me out. Umm... Word complexity... my... OK because I don't read. I don't read, so I am aware that my vocab is not that good.” (DU38)

4.3.7.2 Phase Two

Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement.

Bella Syazwani was aware that making practical choices in reading or even choosing to read could help her to be more active in class, and it is evident as shown by her classmates.

Theme: Active class engagement.

Sub-theme: good comprehension.

“But if I read then I would be more active in class. Also, with my uh friends... discussing with my friends.” (DU18)

“Uhh... It’s... I can see my classmates are more talkative about the topic if the topic is simple and easy to understand. So that I know they understand by just read it once.” (DU20)

Decision-making skills she developed during academic reading has made Bella Syazwani values collaborative learning. She also viewed herself as a resource for others, hence, she was aware that the decisions she made in reading could help her to exchange knowledge with her classmates.

Theme: promote collaborative learning.

“And... and sometimes my... my friends will come to me and ask me about it. So, I think I... I have to help myself and help them as well.” (DU56)

According to Bella Syazwani, poor comprehension due to insufficient information resulted in withdrawal from discussions and she felt disconnected from class activities. She did recognize the cause-and-effect relationship between her choices in reading and her engagement in class.

Theme: Passive class engagement.

Sub-theme: Poor comprehension.

“Well, I can see myself. Uh, be more quiet if I don’t read because I have no idea what everybody's talking about.” (DU16)

The researcher noticed that Bella Syazwani showed her effort to participate most of the time in all the three classes that she observed. During the first class while they were discussing about ‘Making Inferences and Drawing Conclusion’, Bella Syazwani supported Suri Haziqah’s explanation while she was answering a question

posted by the instructor. Bella Syazwani shared the same answer but she used her own words to further elaborate on how she answered the question. Bella Syazwani supported Suri Haziqah's answer by highlighting the general information and specific examples of the given paragraph that lead to the logical inference made (Bloom's Taxonomy: Analyze; Webb's Depth of Knowledge Level 2: Skills & Concepts). In the second class, she was quiet. It was clear that, as the session introduced a list of terms for a new topic - Identifying Deductive Reasoning, Inductive Reasoning, & Assumption in Arguments, she was actively taking notes while listening to her friends. However, during the third class while they were still learning the same topic, it was interesting to see how motivated she was as early as post set induction. They were discussion deductive reasoning and Bella Syazwani introduced the term top-down reasoning. She also gave her own example by replicating an example from a slide shared by the instructor. Using the example, she reexplain why it is called the top-down reasoning, in her own words (Bloom's Taxonomy: Analyze; Webb's Depth of Knowledge Level 1: Recall & Reproduction). She looked confident that she finally managed to grasp the concept of the final topic, unlike in the previous class where she looked quite confused.

4.3.7.3 Phase Three

Phrase Three: The characteristics of preferred academic reading materials.

Recalling back to how Bella Syazwani rated herself as a reader, her preferences in reading that she shared with the researcher confirmed her attempt to manage cognitive load and for to stay engaged in reading academic materials. Bella Syazwani prefers to read short texts.

Theme: Short texts.

"First of all, I would look at the paragraphs' length. Short ones."
(DU36)

She acknowledged that materials with advanced language can hinder comprehension. Hence, she chose texts that match her proficiency to ensure effective reading.

Theme: Match Proficiency level.

“So, I cannot understand some... uhh... what do you call that? The... the materials that are umm with high level proficiency.” (DU40)

Bella Syazwani values texts with visual aids to enhance her understanding and engagement with the text. The choice she made shows that she assessed how the presentation of materials affect motivation and most importantly, reading comprehension.

Theme: Visual aids.

“And I would also look at the... uh the... the fonts, the... the look of the... the material, whether it has images or not...” (DU40)

She also prefers multimedia resources to clarify and reinforce her understanding.

Theme: Multimedia references.

“...better if it (the reading material) has videos...” (DU40)

To aid academic reading comprehension, she carefully selected topics that will sustain her interest and improve reading comprehension.

Theme: Topic Familiarity.

“What else? The topic, of course, the topic... it has to be something that I... I can relate to and I think I find it interesting for me uh to... to know about it.” (DU40)

Bella Syazwani also shared with the researcher that she has some trusted websites she has been referring to coz they have clear and effective presentation style.

Theme: Trusted websites.

“Ohh it’s just... I have some... Uh... Specific websites that I would use to... because I like the... the way they convey the topic.” (DU94)

4.3.7.4 Phase Four

Phase Four: The decision-making styles in academic reading within a flipped classroom approach.

Bella Syazwani’s guided reflective log reveals that she is a vigilant reader. While reading interpedently, she would consider all the available alternatives she had. For her, in order to make the best decision in reading, she would do it as critical as possible depending on the difficulty of the topic assigned. Even so, due to her poor reading habits, she said that she would also seek help from her friends for explanation to assist her in reading comprehension. Bella Syazwani set her reading objective clear when engaged in reading because she claimed that it is important for her as she could easily get distracted in the process. She was also very particular while reading and making decisions because she always questioned the credibility of the websites she visited.

The researcher was aware of Bella Syazwani’s attitudes towards reading. Hence the researcher asked her if she had made other decisions than reading additional materials she found to ensure that she was satisfied with her readings and managed to have some sort of understanding even before she attended the classes. During the interview with Bella Syazwani, she shared that Ai tool has helped her while she was reading independently.

Theme: Ai augmented reader.

Sub-theme: Text simplification.

“I asked ChatGPT to simplify the... the paragraph and also explain paragraph to me. Ohh it simplified the difficult text for me. Uh... paraphrased it, I think. So, I would understand it better because my vocab is mehh... and explain. Explain... explain the... the points.” (DU48)

4.3.8 Kenanga Aiesha

Kenanga Aiesha rated herself as a good reader although occasional she faced difficulty in academic reading while she read independently.

“I’d rate myself a 7. Because I believe that when I read, some of the texts are quite hard to comprehend, so I don’t think that I am that much of a reader. I don’t really understand it.” (DU2,4)

Kenanga Aiesha claimed that the nature of flipped classroom in her academic reading class benefited her, although she did face challenges while reading independently.

“So, in my opinion, I believe that um... reading before coming to class is quite helpful, even though some of the reading materials may be quite hard because I don’t have that much of proficiency in English, so it’s kind of difficult, but I believe that it is quite helpful” (DU6)

4.3.8.1 Phase Once

Phase One: Perception on decision-making skills during academic reading within a flipped classroom approach.

When asked about her perception on decision-making skills while she was reading independently, Kenanga Aiesha was well informed about the risks of unfiltered information on the Internet and she acknowledged the importance of selecting appropriate academic reading materials.

Theme: To ensure the suitability of the chosen materials.

“Because it is, we know that the Internet is quite scary and when we have full access over everything we can like sometimes go searching for the wrong things (reading materials). So, it’s very important...”
(DU128)

She also shared that her awareness of having to choose relevant information and academic reading materials has made her more diligent in reading. This implies that there’s a growth in motivation and engagement with reading materials.

Theme: Motivation to read.

“Yeah. Yeah. So now I think I’m kind of like more... more diligent in reading.” (DU44)

When asked about the challenges she faced while reading academic materials, her response was on word complexity of the text. She had to rely on contextual clues. This indicated that she was aware of navigating metacognitive reading strategies but also felt that her proficiency was a barrier to her reading comprehension.

Theme: Challenging.

Sub-theme: Vocabulary issues.

“I think most of it involves in words. The words. Because... because sometimes I think that the word is like too far out of my proficiencies. Like, I don't really understand the word, so I had to look for the contextual clues, which means I need more work to be done. There's more work you need to be done. So yeah, it is quite difficult, actually.”
(DU130,132)

4.3.8.2 Phase Two

Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement.

Kenanga Aiesha shared that she did engage in independent reading before attending class, but her understanding was still insufficient, which has led her to disengagement during class discussion. Hence, she had to rely on external support rather than independently solved her issues in academic reading through decision-making skills where she could identify, evaluate and select supplementary information or materials that can aid her comprehension.

Theme: Passive class engagement.

Sub-theme: poor comprehension.

“No, I read before class, but somehow when the topic is quite hard because I need the lecturer to assist me in terms of the notes, so I kind of like... kind of like, not quite understanding the topic. Yeah. So, I kind of feel like not engaged with the class.” (DU36)

Kenanga Aiesha was quiet in all three classes. In the first class (Topic: Making Inferences and Drawing Conclusion), she was called to answer question 9 where she had to identify any logical inference or a conclusion for a paragraph. She managed to answer and gave her reasons using her own words by breaking down the paragraph into parts and locate specific information to justify her answer (Bloom’s Taxonomy: Analyze; Webb’s Depth of Knowledge Level 1: Recall & Reproduction). In the second class, she was also called by the instructor to identify the premise and a conclusion of a paragraph while they were discussing about ‘Identifying Deductive Reasoning, Inductive Reasoning, & Assumption in Arguments’. She managed to answer the question correctly. Similarly, she could analyze the paragraph and locate the the specific information to justify her answer (Bloom’s Taxonomy: Analyze; Webb’s Depth of Knowledge Level 1: Recall & Reproduction). In the last class, Kenanga Aiesha was very observant to responses given by the instructor and her classmates. She did note-taking and had minimal communication with her classmates. She did not engage much during the in-class activities and discussions.

Based on the three class observations, Kenanga Aiesha was passive although she was aware of her decisions in reading academic materials as preparation to class. Her dependency towards the instructor was seen as the major reason she did not engage much during in class activities.

4.3.8.3 Phase Three

Phrase Three: The characteristics of preferred academic reading materials.

Kenanga Aiesha actively chose reading materials that could connect her to her schemata. She evaluated her options and selected what enhanced her comprehension.

Theme: Topic Familiarity.

“Yeah, because um... reading topics that I can relate to make it easier to understand.” (DU64)

She also shared she prefers texts with visual aids because she could process information effectively when reading academic materials.

Theme: visual aids.

“Other than that, I choose things that involves visuals. Yeah...” (DU66)
“Mmm, yes, I do prefer images.” (DU68)

4.3.8.4 Phase Four

Phase Four: The decision-making styles in academic reading within a flipped classroom approach.

Based on Kenanga Aiesha’s guided reflective log, her writing reveals that she is a vigilant reader. While reading independently, she considered all the alternatives she could find because she believed that the materials were also useful although she had difficulties while choosing them. While reading independently, Kenanga Aiesha said that she would look at the disadvantages of using the materials found. This is to

avoid time wasted reading for the best materials that could support her comprehension for the assigned tasks. She always considered how best she carry out a decision while looking for relevant reading materials although she had doubts while choosing them. Also, she feels that she had better comprehension when she managed to collect a lot of relevant information regarding the given task. Before she started reading independently, Kenanga Aiesha set clear objectives to ensure that the reading process is aligned to the instruction given. Choosing relevant information and additional reading materials were so important to her, as she feared that it might affect her grades.

Kenanga Aiesha was asked about other decisions she has made that she believed had helped her in reading comprehension. She said that she decided to use AI tools and that had help her improve reading comprehension and reading skills.

Theme: Ai augmented reader.

Sub-theme: Text simplification.

“Um... sometimes I use Phind or ChatGPT. Yeah, that is quite helpful in terms of translating or like summarizing the... the things that I need to understand.” (DU14,16)

“Um... I usually would like, would write that um... Simplify the text from this topic and I wrote down the topic or the text. Just copy and paste it.” (DU18,20)

Sub-theme: Ai generated information.

‘Hmm... Other than... Oh, with the Ai tool. So, I would ask them to elaborate more, give examples. Yeah. Or even give like um... another topic that similar... similar to it’ (DU24)

Sub-theme: Search engine.

“It helps me because Phind can, we can search for a different article. So, I use them to find another text that is simplified from a different article and I will read the article. The simplified version, yeah, basically the same.” (DU26)

Sub-theme: Vocabulary expansion.

“Honestly, it kind of improved my reading skills, because like I said from earlier because the text is compressed and it is shorter and it's easier to understand. So... I think it can help with the words. Yeah, because Ai uses like high level of words. So, I kind of like copy the words and paste it on Google and try to translate it to understand the word. The synonyms of the word. So, when I find the similar words on the text, I kind of get the idea of the word.” (DU84,88,90,92)

4.3.9 Luna Nurdina

Luna Nurdina claimed that she is an average reader due to her focus in reading academic materials.

“I would rate myself a 6. I am a good reader, but I also I have trouble... hmm trying to understand the text because my mind always... what do you call... When... when it's always out everywhere, so it's kind of hard to focus on one thing, so I have to read it nice umm... properly before I get to understand.” (DU2,6)

4.3.9.1 Phase Once

Phase One: Perception on decision-making skills during academic reading within a flipped classroom approach.

Her awareness of her own decision-making skills in academic reading before attending class, permitted a space for intellectual autonomy. Interestingly, she was also aware of how instructor's perspective could shaper her own understanding.

Theme: Promote Critical thinking.

“I can actually think... when I read the material, if there is a lecturer, sometimes the lecturer can kind of influence the way I think about the text, but if there are no lectures around me. I can... I can think... more deeply about the text without anyone influencing how I feel about the text.” (DU40)

When making decisions while reading academic text, Luna Nurdina was quite critical in her decisions. This is evident when she shared her concern about her choices in reading.

Theme: Challenging.

Sub-theme: fear of making wrong choices in reading.

“I would like think ohh... if I choose this. What if it is... the wrong choice for me and that would be that is one of the challenges that I face when choosing (academic reading materials).” (DU90)

Also, she believed that choosing the right information or sources is challenging due to the role of the instructor.

Sub-theme: Lack of guidance from the instructor.

“Umm... Yes, (challenging) because I need someone to guide through the lesson.” (DU36)

4.3.9.2 Phase Two

Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement.

When asked about how her engagement in class after cautiously choosing information and reading materials while she was reading independently before attending classes, she said she had to refer to her classmates due to her lack of confidence in making decisions. She also admitted that the dynamic of the classes was positive because she could see active responses from her classmates.

Theme: Active class engagement.

Sub-theme: promote collaborative learning.

"I'm quite active with my friends because I think this is my opinion. ...I am a very shy person, so I like... I would ask my... the people around me. first before actually going to the lecturer for questions." (DU26)

"Yes, they (classmates) are quite active in class. Umm... They... they try to be very vocal and ask questions a lot. If the lecturer is asking for questions." (DU32)

During the first class, Luna Nurdina did not respond to any questions while the whole class was discussing about Making Inferences and Drawing Conclusion. There were times she was observed to be a bit confused with her own answers, but she did seek for assistance from friends sitting next to her. In the second class while they were discussing about 'Identifying Deductive Reasoning, Inductive Reasoning, & Assumption in Arguments' she was called by the instructor to answer a question on the whiteboard that she had to identify a statement or a non-statement. In her own words she managed to answer correctly and clearly explain her reasons. She used a simple procedure that had solved a one-step problem which was by looking at the structure of the given sentence. The explanation she gave reflected Bloom's Taxonomy: Apply and Webb's Depth of Knowledge Level 1: Recall & Reproduction. In the third class, where the students continued in-class discussion with 'Identifying Deductive Reasoning, Inductive Reasoning, & Assumption in Arguments', the instructor called Luna Nurdina for an example of an inductive reasoning. She managed to give a good example according to the instructor, and in her own words, she gave her explanation and justify using the structure of the sentence. Her answer showed her ability to apply and the concept that she has learned independently before she attended class (Bloom's Taxonomy: Apply and Webb's Depth of Knowledge Level 2: Skills & Concepts).

The three class observations show that Luna Nurdina's participation was influenced by her shy personality because the researcher noted that she did her independent reading and she was aware of the decisions that she had made during the reading activities that allowed her to comprehend topics before she attend classes.

4.3.9.3 Phase Three

Phrase Three: The characteristics of preferred academic reading materials.

Luna Nurdina expressed her preference for content that resonates with her prior knowledge and interests. This practical decision is important for her as prior knowledge plays important role for her reading comprehension and cognitive engagement.

Theme: Topic Familiarity.

“Hm... I would look for the... I would look... Mostly I would look at the content first. Yeah, because it would... I would understand it better if the content resonates with me and what I like maybe is about a... an artist I liked, or a movie I watched.” (DU56)

Luna Nurdina also shared that through concrete representations of abstract ideas, she was able to understand the texts better.

Theme: Visual aids – images.

“And also, I like pictures and videos... that would be very helpful for me to visual it.” (DU56)

It was also evident that static texts or visual aids alone were insufficient. Her informed choice on using videos has enhanced her cognitive processes.

Theme: Multimedia references – videos.

“And also, I like pictures and videos... that would be very helpful for me to visual it.” (DU56)

4.3.9.4 Phase Four

Phase Four: The decision-making styles in academic reading within a flipped classroom approach.

Luna Nurdina's guided reflective log reveals that she is a hypervigilant reader. She felt tremendous pressure when she had to make decisions while reading independently because she feared that she would read irrelevant information and missed the important ones. During the reading process, she claimed that minor distractions can cause to change her preferences in reading as she believed that she needed the materials to fit what she thought comfortable and suits her reading styles. Whenever she had to make difficult decisions while reading independently, she felt pessimistic about it because she still believes that her decisions had to be the best for her reading comprehension. When it comes to choosing reading materials, Luna Nurdina shared that she cannot think straight if she had to made decisions within a short period of time. Also, she tried not to put too much burden on herself after finalizing her readings.

Luna Nurdina was also asked about other decisions she has made while she was reading independently that has helped her in reading comprehension. She said that she has been using ChatGPT as a reading assistant during the reading process.

Theme: Ai augmented reader.

Sub-theme: Text simplification.

"Such as ChatGPT... I would use it to simplify the text that I don't understand." (DU60)

Sub-theme: Ai generated information.

"Umm... Since I... depend on AI tools before... so it's not really... challenging for the midterm test for me to do the test without AI tools. I don't really find it difficult as well because those texts... I already like uh... I tried to find like the synonyms for those words that I don't understand." (DU66,68)

Following the case-by-case analysis, a cross-case analysis was conducted to see recurring responses from all nine cases. This process systematically involved listing and categorizing all codes into their own cluster to validate the emerging themes from the data collected through various instruments. The justification of these emerging themes was grounded through repetition of words from the participants, relevant theories, and existing literature. The final selection of mutually exclusive themes was selected to effectively respond to the four research questions.

4.4 THE CROSS-CASE ANALYSIS

Following the case-by-case analysis, a cross-case analysis was conducted to see recurring responses from all nine cases. This process of thematic synthesis systematically involved listing and categorizing all codes into their own cluster to validate the emerging themes from the data collected through various instruments. The justification of these emerging themes was grounded through repetition of words from the participants, relevant theories, and existing literature. The final selection of mutually exclusive themes was selected to effectively respond the four research questions.

Based on the case-by-case analysis, the themes emerged from the respondents' academic reading activities within a flipped classroom approach. All nine respondents have clearly indicated that they are not avid readers; instead, they engaged in selective reading depending on a variety of reading strategies, and available tools for them to quickly comprehend academic reading materials encountered. This situation highlights the significance of decision-making skills in academic reading. Unlike metacognitive reading skills which involve self-regulation and reflection on a person's reading strategies, decision-making in academic reading refers to the active choices readers make about which texts to engage with, how to prioritize the content, the kind of resources to use. Although they may possess knowledge of reading strategies, the decisions they make about which strategy to apply play a more significant role in shaping how they approach academic reading. These informed decisions play an important part to enhance reading comprehension as they assist readers to independently navigate the reading process. Thus, reading activities may not be

limited to linguistic competence and academic achievements (Ghahari & Basanjideh, 2017) but also for the language learners to be more autonomous in mastering academic reading.

4.4.1 How do the selected TESL pre-university students perceive decision-making skills during academic reading for flipped classrooms?

The researcher has gathered the sub-themes to be studied again and categorized them into ten major themes. The major themes are arranged according to how TESL pre-university students perceived their decision-making skills in academic reading, ranging from cognitive aspects of reading academic materials to their actual reading behaviours.

Within the flipped classroom approach for academic reading class, the respondents believe that decision-making skills in academic reading where they have to identify, evaluate and select relevant information or academic reading materials have assisted them in reading comprehension. However, they noted that becoming aware of these decisions was the key. By consciously making choices within the reading process, they were able to improve their academic reading skills in many aspects:

4.4.1.1 Clearer understanding of the topics

Due to the nature of flipped classroom approach, the TESL pre-university students were bound to limited independent reading time and limited cognitive resources; the constraints imposed by their environments. However, Zack Ali, Nuraina Fara, Suri Haziqah, and Bella Syazwani shared that by simply being aware of the decisions they must take while independently searching for and reading additional academic materials, has significantly improved their reading comprehension. They expressed that they have clearer understanding of the assigned topics prior to attending the real time classes. These TESL pre-university students were metacognitively aware of their own cognitive processes. From this knowledge they have, they choose and adjust

reading strategies of which they believe could navigate them to their cognitive goals – reading comprehension.

4.4.1.2 Ability to apply to other subjects

Nuraina Fara, Ayu Daniyah, Suri Haziqah, Bella Syazwani perceive that decision-making skills in academic reading practiced within a short period of reading activity before they attend real-time classes has helped them extend their ability in reading skills beyond the Academic Reading subject. They shared that similar decision-making skills were also practiced for subjects like Academic Writing and Grammar. This demonstrates metacognitive transfer, where the respondents recognized the applicability of their decision-making skills across different contexts. Also, their ability to identify when and how to use specific reading skills to other contexts showed that conditional metacognitive knowledge is at play here.

4.4.1.3 Promote academic reading skills

In a flipped classroom approach, independently reading additional materials helped the pre-university students to better understand the assigned topic even before attending real-time classes with the instructor. Being aware of their own decision-making skills while reading academic materials have assisted the respondents in their academic reading skills. Zack Ali and Nuraina Fara, believe that they experienced improvements in certain reading skills like memorization, skimming, and text structure identification. Being cautiously aware of their own decisions in choosing and prioritizing relevant information or reading materials assisted them in reading comprehension. Rather than merely applying pre-learned reading strategies, their ability to identify, select and evaluate the most relevant reading sources reflects efficient decision-making skills in academic reading while they engage in the reading process independently. As a result, they experienced improvements in reading skills. Shao and Lin (2021) found that students' ability to make decisions about how to allocate attention to different texts and prioritize reading tasks directly correlates with the improvements in reading comprehension. To add, this finding positively responds

to a study by Muhammad et.al (2019) where they found that their respondents reading activities were solely aimed for academic purposes, and not necessarily to improve their proficiency in English. In contrast, respondents from this study were aware that as they read, they experience improvements in their academic reading skills, which directly influence their proficiency in using the language.

4.4.1.4 Promote critical thinking

Decision-making skills in academic reading suggested a shift toward higher order metacognition because the respondents perceive an increase in critical thinking skills. While independently reading academic materials as a preparation to attend a flipped academic reading class, Nabila Syafa, Laila Suhaila and Luna Nurdina evaluated, synthesized, and critiqued information rather than just absorbing it. Luna Nurdina even shared that because of the decisions she had made, she could now engage with the reading materials at a deeper level without being influenced by the instructor's point of view. This also indicates effective decision-making skills in reading, as the respondents had to actively adjust their reading skills based on content complexity, within a time-sensitive reading session. Apart from selecting which information or reading material to prioritize, the respondents had to navigate conflicting perspectives and assess validity of arguments as they read. Such decision-making process trained them to be more discerning readers, ensuring that they do not passively accept information but rather construct meanings from the text through logical reasoning. Also, Nabila Syafa, Laila Suhaila and Luna Nurdina were able to manage complex reading more effectively. This highlights how decision-making skills in academic reading extends beyond application of reading strategies but embedded as a fundamental skill in analytical thinking and knowledge construction.

4.4.1.5 To ensure the suitability of the chosen materials

When the pre-university students were asked to search for more additional reading materials to support reading comprehension of the assigned topic, Zack Ali, Laila Suhaila, and Kenanga Aiesha shared that by being aware that they have to make their own decisions while reading academic materials, they have learned that could focus on selecting appropriate reading materials. This reflects the process of identification, evaluation and selection in reading activities which are crucial for metacognitive control. However, because they are working in a short period of time given to search and read for additional materials to support reading comprehension, from a bounded rationality perspective, decision fatigue may occur when there are too many references available. This could lead the pre-university students to rely on simplistic selection criteria rather than engaging with the most useful reading materials. This situation is evident when the pre-university students opted for reading materials with short texts, simple vocabularies and information presented in bullets points which will be discussed in the third research question.

4.4.1.6 Motivation to read

Not only that decision-making skills in academic reading have influence on the pre-university students' cognitive processes; they also demonstrated a positive growth in the pre-university students' interests in reading. Suri Haziqah and Kenanga Aiesha shared that they experienced increased motivation to read more materials. The motivation they experienced is often linked to their sense of control over reading choices, which is an important aspect in navigating reading processes to their cognitive goal – reading comprehension. However, the motivation may also stem from perceived ease rather than true mastery of reading skills. This suggests that these pre-university students engage more with texts that they feel comfortable with, rather than challenging themselves with reading materials that tests their cognitive abilities.

4.4.1.7 Becoming an independent reader

In a traditional classroom setting, students tend to be more dependent on the instructor's guidance. However, in a flipped classroom, students are encouraged to read independently and search for more relevant reading materials to enhance comprehension. Such shift in learning may cause students to feel overwhelmed. In this study, Nuraina Fara and Zack Ali reported differently. They shared that when they understood the importance of identifying, evaluating and selecting suitable reading materials to support reading comprehension before attending class, they experienced a shift from instructor dependence to becoming independent readers. Zack further explained that he no longer has to seek assistance from his classmates in order to understand reading texts; he can now better decide on suitable references to help him in reading. These pre-university students have recognized the shift from instructor-led learning to self-regulation in the context of developing their academic reading skills. This is a significant milestone in metacognitive development. They have acknowledged the responsibility of selecting and managing their reading tasks without external guidance and become independent readers.

4.4.1.8 Ability to read within the time frame

Some of the respondents shared that when they were instructed to reading independently before attending class, they struggled with time management but Nuraina Fara and Laila Suhaila reported differently. They claimed that since they know that they have to independently decide on suitable reading materials to support their own reading comprehension, over time, they were able to work within the time frame given every week before they attend the Academic reading class sessions. The ability to manage reading time effectively highlights the pre-university students' growing decision-making skills because reading in a time sensitive condition required them to balance comprehension depth with efficiency, a crucial metacognitive skill.

4.4.1.9 Challenges

The respondents of this study also highlighted the challenges they faced while making decisions during the academic reading process. Luna Nurdina, Ayu Daniyah, Laila Suhaila, Nabila Syafa, Zack Ali' Kenanga Aiesha shared that they struggled with choosing appropriate reading references, vocabulary difficulties in the reading texts found, fear of selecting the wrong texts, and lack of instructor guidance. These challenges highlight their metacognitive deficiencies, where the pre-university students are still developing their ability to self-evaluate reading competence. These students may avoid difficult reading texts due to fear of making poor choices, ultimately limiting their exposure to challenging materials that could enhance their academic reading skills and their reading comprehension. This situation will be further elaborated for research question three.

The emerging themes from research question one show that while these TESL pre-university students perceive growth in their academic reading skills as well as reading comprehension through decision-making skills. However, their cognitive processes are shaped factors like perceived reading strategies, metacognitive development, and cognitive limitations, which explains the reasons to why decision-making skills in academic reading is crucial to optimize their academic reading experiences within a flipped classroom approach. Exploring the perceptions of the decisions made offers a deeper understanding to how decision-making skills in academic reading within a flipped classroom approach, foster metacognitive development during academic reading activities. These advanced language learners are equipped with the knowledge of reading skills and reading strategies but navigating both crucial aspects of academic reading effectively will significantly impact the overall outcome of the reading process. Therefore, with the pressure while reading academic materials restricted by time, not only that it is essential for the pre-university students to have the knowledge on reading skills and strategies, but as readers majoring in English, they have to be skilled decision-makers too, to enhance their academic reading success. Table 4.2 shows the overview of themes in Phase One across nine cases.

Table 4.2 Themes in Phase One: Perception on decision-making skills during academic reading

Themes	Zack Ali	Nabila Syafa	Nuraina Fara	Ayu Daniyah	Laila Suhaila	Suri Haziqah	Bella Syazwani	Kenanga Aiesha	Luna Nurdina
Clearer understanding of the topics	√		√			√	√		
Ability to apply to other subjects			√	√		√	√		
Promote academic reading skills	√		√						
a. Assist in memorization	√								
b. Skimming & scanning			√						
c. Increase the ability to identify structure in texts				√					
Promote critical thinking		√			√				
To ensure the suitability of the chosen materials.	√				√			√	
Motivation to read						√		√	
Becoming independent reader	√		√						
Ability to read within the time frame			√		√		√		

Challenging:

a. Not confident	√		
b. Vocabulary issues	√	√	√
c. Structure of reading text		√	
d. Lack of guidance from instructor		√	√
e. Difficulty to find suitable materials		√	
f. Fear of making wrong choices			√

4.4.2 How do decision-making skills during academic reading facilitate the selected TESL pre-university students' engagement in flipped classrooms?

Phase two in this research responds to the second research question 'How do decision-making skills during academic reading facilitate TESL pre-university students' engagement in flipped classrooms?'. The researcher has gathered the sub-themes to be studied again and categorized them into two major themes. The major themes are arranged according to how decision-making skills in academic reading facilitate TESL pre-university students' engagement in flipped academic reading classes: Active class engagement and Passive class engagement. The responses were gathered from interview, the researcher's fieldnotes and class checklist used during class observations.

Within the flipped classroom approach for academic reading class, the respondents generally recognized that decision-making skills in academic reading where they have to identify, evaluate and select relevant information or academic reading materials prior to attending class, did contribute to a more meaningful and engaging classroom experiences.

4.4.2.1 Active class engagement

4.4.2.1.1 Crucial preparatory stage

Zack Ali asserted that recognizing the importance of making informed decisions while reading academic materials independently prior to real-class time, has positively contributed to his classroom engagement. He highlighted that when he had to independently search for and read supplementary materials based on topic assigned, decisions made had served as an important part of the preparatory step, enhancing his readiness and engagement during in-class discussion. Although it was evident that there were minimal cases of students voluntarily respond to questions asked by the instructor in class, he was able to answer them correctly.

4.4.2.1.2 Promote better in-class comprehension

The pre-university students also shared that knowing that they have made correct decisions while reading independently, they manage to comprehend the topics discussed better in-class with the activities conducted by the instructor. Ayu Daniyah, Suri Haziqah and Bella Syazwani shared that by completing the reading and research phase beforehand, the knowledge they have gathered enabled them to engage more effectively with the instructor-led activities. While learning in real-time class, the decisions made while reading independently enabled them to deepen their understanding on the subject matter.

4.4.2.1.3 Promote collaborative learning

Another defining characteristic of decision-making skills in academic reading that facilitate active engagement is collaborative learning. The researcher found that with the knowledge the TESL pre-university have gained through independent reading, students such as Nuraina Fara, Suri Haziqah, Bella Syazwani, and Luna Nurdina shared that they benefited more from group discussions, reinforcing their academic reading skills and reading comprehension through peer interaction by discussing what they have learned before attending class. Suri Haziqah who is known to have issues engaging in whole-class discussions for instance, also participated through sharing insights in small peer discussions rather than whole-class debates, demonstrating that collaboration at a smaller scale still contributed to meaningful learning experiences. This preference for peer interaction suggests that as long as the pre-university students are well equipped with the knowledge needed and are confident with what they have read based on the choices they made; it is evident that they too are able to positively progress in academic reading skills and reading comprehension.

Overall, the pre-university students who exhibited active class engagement were proactive in preparing before class; they had better comprehension during in-class discussion and participated in discussions as well as collaborating with peers. The researcher observed that their active class engagement aligns with higher-order cognitive skills suggested in Bloom's Revised Taxonomy, progressing from Understanding, Applying and to Analyzing. They managed to utilize reading skills up

to Level 3 of Webb's DOK which is Strategic Thinking or Reasoning. Their ability to integrate prior reading into in-class discussions enhanced their cognitive engagement which enabled a deeper understanding of the academic content. A different study on flipped academic reading course (Trans et. al, 2025) reported similar findings but relied solely on quantitative measures. Thus, this current study shed new insights on ESL learners' in-class engagement within a flipped classroom after they have experienced independent academic reading activities prior to real-time class, specifically focusing on the choices in reading skills and materials and the depth of knowledge applied in class.

The researcher also observed that there are other factors influenced class participation. These TESL-preuniversity students may have the proficiency in using the language, but other factors must also be considered when looking at how they participate in class.

4.4.2.2 *Passive class engagement*

In contrast, some of the respondents also exhibited passive class engagement. The TESL pre-university students showed lower level of comprehension, often seeking for guidance from the instructor than engaging in making their own decisions while reading independently prior to class and they are the respondents who from the beginning of the study, admitted they do not like to read.

4.4.2.3 *Personality-driven reluctance, Poor Comprehension and Highly dependent on Instructor*

Based on the interview and class observations, the researcher highly believe that poor engagement in class is rooted from the TESL pre-university students' reluctance in the foundation of learning academic reading; they do not read enough as English language learners, hence limiting their ability to make informed decisions. In the beginning of the interview, the researcher encounter claims like *"I'm not really a reader"* [Nabila Syafa], *"I'm more prone to speaking than reading..."* [Ayu Daniyah], *"I wanna finish this as quick as possible"* [Laila Suhaila], *"...I don't think I am that much of a reader"*

[Kenanga Aiesha]. In the three classes observed by the researcher, these TESL pre-university students demonstrated minimal interaction, often preferring to listen rather than actively contribute to discussions. Although their responses in discussions aligned to Bloom's Revised Taxonomy – Application and Analysis; the responses are primarily limited to recall-based responses (Webb's Depth of Knowledge Level 1: Recall & Reproduction). Their reluctance in reading has led to another issue which is poor reading comprehension during the independent reading activities. Laila Suhaila and Kenanga Aiesha claimed that they struggled to fully grasp the concept they need to understand before attending class. This then indicates a reliance on explicit instruction and explanation by the instructor. Lastly, these TESL pre-university students shifted their preference by being highly dependent on the instructor for academic reading direction. For example, Laila Suhaila and Ayu Daniyah were highly reliant on the instructor's explanations and showed minimal interaction with their classmates because they were busy taking notes. This suggests that although these respondents may have absorbed information, they lacked the initiative to identify, evaluate and select relevant information and reading materials independently, thereby limiting their cognitive growth within the flipped classroom framework. Thus, within this situation where opportunities for higher-order cognitive processing were limited, class engagement remained at a surface level.

Hence, although making informed decisions while reading academic materials independently prior to attending classes may not directly facilitate in-class engagement, there is evidence that shows positive growth in the TESL pre-university students' participation in class and reading comprehension. The TESL pre-university students believed that being aware of the need to make their own decisions while independently reading academic materials at the preparatory stage of flipped classes, have enhanced class engagement as well as their cognitive growth in academic reading. Table 4.3 shows the overview of emerged themes in the second phase that respond to the second research question.

Table 4.3 Themes emerged in Phase Two: Exploration on decision-making skills during academic reading that facilitate classroom engagement

Themes	Zack Ali	Nabila Syafa	Nuraina Fara	Ayu Daniyah	Laila Suhaila	Suri Haziqah	Bella Syazwani	Kenanga Aiesha	Luna Nurdina
Active class engagement									
a. Crucial preparatory stage	√								
b. Promote Collaborative learning			√			√	√		√
c. Promote better in-class comprehension				√		√	√		
Passive class engagement									
a. Poor comprehension		√					√	√	
b. Personality		√		√					
c. Highly dependent on instructor					√				

4.4.3 What are the characteristics of reading materials preferred by the selected TESL pre-university students for flipped classrooms?

Phase three in this study explored the TESL pre-university students' preferences on the characteristics of reading materials. This section is a response to the third research question, "What are the characteristics of reading materials preferred by TESL pre-university students for flipped classrooms?". The researcher believes that exploring the characteristics of reading materials explains a lot on the respondents' evaluation of reading academic materials. From the interview and class observation, it was evident that these young readers are no way near to traditional readers, where reading skills and reading comprehension are polished through a lot of reading activities. This study found quite the opposite. With the availability of multimedia references, the pre TESL students were able to grasp the concepts and topics they were expected to learn at the end of the semester. The selection of reading materials shows that these students understood their cognitive processes when they have to read in a time-sensitive situation. Their decisions while reading academic materials are limited not only in the aspect of time, but also by cognitive constraints and availability of information they could access

4.4.3.1 Short texts and Bullet Points

It was discovered that as language learners, many of the TESL pre-university students (Zack Ali, Nabila Syafa, Nuraina Fara, Ayu Daniyah, Suri Haziqah, and Bella Syazwani) exhibit a strong preference for short texts and bullet points, a total opposite of what traditional ESL readers would have practiced in order to master the language; to read thick English references. This situation reflects the pre-university students' awareness of their own cognitive processing limit and informed decisions made to approach reading skills and information intake. While reading independently, their choice of reading summarized information allowed them to regulate their cognitive load, improve focus and retention. While the students were bounded by time, this preference is supported by the Bounded rationality Theory; these students opted for materials that are easier to process. Hence reduce the effort needed for reading comprehension.

4.4.3.2 Topic familiarity

While choosing materials to support comprehension of the assigned topics, the TESL pre-university students like Zack Ali, Laila Suhaila, Suri Haziqah, Bella Syazwani, Kenanga Aiesha and Luna Nurdina recognized that prior knowledge reduces cognitive effort and enhances comprehension. Thus, choosing familiar topics allows them to make more effective decisions in reading skills as an effort to comprehend the texts with minimal cognitive constrain. Such heuristic-driven approach permits them to navigate academic reading texts more effectively while still maintaining confidence in their understanding.

4.4.3.3 Multimedia references - Videos

TESL pre-university students like Suri Haziqah, Bella Syazwani, Zack Ali and Luna Nurdina shared that while reading independently, they also choose multimedia resources like videos to supplement reading activities. This is a clear reflection of their challenges in reading comprehension. Aligned with metacognitive experiences, they adopt other means of learning tools to enhance reading comprehension. Fahmi et. al's (2024) study, they also found that their respondents appear to compensate reading challenges by engaging with audiovisual content, which has helped them in reading comprehension and schema acquisition. The current study further elaborates that videos the TESL pre-university students have watched during independent reading activities compensate cognitive limitations and attention span through the audiovisual contents that simplify complex textual information.

4.4.3.4 Visual Aids – Images and Mind-maps

The TESL pre-university students' choice to use visual aids such as images and mind-maps highlights the role of metacognitive strategies in academic reading. By utilizing the two, these students actively engaged with materials that enhances recall and comprehension. Goodman (1967) who suggested that psycholinguistically, reading has to be an interactive process involving thinking and the use of the target language. For these young readers, the visual elements acted as cognitive shortcuts that allow them

to extract key information quickly without having to process a large number of texts. Such informed decision has assisted TESL pre-university students like Bella Syazwani, Luna Nurdina, Kenanga Aiesha and Nabila Syafa in understanding reading materials and topics assigned even before they attend classes. Similarly, Ma (2021) asserted that if readers blindly pursue the purpose of an article during academic reading process, they will lose the pleasure in reading and most importantly reading efficiency will reduce. Even while reading under pressure, reading is beyond the movement of a readers' eyes (Schotter et al. 2019), reading has to be interactive to achieve the desired reading goal (Li, 2021). Thus, emphasizing on how readers navigate the reading process is important, and this theme highlighted that among other options the respondents have while reading independently, using mages and mind-maps have helped them to understand academic materials quickly while reading in a time-sensitive situation.

4.4.3.5 Content Accuracy and Trusted Websites

While reading independently, Ayu Daniyah, Laila Suhaila and Bella Syazwani prioritized content accuracy and reliable sources. Such decision in reading indicates their metacognitive awareness where they choose to evaluate the credibility of materials they have found. This situation in reading too, prevent cognitive overload while ensuring that their academic reading materials are trustworthy and aligned with the instruction given by the instructor.

4.4.3.6 Language Proficiency and Readability

Matching reading materials to the TESL pre- university students' English language proficiency is the last theme observed by the researcher. The TESL pre-university students optimize their comprehension by choosing materials that align with their linguistic abilities. Such preferences rooted from their self-awareness on cognitive processing and they believe that choosing materials that are 'good enough' rather than overly complex resources could help in their understanding. This situation according to Bounded Reality Theory, is a satisficing strategy – Students do not necessarily seek

the most complex materials but rather choose materials that are comprehensible within their cognitive limitations to ensure a balance of effort and reading outcomes.

The researcher found that these TESL pre-university students made informed decisions on reading strategies and reading materials to navigate academic reading while being constrained by time and access to resources. Their responses for research question three indicate awareness of cognitive strengths and limitations which had a strong influence to the decisions made while reading academic materials independently. Although the flipped academic reading class outcome is on learning reading skills and reading comprehension, that requires them to read more and practise the skills; these students opted for multimodal content to enhance reading comprehension to compensate cognitive load and their claim of being selective readers which had assisted them in their cognitive goal. This is evident in the improvements of their Academic Reading course. Many of the respondents shared that references they have chosen while reading were mostly digitally accessed. This preference, according some recent research (Chavet et al., 2024; Suhua & Xueming, 2024; Liu, 2022) have shaped the readers' attention to become fragmented, due to the nature of multitasking in using digital devices. This is a valid explanation to some of the themes found in the Phase three of this study; that they prefer reading materials that are short or in bullet points; they chose images or mind maps that are graphical representation of the texts and even multimedia references to compensate the short attention span but at the same time, assist them to achieve reading comprehension.

Table 4.4 illustrates the overview of themes emerged in Phase Three, responding to research question three.

Table 4.4 Themes emerged in Phase Three: The characteristics of academic reading materials

Themes	Zack Ali	Nabila Syafa	Nuraina Fara	Ayu Daniyah	Laila Suhaila	Suri Haziqah	Bella Syazwani	Kenanga Aiesha	Luna Nurdina
Multimedia references (videos)	√					√	√		√
Short text & bullet points	√	√	√	√		√	√		
Content accuracy & Trusted websites				√	√		√		
Language Proficiency & Readability				√			√		
Topic Familiarity	√				√	√	√	√	√
Visual aids – Images & Mind maps		√					√	√	√

4.4.4 What decision-making styles do the selected TESL pre-university students demonstrate in academic reading for flipped classrooms?

In the final phase - Phase Four, explored TESL pre-university students decision-making styles in academic reading while they were reading independently. The researcher strongly believes that these young readers have more strategies on their sleeves while reading and trying to realize their cognitive goal in mastering academic reading. she has discovered that on top of the different decision-making styles (Janis and Mann, 1977) they possessed; these young readers add the use of AI tools to their decision-making as a coping mechanism to resolve the reading conflicts faced while reading academic materials independently. From all nine respondents, the researcher found two decision-making styles representing these young readers, the hypervigilant readers and the vigilant readers.

4.4.4.1 Hypervigilant readers

In this study, hypervigilant decision-making style is the dominant style, adapted by six TESL pre-university students and the other three students are vigilant decision-makers in reading. Due to the nature of this study which is positioned within a flipped classroom approach, the finding contradicts to what was found by Attar and Ouadi (2023) in their research. They found that their students predominantly exhibited vigilance decision-making style; a coping mechanism mainly characterized by careful consideration of alternatives and consequences (Janis and Mann, 1977). Whereas the respondents from this study were bounded by a time-sensitive situation. Thus, due to this situation, they feel pressured during reading activities and have difficulties in concentration. The hypervigilant readers have the tendency to rush decision while they are reading. This situation is due to their fear of making mistakes or when they feel overwhelmed while completing academic reading tasks. According to the interview and reflective log analysis, these TESL pre-university students who exhibit this style often felt unsure about handling the complexity of reading texts and tend to rely heavily on AI tools to simplify the materials.

4.4.4.2 Vigilant readers

The vigilant readers on the other hand, are more balanced and analytical when it comes to making decisions while reading. TESL pre-university students who possess this decision-making style used AI tools for deeper engagement with reading materials, they seek to ensure that they have fully understood the content. These students were not necessarily trying to avoid the whole content, but they were looking for ways to enhance their reading comprehension and be more critical in reading; a reflection of how they perceived themselves as selective readers in the beginning of this study. For both hypervigilant and vigilant readers, their reliance on AI tools can be seen as an adaptive response to avoid pressure that was associated with overwhelming or unclear decisions on reading skills needed in order to engage with reading materials they had to read independently. The researcher believes that the avoidance of deeper reading engagement and analysis reflect an effort to minimize perceived discomfort in reading activities. This, reducing cognitive conflicts within the reading process.

4.4.4.3 The AI Augmented Readers

Text simplification

For the TESL pre-university students, especially among hypervigilant readers, their decision to use AI for text simplification is a coping mechanism to minimize cognitive load while reading and ease the anxiety associated with long and complex texts. This situation is a reflection of the TESL pre-university students' effort to resolve internal conflict – the struggles they have with uncertainty of comprehension about the materials they need to read. Using AI for text simplification has helped these students to feel more in control and confident in their reading as the AI tool breaks down the reading texts into digestible parts. This is a new spectrum in understanding how these selective readers read, and not only that, how they cope with reading activities within a time-sensitive situation while still being critical.

Ai generated information & elaboration

From the collected data, it was evident that these students were avoiding deeper engagement or confrontation with the reading texts. Thus, the TESL pre-university students used AI tools to ask for elaborations or to get new perspectives when they encounter difficulties in understanding concepts or any reading materials. For example, Nuraina Fara had used ChatGPT to explore concepts like inductive reasoning and deductive reasoning and prompted for more detailed explanation. This reflects the desire of certainty and also an effort to expand knowledge by using an Ai tool to probe deeper into the reading materials. Also, when the students face difficulties in reading comprehension, this is a proactive approach to resolve reading conflicts. Thus, they use Ai to obtain additional perspectives and insights that are more digestible. They might also lack of the necessary reading skills to understand the academic materials in its full complexity.

Search engines

The researcher found that in some cases like Kenanga Aiesha and Zack Ali, they use AI tools as search engines to find quick information or relevant resources. Their actions can be interpreted as a mean to cope information overload. These students were avoiding deeper engagement with too many reading resources so, this decision might reflect a fear of being overwhelmed by too much information. They also claimed that time can be saved if they use Ai as search engines as it could direct them to what they believed as relevant reading materials needed for their reading activities. This mechanism allows TESL pre-university students to make faster decisions whether to engage further with the academic materials or to rely of other external sources to fill in the gaps in their reading comprehension.

Table 4.5 Themes emerged in Phase Four: The decision-making styles in academic reading

Themes	Zack Ali	Nabila Syafa	Nuraina Fara	Ayu Daniyah	Laila Suhaila	Suri Haziqah	Bella Syazwani	Kenanga Aiesha	Luna Nurdina
Vigilant Reader			√		√		√	√	
Hypervigilant Reader	√	√		√		√			√
<i>AI-augmented Reader</i>									
a. Text simplification	√	√		√		√	√	√	√
b. Search Engine	√							√	
c. Ai generated information		√	√		√			√	√

4.5 CHAPTER SUMMARY

All four research questions are presented and thoroughly discussed with the aim of exploring the four research objectives guided in the current study. The study is positioned within the scope of metacognitive reading strategies for Flipped Classroom approach. The first objective aimed to explore the TESL pre-university students' perceptions in decision-making skills in academic reading while they learn academic reading within a flipped classroom approach. The second objective focused on how decision-making skills facilitate TESL pre-university students' engagement in class. The third objective was to characterize academic reading materials preferred by the TESL pre-university students. The fourth objective was to identify TESL pre-university students' decision-making styles in academic reading within the flipped classroom approach. The researcher presented verbatim from the participants supported by evidence from relevant documents such as observation checklist, researcher's fieldnotes, and reflection log to better understand the case being studied. Emerging themes were presented in-depth and supported by similar research and theories; providing strong discussions of the key findings in relation to existing literature. Furthermore, the identification of different decision-making styles in academic reading among TESL pre-university students demonstrated the complexity of their independent academic reading process, thus, the new insights revealed by the present study not only enrich the understanding of academic reading practices but also contribute to the growing body of knowledge on academic reading which will further be elaborated in the follow chapter.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

This qualitative case study explored TESL pre-university students' decision-making styles in academic reading within a Flipped Classroom approach in one of the public universities in Malaysia. This study addresses a common stigma surrounding local university students' reluctance to read academic materials and offers a nuance understanding of the current situation and how they cope with challenges especially when learning academic reading within a flipped classroom approach. Findings from the present study highlight the integration of decision-making styles and artificial intelligence (Ai) among pre-university students while reading academic materials independently.

Chapter Five presents an interpretation and discussion of the key findings presented in the previous chapter. The aims of this discussion are to interpret and clarify the significance of findings in light of what is already known from literature to highlight the novelty and new insights on the current study. Furthermore, this chapter presents the implications, practical recommendations, and conclusion tied closely to a broader context and trends of educational practices and policies in Malaysia especially in relation to the pedagogy of Teaching English as a Second Language (TESL) which includes the shifts towards student-centred learning such as the Flipped Classroom approach in English language teaching.

5.2 INTERPRETATION OF KEY FINDINGS

This section presents the key findings of the present qualitative case study guided by four research questions. The themes are tabulated as follow:

Table 5.1 Research Questions and Key Findings

Research Questions	Themes
1. How do the selected TESL pre-university students perceive the decision-making skills during academic reading for flipped classrooms?	1. Clearer understanding of the topic. 2. Ability to apply to other subjects 3. Promote academic reading skills 4. Promote critical thinking 5. To ensure the suitability of the chosen materials. 6. Motivation to read 7. Becoming an independent reader 8. Ability to read within the time frame
	<i>Challenges</i> 1. Not confident 2. Vocabulary issues 3. Structure of reading text 4. Lack of guidance from instructor 5. Difficulty to find suitable materials 6. Fear of making wrong choices
2. How do decision-making skills during academic reading facilitate the selected TESL pre-university students' engagement in flipped classrooms?	Active class engagement a. Crucial preparatory stage b. Promote better in-class comprehension c. Promote collaborative learning Passive class engagement a. Poor comprehension b. Personality c. Highly dependent on instructor
3. What are the characteristics of reading materials preferred by the selected TESL pre-university students for flipped classrooms?	1. Short texts and Bullet Points 2. Topic familiarity 3. Multimedia references – Videos 4. Visual Aids – Images and Mind-maps 5. Content Accuracy and Trusted Websites 6. Language Proficiency and Readability
4. What decision-making styles do the selected TESL pre-university students demonstrate in academic reading for flipped classrooms?	1. Vigilant readers 2. Hypervigilant readers 3. AI-augmented readers a. Text simplification b. Search Engine c. Ai generated information

In this chapter, the findings are arranged from understanding the respondents' perceptions of decision-making in academic reading, to how these skills influence in-class engagement, to the preferences for academic reading materials and finally to identify the decision-making styles possessed by the respondents. Within the flipped classroom approach, the TESL pre-university students were aware that they had to read additional materials and understand that decisions have to be made while independently navigating the reading process.

For research question one (RQ1), the themes focus on several important aspects of how decision-making skills influence or navigate the TESL pre-university students academic reading as illustrated in Figure 5.1 below. The respondents shared that having strong decision-making skills has helped them to engage with the materials effectively and gained better understanding of the topics. Decision-making skills are seen as transferable skills across other subjects. They also believe that decision-making skills promote the development of academic reading skills and encourage critical thinking, which enable the students to evaluate and analyze reading materials deeply. To add, decision-making skills play a significant role in selecting appropriate academic reading materials that are suitable to their reading goals. Also, the TESL pre-university students felt motivated to read more and it fosters their independence as readers, empowering them to complete the reading activities within the given time frame before attending real-class time.

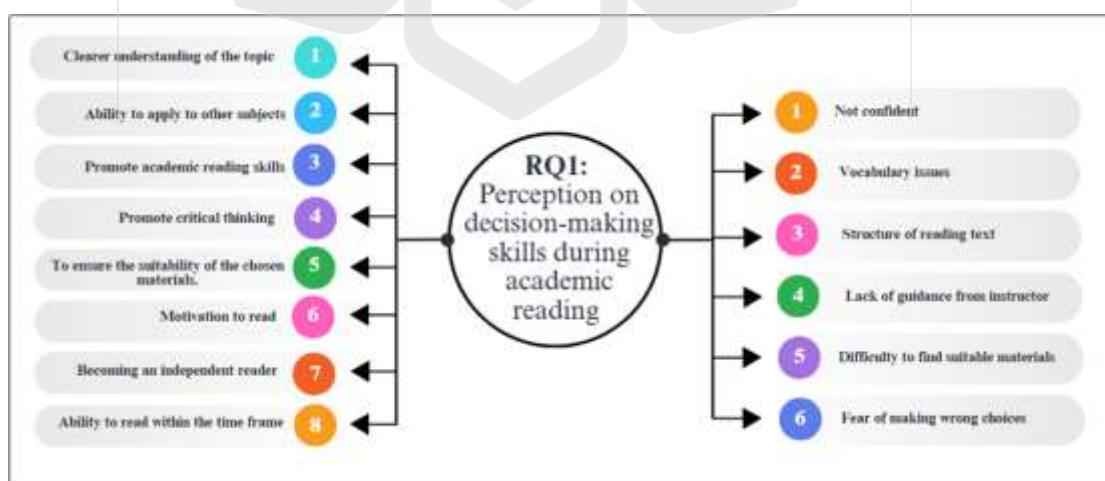


Figure 5.1 The Fourteen Emerging Themes for the Perception of Decision-making skills in Academic Reading for Flipped Classroom

The second research question (RQ2) explores how decision-making skills facilitate the selected TESL pre-university students' engagement in flipped classrooms illustrated in Figure 5.2. The students believed that decision-making is a significant factor in boosting their engagement in flipped classroom settings. Through thoughtful decisions on what to read and how to approach academic reading materials, they believed that they were more actively prepared to engage in in-class activities. Decision-making is seen as a crucial preparatory step that helps to set the foundation for better reading comprehension as well as deeper engagement in classroom activities. To add, informed decisions made also facilitated collaborative learning especially for students who prefer to quietly work with their classmates than openly engage with class activities lead by the instructor. They believed that they while reading prior to real-time class, they could make decisions that help them to contribute more meaningfully to peer interactions, group work and discussions led by the instructor.

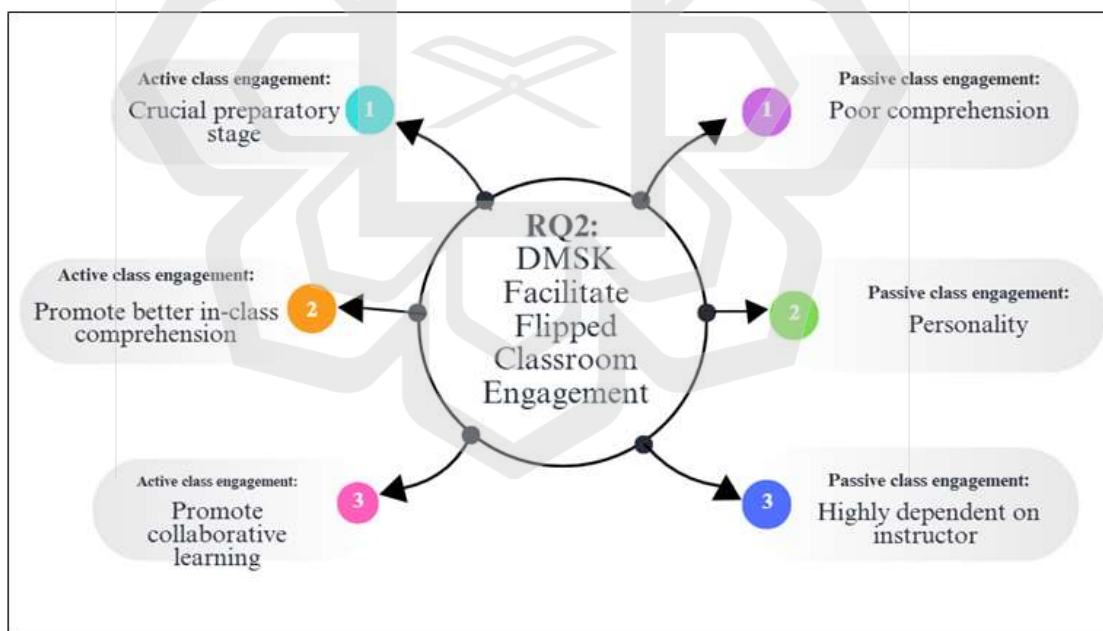


Figure 5.2 The Six Emerging Themes for Decision-making Skills Facilitate Flipped Classroom Engagement

The themes respond to research question three (RQ3) – the characteristics of preferred reading materials; highlight many features of academic materials that the respondents found most effective to help reading comprehension in flipped classrooms. These TESL pre-university students favoured short texts and bullet points as these formats allow them to quickly grasp important concepts and manage their reading activities. They also shared that they prefer academic reading materials with topics they are familiar with, as this could help them to connect new information or new concepts with their schemata. Multimedia references like videos, were highly valued because they believe that through watching videos, they were able to better understand complex concepts in academic reading. Images and mind-maps are also valued as these visuals support reading comprehension and served as an alternative way to process reading texts. These students also prioritized reading texts that are aligned with the reading assignment and they should come from trusted sources. Lastly, the TESL pre-university students preferred academic materials that align with their language proficiency and readability level. This was to ensure that the materials are accessible and not overly complex that could hinder comprehension. These six themes are presented in Figure 5.3.

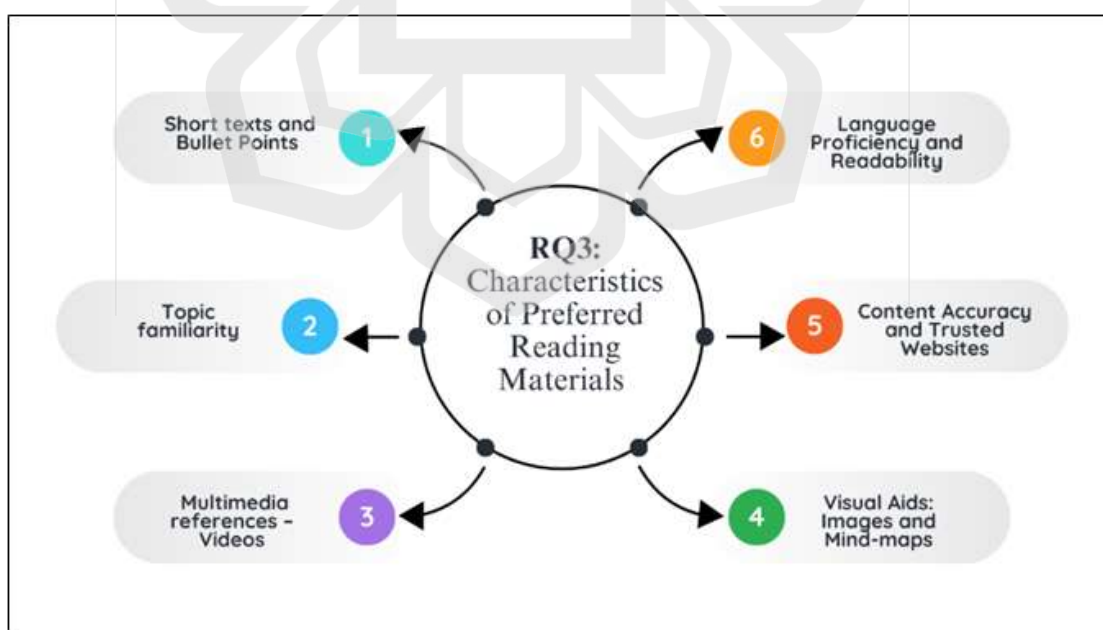


Figure 5.3 Six Emerging Themes for the Characteristics of Preferred Reading Materials

Lastly, research question four (RQ4) in this study explores the selected TESL pre-university students decision-making styles during academic reading for flipped classrooms. ‘Vigilant readers’, ‘Hypervigilant readers’ and ‘Ai augmented readers’ are the three themes emerged as the primary decision-making styles among these selective readers. Vigilant readers were those who carefully assess academic materials before making decisions. This is to ensure they completely understand the content before proceeding. On the other hand, the Hypervigilant readers were extremely cautious, which sometimes lead them to be indecision or excessive preparation for independent reading activities. The last theme is the AI-augmented readers, emerged from both Vigilant and Hypervigilant readers. These readers incorporate technology such as artificial intelligence tools to assist them in their decisions during reading process, enhancing their abilities to understand and navigate academic reading materials. Both Vigilant readers and Hypervigilant readers use AI tools for different purposes and situations to cope with challenges in academic reading. The vigilant readers among TESL pre-university students were more likely to use AI tools for critical thinking and to ensure deeper understanding of the academic texts. Their reading goal is to fully grasp difficult context from academic texts rather than just to simplify them. For hypervigilant readers, however, making decisions under pressure is driven by a need to reduce uncertainty quickly to avoid feeling overwhelmed by text complexity. Thus, they used AI tools to simply context. This situation suggests they tend to rush decisions while reading due to fear of making mistakes or struggling with cognitive overload while reading independently.

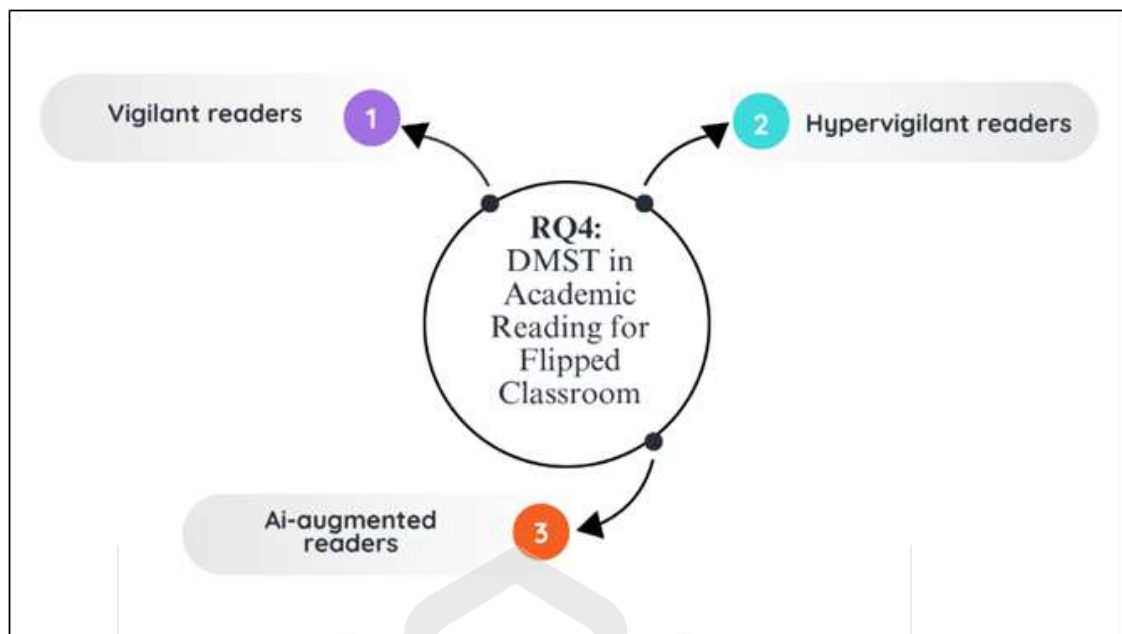


Figure 5.4 Three Emerging Themes for Decision-making Styles in Academic Reading for Flipped Classrooms

To conclude, although during the interview, the respondents claimed that they do not read much which is based on the lens of traditional reading practices; there is a new insight from this study that clearly shows these respondents cannot be classified as non-avid readers, but rather as selective readers who are adapting to the evolving landscape of academic reading in the digital age. The rise of AI-augmented readers has introduced a new coping mechanism that allows readers to engage with academic text in ways that suits their individual reading styles and preferences. This new approach in reading does not hinder reading comprehension but rather supports the respondents' comprehension through tools that offers personalized reading assistance. Findings from this study is also a response to Samsudin and Aspura's (2021) insistence in their study that future research must be conducted to explore the evolution of reading patterns, taking into consideration the impact of current technology. This study fills the gap through exploration of TESL pre-university students' decision-making styles that shed new coping mechanism among these young readers to overcome challenges in reading academic texts independently– the AI-augmented reader.

5.3 INTEGRATION OF FINDINGS AND UNDERPINNING THEORIES

Within a flipped classroom approach setting, independent academic reading activities that the respondents were required to fulfill before attending real-time classes were found to place pressure on the TESL pre-university students as they need to read within a certain period of time. Thus, in this study, the TESL pre-university students who are vigilant readers and hypervigilant readers have revealed a significant shift in how they perceive their roles as decision makers in the academic reading process. They have expressed that rather than passively being the recipients of information they have read, these pre-university students actively used Artificial intelligence as a tool to mediate their personal interaction with complex academic reading materials.

The AI-augmented readers observed in this study aligns with Janis and Mann's (1977) classification of decision-making. For the hypervigilant readers, as they read, their decision-making while reading under pressure reflects a need to quickly minimize uncertainty, which is a clear characteristic of Janis and Mann's hypervigilant style. Thus, to avoid such experience of overwhelming complexity, these students use AI tools to simplify context; an indication of their tendency to rush decisions due to fear of making mistakes or being unable to handle cognitive load due to reading. The vigilant readers who possessed more balanced decision-making and carefully consider alternatives and consequences according to Janis & Mann (1977), however, were more likely to use AI tools for critical thinking and to ensure comprehensive understanding. They aimed to fully understand difficult academic reading materials rather than merely simplifying them. The fact that AI tools are used both as a simplification tool and as a tool for deeper engagement in academic reading texts, reveals a fresh insight into how the TESL pre-university students cope with challenges in academic reading while they were reading independently. In addition, by positioning Janis and Mann's framework within the context of academic reading, the integration of AI tools into decision-making in academic reading introduces a new layer to the framework. AI tools act as boundary objects that mediate the pre-university students' cognitive conflicts with complex academic texts. Therefore, this study challenges the traditional academic reading concept where traditional reading; typically involves direct engagement with texts while solely relying on readers' concentration on texts (Baron, 2017; Rosenblatt, 1994) cognitive abilities, such as

critical thinking and comprehension (Delgado et al., 2018, Syed Ghazanfer Abbas, 2024:). AI-augmented readers alter traditional reading engagement with complex texts by using AI tools. They prompt for simplification of texts, further elaboration and seek for alternative perspectives shifting the responsibility of comprehension from being entirely dependent on the readers, to a shared responsibility between readers and the Ai tool. This group of AI-augmented readers has shifted traditional academic reading from a passive nature to a more proactive AI-driven reading experience.

To explore deeper into metacognition in academic reading, the findings align more with metacognitive regulation within the Flavell's Model of Metacognition. While metacognitive regulation and decision-making process are closely related, both are two different processes. Decision-making focuses on the process of choosing between options based on certain criteria such as choosing different reading materials or strategies. On the other hand, metacognitive regulation according to Flavell (1979) reflects the overseeing and controlling of readers cognitive processes in a broader sense (Gahari & Basahjideh, 2017; Li et al., 2024; Noushad, 2008), for example, in this study, the decisions made while reading independently, were constantly monitored and adjusted to optimize reading outcomes (reading comprehension). Students in a flipped classroom need to balance cognitive effort with time limitation through the decisions they make. Thus, while traditional models of metacognition focus on students' ability to reflect and manage cognitive activities, this study highlights that pre-university students' decision-making skills and metacognitive regulation interact in a dynamic time-constrained context. By positioning these decision-making skills within the lens of Flavell's Model of Metacognition, the dynamic highlights decision-making skills (selecting, evaluating and prioritizing reading materials) act as a vehicle for metacognitive growth. Furthermore, this study also reveals that decision-making styles in academic reading offer explanatory depth beyond Flavell's metacognitive regulation proposed in his model. According to Schraw and Moshman (1995), although metacognitive regulation explains how readers oversee their comprehension processes, it remains largely value-neutral about the *quality* of decisions made by the readers. In contrast, decision-making styles in academic reading incorporate cognitive, affective and contextual pressures that influence the type of decisions made under time constraints or conditions that are

uncertain - situations where students face complex challenges in academic reading within fixed deadlines. Furthermore, AI-augmented Reader framework advances Flavell's metacognitive regulation through the distribution of regulation across human and technological agents. While reading academic materials, the students did not only self-regulate, but the co-regulate with AI-tools that provide real-time scaffolds, feedback and alternative directions in reading. This situation aligns with Azevedo & Cromley (2004) research that showed that computer-based scaffolds can strengthen monitoring and evaluation of complex tasks.

For advanced language learners, they can reach higher-order thinking stages in Bloom's Revised Taxonomy, but barriers in their language proficiency often hinder their ability to express or fully demonstrate those skills which makes many tasks stall at 'understand' level of the taxonomy (Al-Yahyaie et al., 2022). While reading academic materials independently, the TESL pre-university students may be able to decode and understand texts (Bloom's 'Understand' level) but they often struggle to analyze, evaluate or create synthesized perspectives due to the limited comprehension depth. AI-augmented decision-making in academic reading helps break the barrier by providing linguistics scaffolds through summarization, simplification and additional contexts. This allows the students to pass Bloom's 'Understand' stage with higher order reading outcomes.

5.4 EMPIRICAL CONTEXTUALIZATION OF FINDINGS

Research directly addressing the synergy of decision-making styles in academic reading in flipped classroom approach in ESL or EAP contexts remains scarce. While the studies on the integration of Artificial Intelligence tool in English language learning have grown in recent years, most of the studies focused on what skills can be enhanced rather than how learners make informed choices when engaging with academic reading tasks. For example, Tessensohn et al. (2025) conducted a systematic review on the use of Ai-powered tools to enhance reading skills in the ESL Classroom between 2020 to 2024. The findings presented encompasses only on the list of reading skills that can be enhanced by AI tools. On the other hand, the present study which focuses more on decision-making skills in academic reading, explored deeper into

'how' AI tools were utilized, which respond to the decisions made while using AI tools. The respondents from the present study explained that they simplify text, they prompt AI tools to generate information and elaboration and use the tool as search engines. These actions have been instrumental in enhancing academic reading skills and academic reading comprehension.

Ramli et al. (2024) studied the purpose of ESL learners in using Artificial Intelligence as well as its relationship to metacognitive strategies. One of the findings shows that ESL learners used AI tools to '*search for other references*' which is similar to the finding that respond to research question four in the present study. The present study extends it's finding through identifying the purpose of using Ai as a search engine based on their decision-making styles. This provides deeper insight into how Ai can either enhance independent reading or create over reliance, thus, guiding more effective interventions in flipped classrooms.

A recently published doctorate thesis studied metacognitive online reading strategies and navigation patterns among foundation students in 2024. Abd Hamid (2024) studied on the navigation patterns on how foundation program students or pre-university students read online materials which involved a mixed-methods approach. There were 495 respondents participated in the quantitative data collection and eleven students participated in the qualitative data collection. The researcher found that three participants decided to rely on Search Engine Result Page (SERP) and the reading activities were not bounded by time. Although the nature of the study is to explore how these pre-university students navigate their selection of reading materials independently, none of the respondents were reported to be using Artificial Intelligence tool to search for reading materials. AI-augmented readers in this study have shown an advancement in navigating academic reading activities independently prior to attending the real-time classes.

The overall findings of the present study have also redirected students' readiness in flipped classrooms. Velde et al. (2021) found that first year students are typically less 'ready' for flipped classroom. Tomas et al. (2019) in their study found that students admitted that they were not used to be in charge of their own learning and were not fond of active learning. New insights revealed from this study proposed that students *are* capable of their own learning. Therefore, this current study offers a novel perspective by introducing AI-augmented readers among pre-university students who position Ai assistance in academic reading as a mediator to bridge the gap between a reader's cognitive limitations and the demands of academic reading goals.

Thus, reliance on Ai as a strategic mediator in academic reading, however, must be understood against the broader scope of reading spectrum among Malaysian university students, where the longstanding concerns persist that students in the higher education institutions often do not engage in sustained reading.

5.4.1 The Stigma: University Students in Malaysia Do Not Read

There is a pervasive belief that the current generation including Malaysian undergraduate students are not avid readers, particularly when it comes to reading academic materials (Abdul Manaf et. al, 2023; Edward et. al, 2024; Zulkifli et. al, 2021). This whole situation is often tied to the increasing dependence to digital devices, use of multimedia as well as the use of social media which are perceived as distractions from the lens of traditional reading practices. Within the same lens, many studies have reported the challenges and factors that lead to poor reading. However, findings from the present study combats the stigma that the young generations are disengaged from reading, by providing new insights that even students who claimed they are not avid readers are also capable of improving their reading skills and reading comprehension, based on the respondents' improvement of grades in their Academic Reading courses. This study has effectively changed the local societal perceptions on young English language learners; challenging the prevailing assumptions that Malaysian university students do not read, whereas the study found that these pre-university students have adapted alternative forms of reading academic materials that diverge from traditional reading practices. Not only they engage with different media

formats to assist reading comprehension; the findings from this study highlighted that these students are actively responding to technological advancement – using Artificial intelligence tool to assist them in the reading process. They chose to personalized reading process to suit their proficiency and preferences assisted by artificial intelligence tools. Such informed decision in academic reading activities reflects broader shifts in the literacy practices and becoming increasing common among the younger generation.

5.4.2 Teaching and Learning of Academic Reading in the 21st Century Goes Beyond Reading Skills, Strategies and Comprehension for Institutions of Higher Education

Today, English academic reading courses at tertiary level are no longer limited to simply learning to decode texts, apply strategies and understand academic text. Academic reading often involves dense, complex text that requires more than just comprehension, but also the synthesis of ideas, critical analysis as well as the ability to evaluate arguments, which is different from general reading activities. Looking at the traditional models of reading instructions, they typically focus on reading skills and reading strategies which can be too simplistic to tackle cognitive demands of reading academic texts. Academic texts often contain diverse view points and abstract concepts. Thus, teaching and learning of English academic reading should be more than the surface-level comprehension strategies as it involves multifaceted cognitive, digital and critical engagement. The teaching and learning activities should include higher-order cognitive skills that involve connecting ideas from different academic texts, identifying underlying arguments, and evaluating credibility of the sources used. Therefore, the skills mentioned are important skills to be used to engage with academic texts at a deeper level. Below is an excerpt taken from 2015-2025 Malaysia's Education Blueprint (MEB):

“Employers report that graduates lack the critical thinking and communication skills, and the language proficiency (especially in English) that are essential for success in the 21st century”

(Malaysia's Education Blueprint, page E-4)

The issue on graduates lacking critical thinking, communication skills and language proficiency in English highlights the importance of this study. Decision-making styles in academic reading tie all the components mentioned, demanded by employers. This situation explains why a broader approach to the teaching and learning of English academic reading is needed, thus metacognition comes into the picture. Metacognition, which Flavell (1979) defined as the awareness and control of a person's cognitive process during learning which in this study refers to reading activities, reflects one's ability to understand the material, recognize comprehension breaks down and use reading strategies to repair reading comprehension. However, knowing what is lacking while reading academic texts is not enough, English language students should be able to make decisions on what is best for them based on the existing knowledge they have in reading skills, reading strategies, and their access to information. Thus, suggesting that the best time to introduce the practice is during pre-university years where students are exposed to more complex academic texts. This study found that while the TESL pre-university students were independently reading within a time-sensitive situation and they were aware of the decisions that need to be made during the reading process, they claimed that awareness of choices they need to make have assisted them to think critically. Also, they were able to apply decision-making skills to other subjects like for Academic Writing course, because they need to equip themselves with relevant information before they write. Decision-making in academic reading in study extends what Flavell's have proposed in his Metacognition framework, metacognitive regulation. Decision-making styles (Janis & Mann, 1977) in reading specifically focuses how the respondents read within a time-constrained situation; how they engage with reading in terms of urgency and risk assessment on academic materials they chose. While metacognitive regulation on the other hand, focuses more on how readers process information while reading (Baker & Brown, 1984; Flavell, 1979; Veenman, 2006). To add, AI-augmented readers used AI tools to refine how they navigate reading skills and strategies to achieve desired reading comprehension. According to the TESL pre-university students, while reading independently, by using Ai tool, they prompted for instant feedback about the materials they read, reconsideration of their interpretations of the materials and helped them to see multiple perspectives within a short period of time. Despite the limited time for independent reading for flipped academic reading classes, this study reveals

that the respondents, who are not avid readers, has shown improvements in academic reading skills and comprehension by making informed decisions on how to engage with complex academic materials. Ultimately, fostering decision-making styles in academic reading with artificial intelligence assistance, contributes to the development of well-rounded capable graduates especially for students who are majoring in English language learning.

5.4.3 The Malaysia Education Blueprint 2015 -2025 (Higher Education)

This study was conducted within the framework of the Malaysia Education Blueprint for 2015 to 2025. Within the framework, the current study offers an impactful and timely contributions particularly in the aspect of English language teaching and learning. This qualitative case study conducted within a flipped classroom setting explores how TESL pre-university students decide while reading academic materials independently, revealing AI-augmented reader; a group of young readers actively employ AI tools to navigate complex academic text more effectively.

This new insight supports MEB's goal of preparing Malaysian's youth for the First shift: Holistic, Entrepreneurial and Balanced Graduates (page E-12). One of the attempts is to leverage 21st century skills and leverage technology-enabled models to allow more personalized learning. Understanding decision-making styles in academic reading contributes to the preparation of well-balanced graduates who hold not only English language literacy and digital skills, but also one of the important skills in the 21st century – decision-making. An international research project on 21st Century Skills – The ATC21S resulted in 10 skills grouped into four categories which are creativity and innovation; critical thinking, problem-solving, and decision-making (Binkley et al., 2012). In 2023, Organisation for Economic Co-operation and Development (OECD) suggested that assessing 21st century skills in education requires 'next-generation assessments', where students should be given the opportunities to engage in different types of decision-making (Foster & Piacentini, 2023). Therefore, the findings from the current research are significant to assist Malaysian university students, starting from those in the preparatory programs to

develop decision-making in English academic reading - a language skill that broadens their access to new knowledge.

The findings of present study also respond to Malaysia Education Blueprint 2015 – 2025 (Higher Education) ninth shift, Shift 9: Globalized Online Learning. The ninth shift wires the next horizon of ICT based learning – The Globalized Online Learning (GOL). Local universities in Malaysia have started to support MEB's ninth shift through implementation of Massive Open Online Courses (MOOCs), blended learning, and digital platforms (Dencil et. al. 2023; Kumar & Al-Samarraie, 2018; Mohd Noor, 2023) to broaden access and personalize instruction. A decision-making style for academic reading – the AI-augmented readers, proposed by the current study has shown that the TESL pre-university students were able to navigate independent reading efficiently in reading complex academic text while reading in a short period of time. Furthermore, the respondents also shared that they were aware that decision-making skills can also be applied to other courses. This shows that the AI-augmented readers is valuable not only within the teaching and learning of English, but also to other courses that uses flipped classroom approach or for students who has to read under pressure due to time constraints. The themes emerged in the present study also reflect personalized instruction through the use of AI tools, thus responding to Shift 9, proposed by the Malaysia education Blueprint (2015-2025). To add, this study innovatively extends Janis & Mann's (1977) classical decision-making styles to include Ai-mediated processes, thus also contributes theoretically to cognitive and English language studies. With AI tools acting as an embedded cognitive partner in helping university students reading complex texts, this trend demonstrates that English language learning strategies are evolving with technology signals a shift from traditional learner-driven activities to Ai-supported language engagement. This situation resonates with Malaysia education Blueprint's (2015-2025) vision to form a modern, outcome-oriented higher education system for the 'digital natives' – the young people who have grown up immersed in technologies and for whom life is fully integrated with digital devices.

5.4.4 Changing the Landscape of Malaysian Reading Programs

In recent years, there have been initiatives taken by the Malaysian government to promote love for reading primarily among Malaysia's youth; many of which are evident to have a successful impact on improving literacy.

In the current year, 2025, Malaysians are in the midst The National Reading Decade 2030, an effort initiated by the Malaysia Ministry of Education to make Malaysia a reading nation by 2030. Malaysia Ministry of Education together with the Institute of Language and Literature (*Dewan Bahasa dan Pustaka*) have created sustainable strategies for the realization the National Reading Decade 2030. The agenda is centred within six major programs (National Library of Malaysia, 2024):

1. Reading programs
2. Development of infrastructure & reading activities
3. Book festivals as book society destination
4. Development of reading among young adults & children
5. Better access to digital books
6. Life-long learning

In realizing the National Reading Decade 2030, a study was conducted by National Library of Malaysia to explore a current, more inclusive and comprehensive trend of Malaysian's reading profile aligned to the current development of Industrial Revolution Era 4.0 (IR4.0), Education 5.0, and Society 5.0 (National Library of Malaysia, 2024). According to the report, the scope of reading habits and practices can no longer be measured through the number of copies of books because there is a vast collection of digital books that can be accessed. Furthermore, to measure the trend, the national level study focuses on: 1. Frequency of reading 2. Format of reading materials 3. Types of reading materials 4. Favourite reading materials 5. Space as well as facilities for reading 6. Impact of reading promotion program 7. Issues related to reading habits 8. Reasons for not reading 9. Issues related to library use 10. Reasons for not buying books. In a study conducted by Zulkifli et. al (2021), their respondents

who were among English educators expressed that the current reading programs through evaluation of the number of books read may not suit the current evolving landscape of academic reading. Therefore, the researcher believes that with the integration of technology especially Artificial Intelligence to assist academic reading, the significant findings in this qualitative case study contributes to a deeper exploration of reading trends in Malaysia which also includes reading trends within the Malaysia Education context. Based on the findings presented in Chapter Four, understanding how Malaysian's youth read through the lens of AI-augmented readers, open a vast opportunity to explore the decisions made by readers while using AI tools and how this particular technology assists reading comprehension. According to Samsuddin & Aspura, (2021), in the context of second language reading, English language learners regard reading English academic texts as a daunting task. In light of this too, this study explored decision-making styles in academic reading while the respondents read within a time constrained situation that reveals significant findings in making academic reading less burdensome through the lens if AI-augmented readers, applicable for university students across other disciplines when navigating academic texts. Furthermore, research consistently shows that language learners' proficiency often restricts their ability to demonstrate higher-order cognitive skills in academic reading tasks, leaving them at the 'Understand' stage of Bloom's Revised Taxonomy (Al-Yahyaie, et al., 2022; Fenyi & Jones-Mensah, 2022). The AI-Augmented Reader Framework addresses this bottleneck by embedding AI scaffolds that reduce linguistic load. This situation enables the young readers to advance into analysis, evaluation and creation which is also the core of Malaysia reading literacy development.

Efforts to improve reading activities or inculcate reading habits among the local community remain warm although many efforts have been made. The importance of literacy or reading ability among the community is crucial, which acts as a benchmark of a country's development. Realizing the needs to explore and measure Malaysian's reading habits, Malaysia National Unity Minister, Datuk Aaron Ago Dagang shared that National Reading Index (IMK) was proposed to monitor overall Malaysians' reading habits and to also measure the achievements of National Reading Decade and National Book Policy (The Star, 2024 October 7th). He further added that the proposal of IMK also includes identifying aspects to improve reading

skills in the community. Thus, the integration of AI tools within university students decision-making styles in academic reading must be included since much research have already put forth the use of AI tools in academic reading activities. This study found integration of artificial intelligence in pre-university decision-making while reading independently, is evidence of maturity in using technology on how to enhance academic reading comprehension among the younger youths. The TESL pre-university students were able to use AI tools to navigate complex academic reading text by making independent academic reading process personalized based their language proficiency, preferences as well as reading goals. With the help of university experts and academics, Malaysian youths can adapt AI-augmented decision-making style in reading not only for reading academic texts but also for general reading activities to enhance comprehension within a time constrained situation. Also, the researcher has mentioned in the previous chapter that AI-augmented decision-making style enhanced the respondents' interests and motivation, thus, by highlighting readers' decision-making styles, it is hoped that interests in reading among Malaysia youths can be improved.

5.4.5 Teaching and Learning of English Academic Reading in Malaysian Universities

At tertiary level, teaching and learning of academic reading skills are still teacher-centred although there many efforts taken to shift towards students-centred learning, for example the implementation flipped classroom approach academic reading classes (Fong & Hoon, 2020; Mazlan et. al, 2025). and the use digital references and online courses like Massive Open Online Course MOOC. While the academics are expecting university students to independently engage in reading English texts, these students need more than the availability of technology, class instructions, and reading strategies as reading academic texts independently requires more than these aspects to enhance academic reading comprehension. Therefore, the novelty of this study offers a new insight to English instructors to also consider how the students make use of the options they have during the independent academic reading process. Other than the classical decisions in choosing reading materials and strategies, AI-augmented decision-making style in reading academic materials adapted by TESL-pre-university

students in this study has proven that using AI tools while reading independently within a time constrained situation has effectively helped them in navigating difficult reading texts. This adaption is beneficial to get the students to read independently and effectively. AI-augmented readers use AI tools to simplify texts. They personalized the structure of complex reading texts to suit their language proficiency and preferences in reading. Furthermore, the AI-augmented readers prompted for additional information and elaboration on subtopics they do not understand. It is interesting to know that by prompting for more information, they get to also learn new words, thus expanding their vocabulary size. The framework is beneficial for English instructors who are implementing flipped classroom approach in their language classes. Reading through the lens of an AI-augmented reader can also be helpful for students to prepare for other courses such as academic writing, listening and speaking courses.

After conducting the research, the researcher believes that English instructors play an important role in flipped language classrooms. While the researcher was conducting classes, she noticed the TESL pre-university students' disengagement during real-time classes. Although all the participants claimed that they did spend time preparing for real-time classes and they were aware of the knowledge they have in regard to the topics they will be learning in class, passive class engagement was based on their personalities and mood. Although the AI-augmented readers were reported to be engaged in independent reading activities, this cannot guarantee that they would voluntarily participate in in-class activities. Through class observations, the biggest challenge observed was the students' personalities; they prefer to work individually, and some of them were highly dependent on the instructor. The researcher believes that implementation of flipped English classes must be based on solid objectives especially for receptive skills such as teaching academic reading. The study revealed that the TESL pre-university students managed to achieve the academic reading learning outcomes and showed improvement in their academic reading grades, however, in terms of in-class participation, which was not part of the academic reading goals, the TESL pre-university students showed noticeable reluctance. Thus, to teach academic reading in flipped classroom environment, instructors must also

consider non-cognitive skills such as class participation to be addressed in the learning goals at the beginning of each lesson.

5.5 LIMITATIONS

Although the chosen qualitative exploratory case study approach allowed rich, in-depth understanding of the respondents' experiences in English academic reading, there are some limitations influenced the scope and interpretation of findings (Montgomery, 2023). Some limitations of the present study were anticipated at the beginning of the study and outlined in Chapter One, but others emerged during the research process. Firstly, although the recent study did not aim to compare participants' experiences in decision-making based on gender, it is noted that the selection of participants included only one male participant. This scenario reflects the gender composition of the study context and the purposive sampling criteria aligned with the research focus. As such, the qualitative data collected are not intended to be interpreted through a gendered lens. Secondly, due to the nature of a qualitative exploratory case- study that aimed to capture authentic academic reading experiences, the researcher intentionally refrained herself from frequently reminding respondents to read or impose rigid requirements for academic reading activities. While the natural context of independent academic reading activities was preserved, it is also meant that the study did not focus on exploring how increased external prompting might influence reading frequency or depth. Therefore, the data should be interpreted within the context of self-directed engagement, aligned with the flipped classroom approach.

5.6 RECOMMENDATIONS FOR FUTURE RESEARCH

After conducted this qualitative exploratory case-study research on TESL pre-university students' decision-making styles in academic reading within a flipped classroom approach, there are recommendations to be made for future research.

Firstly, other researchers are recommended to conduct exploratory studies specifically on how different decision-making styles can influence reading outcomes. The present study revealed only two decision-making styles proposed by Janis & Mann (1977) in academic reading: Vigilant readers and Hypervigilant readers. Studies can be conducted to explore the buck-passing readers and procrastination readers, tracking their reading comprehension, academic reading performance and overall engagement in flipped academic reading classrooms. In addition, since the present study focuses on TESL pre-university students who were advanced in using English (based on academic reading final exam result for semester one & MUET result) and have the awareness of using reading strategies (all of them scored high in Survey of Reading Strategies proposed by Mokhtari & Sheorey, 2015), other researchers could address English language learners with different language proficiencies. Thus, the proposed study extends findings from the present study by focusing on pre-university students with low or average language proficiency and who are not studying English language as their major. The findings can help flipped classroom instructors to conduct more meaningful real-time English academic reading classes as they are aware of the characteristics of how the low and average English language learners decide while reading academic texts independently within flipped classroom approach.

Secondly, further research can be conducted to explore more on AI-augmented readers' choices while reading complex academic materials. While the present research revealed that the respondents who are advanced English users among the pre-university students chose AI-tools to simplify texts, to generate information and prompt elaboration in relation to academic texts, as well as use it as a search engine to assist them in understanding complex texts; future research could explore to what extent AI-augmented readers use AI tools to achieve reading comprehension. This is to dive deeper into the level of maturity these AI-augmented readers have while integrating artificial intelligence and reading strategies to achieve cognitive goals. The findings on informed decisions and options they have can be a guideline for English instructors to navigate real-time classes as well as to construct final exam papers. Since it is already known that AI-augmented readers exist as early as pre-university students, incorporating AI tools in class can also be helpful for English instructors

while teaching academic reading in flipped classes. Students can prompt for generated information regarding a given text, and conduct discussions based on the responses given. Findings from a study with similar practices with AI literacy in class (Walter, 2024) suggested that students should not use AI-tools to be their ghostwriter or tutor, but AI tools should work as their *sparring partners*. AI tools can provide interesting ideas and suggestions that provide answers or directions that students might have not thought of while reading and responding to complex academic texts. To add, using AI tools during in-class discussion can boost their critical thinking while responding to complex academic texts, and the choices on how to use the tool, serves as valuable insights not only for English instructors, but also flipped classroom instructors from other disciplines. Thus, researchers can focus on AI-augmented readers' decisions in managing the options they have while using AI tools as assistance to read academic materials independently.

Lastly, the findings of this study could fill in the gaps and support the initiatives mentioned in the Malaysia Education Blueprint 2015 – 2025, National Reading Decade 2030 and National Reading Index (IMK) by positioning the synergy of a 21st century skill (decision-making) and artificial intelligence in reading especially for academic materials. The researcher would strongly suggest policy makers to also include this new insight to the proposed agenda by the Malaysia Ministry of Higher Education: MOHE's Seven Main Focus of 2025 delivered by the Minister of Malaysia Ministry of Higher Education (Unit Komunikasi Korporat, Kementerian Pendidikan Tinggi, 2025). One of the main initiatives outlined in Programme 1: Artificial Intelligence Technology: Digital & Entrepreneurship is to review the current Ai-based curriculum, to develop new courses, and to integrate AI modules into existing courses. Given that English is the global language of entrepreneurship, the findings from this study strongly supports the implementation of this initiative. Learning English academic reading is not confined to just increasing proficiency in the target language, but also to stay informed about best practices in entrepreneurship, emerging technologies as well as global markets.

In conclusion, the present study provides valuable insights aligned with the current trend in Malaysia higher education system. This study recommends several avenues for future research and policy development to enhance not only the teaching and learning of English academic reading, but also to support the initiatives taken to improve reading literacy among Malaysians through the 21st century skill – readers’ decision-making and the evolving technology of artificial intelligence.

5.7 NOVELTY OF THE STUDY

From the findings and discussions in this chapter, a framework is derived for university students majoring in Teaching English as a Second Language, academics of English language programmes as well as flipped classroom instructors. The proposed framework for the present study is called the AI-augmented Reader Framework (The Ai-AR) for Flipped Classroom approach for teaching English academic reading. The Ai-AR framework visualizes the synergy of decision-making and artificial intelligence in reading academic texts within flipped classroom approach.

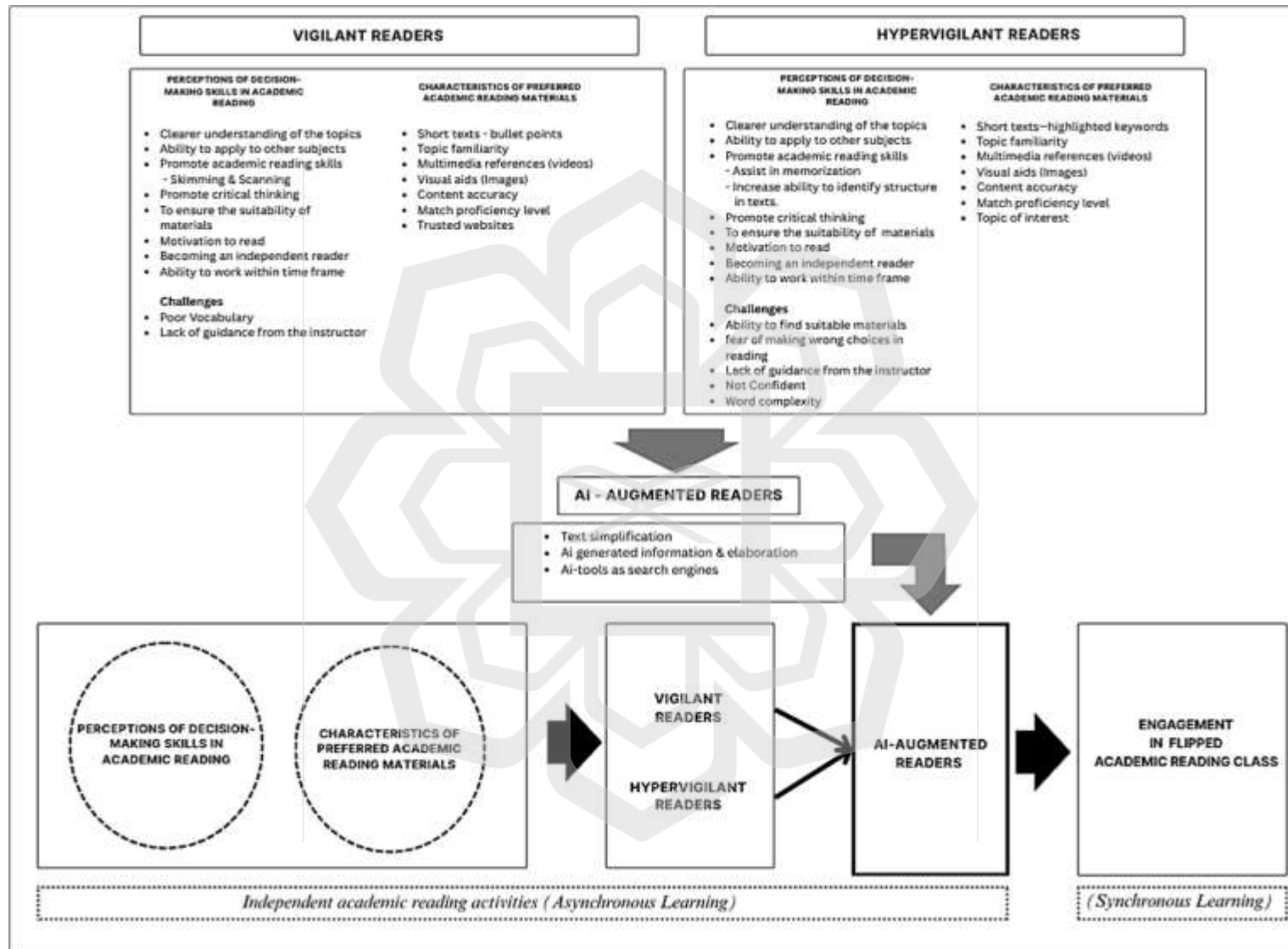


Figure 5.5 The Ai-AR framework of English Academic Reading for Flipped Classroom Approach

The central question to why this study was conducted is to look at how advanced ESL learners majoring in English studies who came from a generation often perceived as non-avid readers, read academic materials independently. From the qualitative case study, the participants revealed that through informed decisions while reading academic materials independently, they were able to improve reading comprehension based on the given reading instructions. This situation also aligns with Flavell's (1979) metacognition framework suggesting that effective readers possess awareness and control over their thinking process while reading. To add, it is important to identify readers' decision-making styles in order to understand how they read academic materials with the distinctive characters they possess. While metacognition in reading explains the thinking of a person's thinking process in reading, understanding decision-making styles in academic reading elaborates deeper on how readers make well-reasoned decisions while reading complex academic texts under uncertainty.

While reading, both Vigilant readers and Hypervigilant readers shared many similar preferences in choosing academic materials. However, Vigilant readers consciously choose materials from trusted websites. A decision that is important to ensure the quality and reliability of the content. Also, Hypervigilant readers prefer to read materials that suit their interest. This is fairly important for them because when they read materials align with their personal interests, they felt more engaged and motivated to read. This is consistent with the idea that time pressure and anxiety can influence how reading materials are selected, which is based on personal comfort (Chansky, 1958).

To cope with challenges while reading complex academic materials independently within a short period of time, the respondents shared that they choose to use AI tools to assist them in reading academic materials. This is a clear reflection of Herbert Simon's (1957) theory of Bounded Rationality. When students are constrained by time and cognitive capacity, they do not aim for an optimal solution like reading the entire academic text in-depth. Instead, they satisfice (Simon, 1957) by using AI tools. The TESL pre-university students use ChatGPT to simplify challenging academic text and personalized it according to their English proficiency level. While trying to understand reading materials, the pre-university students

prompted for information and elaboration from the Ai-tool to better understand text. Lastly, in order to save time, they also use AI tools such as Phind and ChatGPT to search for supplementary reading materials. The pre-university students get to read summarized content and extract key points without having to read the whole text. This reduces time and minimize cognitive load. The use of AI tools is a form of satisficing where TESL-preuniversity students decided on a solution that is ‘good enough’ rather than striving for the ideal reading experience.

Reading academic materials involves more than simply understanding words on pages (Maxwell, 2021). Academic reading involves analyzing and interpreting the content critically which requires the readers to ask questions about the academic texts, evaluate author’s arguments and making connections to readers’ schemata. Furthermore, the 21st century core skill- decision-making, is a crucial skill to be incorporated in academic reading as it empowers readers to actively engage, evaluate and apply the knowledge gained while reading. In the modern academic landscape, decision-making goes beyond choosing what to read and interpret information; it synergizes problem-solving, critical thinking and synthesize diverse perspectives. Therefore, in the flipped classroom approach, where students are at the centre of learning, The Ai-AR framework provides English instructors a comprehensive understanding of decision-making in academic reading and how AI-augmented readers use AI tools to improve reading comprehension even before attending real-time classes.

5.8 CONCLUSION

Based on the detailed discussions above which answered the research questions, there are several conclusions can be made. Firstly, TESL pre-university students in this study who are representing young, advanced readers of their age, are already exposed to the use of Artificial intelligence tools to assist them in reading academic materials. Such exposure was not inculcated in the syllabus of the TESL pre-university program they attended which reveals maturity in the decisions they have made in reading to leverage their academic reading skills and comprehension. This situation sparks a need to educate other ESL learners who experience the struggles in reading complex

academic texts. While many language researchers focus on metacognition in reading, decision-making as part of the 21st century skills, plays an equal role in the 21st century learning education (Griffin & Care, 2015) especially in Malaysia higher institutions (Ahmad et. al, 2019). Metacognition plays a central role in a person's awareness and self-regulation of their thinking process while reading; decision-making on the other hand, is crucial for applying this awareness in practical and outcome driven situations. In reading, decision-making allows readers to determine strategies to apply, which sources to trust, and most importantly how to engage with text (Ellery, 2010). To illustrate, A reader may recognize that they do not understand a section in an article (metacognitive skill), decision-making skill choose how to address the issue, like choose to look meanings of unfamiliar terms from an Ai-tool as reported in this study. Thus, for ESL learners, decision-making must be emphasized as it empowers them to make active choices under uncertainty in while reading academic materials independently and has proven to be effective in leading them to a more successful academic reading outcome.

Secondly, one of the core benefits of flipped classrooms is that the approach allows class time to be used for higher-order thinking activities such as discussions and debates where students apply knowledge they have learned prior to real-class time (Bergmann & Sams, 2012). For flipped classroom instructors, to ensure that their students have engaged deeply with reading materials before class and able to learn how they read independently is crucial. Not only it is important for flipped classroom instructors to deliver knowledge in class, they should also learn the students' reading strategies, options and solutions they have while they were reading independently. Gaining insights into whole process of independent reading allows instructors to design and tailor instructions that can maximize students reading activities before they attend class, the engagement during class as well as to achieve the learning objectives. With the integration of artificial intelligence, to some academic reading instructors who implement flipped classroom approach might find teaching academic reading a more challenging task. When students depend too much on AI tools while reading academic materials, overusing it may also reduce students' direct engagement with the materials. As a result, they may not develop the ability to maximize critical evaluation of a text or generate original responses and interpretations. This reliance can

undermine effectiveness of flipped learning if instructors are not aware of the academic reading preparation. To add, language instructors who understand how students read with the use of AI tools may detect the discrepancies between AI-assisted and human interpretation especially among students who just entered tertiary education. Artificial intelligence tools may not always capture nuances in meaning, cultural context, tone and mood of a text. ESL students who are learning academic reading might misunderstood certain concepts which can potentially lead them to unequal levels of engagement and comprehension. This study focused on pre-university students who are proficient in English and have a certain level of exposure and maturity in using technology. These factors contributed to more positive outcomes for AI-augmented readers in this study. Thus, as AI tools become increasingly integrated into academic reading (Tessensohn, 2024), it is important to focus on the critical roles that decision-making plays in this process. Empowering ESL learners to make informed, strategic choices while using AI tools could ensure deeper engagement with academic texts, better comprehension and more meaningful learning outcomes. Therefore, developing decision-making alongside the use of AI should be a priority for educators aiming to maximize the benefits of both in academic reading.

Lastly, education policy makers especially in the Ministry of Higher Education or any higher education sectors play a critical role in preparing students for the rapidly evolving education system. By addressing decision-making styles in academic reading, they could help to create students who can critically navigate vast information and solve complex problems through informed choices. Education policies that recognize decision-making as a fundamental 21st century skill encourage higher education institutions to integrate it systematically along with the implementation of artificial intelligence technology in the curriculum and teaching practices focusing on elevating students' proficiency in English. Without explicit policies to support the integration of both skills in English language pedagogy, students are at risks of being passive consumers of information and would be vulnerable to misinformation.

5.9 CHAPTER SUMMARY

This chapter has presented the key findings, interpretations and discussion of TESL pre-university students' decision-making styles in academic reading situated within the flipped classroom approach. The chapter also acknowledges limitations, recommendations for future research and the novelty of the present study. Together, these insights contribute to the growing body of literature and practical consideration in English academic reading focusing on ESL pre-university students' decision-making styles within the Flipped Classroom approach.



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APPENDIX A

PARTICIPANT CONSENT FORM

REC 4 / 2020/BM Pind. 2(2020)

Research Ethics Committee

Subject Information Sheet

Research Title

Decision-making Styles in English Academic Reading within a Flipped Classroom Model: A Case Study of TESL Pre-university Students

Introduction of Research

The Flipped Classroom Model, an approach that emphasized on student-centered learning activities (O'Flaherty & Phillips, 2015; Bergmann & Sams, 2012) has garnered increased popularity in the new education landscape. This is evident from Datuk Seri Dr. Noraini Ahmad's keynote at the 2021 National Education and Learning Summit, where she mentioned flipped classrooms being used in Malaysian higher education since March 2020 (Yusoff, 2021). The Flipped classroom approach features direct individual instruction before real-class time and interactive classroom learning activities (Bishop & Verleger, 2013), contributing to deep, active learning (Shen, 2023). This approach receives broader support in language studies (Turan & Akdag-Cimen, 2020). Attending to the preparatory stage of Flipped Classroom model where self-regulated learning takes place, provides an opportunity for language learners to become conscious of their decisions in reading academic materials as part of their metacognitive awareness throughout the language learning process. Nevertheless, while most studies examine the approach's effectiveness, research on the preparatory stage is scarce (Akçayır & Akçayır, 2018), including ESL learners' academic reading engagement. Additionally, ESL learners' decision-making in academic reading in Malaysia remains an unresolved concern among academics. Past studies have explored other decision-making areas, but few reviewed Malaysian ESL learners' academic reading decisions for flipped English classrooms. Researchers should prioritize pre-university students, representing the youngest tertiary cohort well-positioned to benefit from educational groundwork. By exploring the decisions made during academic reading, opens a window into their evolving thoughts and skill development as well as supports (Good III et al., 2009) that are necessary and critical for academics to leverage pedagogical approaches (Sharma et al., 2019) on English Education align to the initiatives taken by the government.

Purpose of Research

The purpose of this case study is to explore TESL pre-university students' decision-making styles in academic reading within a Flipped Classroom model. The study also sought to investigate TESL pre-university students decision-making skills which subsequently influence their decision-making styles in academic within the context of a flipped classroom model.

Research Procedure

This study will employ a qualitative research design, proposed by Cresswell (2013) which representing a series of procedure to gather, organize, and integrating data resulting in detailed research finding. The researcher used qualitative research design to explore and characterize pre-university students' decision-making in English academic reading within a Flipped Classroom model. Under the qualitative research design, this study adapts the single-case study design proposed by Yin (2018) - decision-making styles in academic reading (the case) embedded in the preparation of attending English flipped classrooms (the context).

Participation in Research

Your participation in this research is entirely voluntary. You may refuse to take part in the study or you may withdraw yourself from participation in the research at any time without penalty. If you decide to participate, kindly sign up your

name and some token will be given for your time and trouble. If you do this, all information from you will be destroyed, but you will be allowed to keep your token as a souvenir.

Benefit of Research

By participating in this research, you may also benefit others by helping people to better understand the importance of decision-making while reading for academic purposes, and how others can use your sharing to be better English language learners. Academics in higher institutions can benefit the findings as a guideline to develop modules of flipped classroom for personalized English Language Learning for future use. This is deemed important as it reflects the demographic profile of Malaysian students as the second language learners. Also, this serves as a response to the initiatives by the Malaysian Ministry of Higher Education (MoHE).

Research Risk

Not Applicable.

Confidentiality

By participating in this research, several steps will be taken to protect your anonymity and identity. All data collected will be kept and can only be accessed by the researcher, Pn. Khairunnisa binti Othman. She can be reached through 019 6053357.

Consent Form:

To become a subject in the research, you or your legal guardian are required to sign this Consent Form

I herewith confirm that I have met the requirement of age and am capable of acting on behalf of myself / as a legal guardian as follow:

1. I understand the nature and scope of the research being undertaken.
2. I have read and understood all the terms and conditions of my participation in the research.
3. All my questions relating to this research and my participation therein have been answered to my satisfaction.
4. I voluntarily agree to take part in this research, to follow the study procedures and to provide all necessary information to the investigators as requested.
5. I may at any time choose to withdraw from this research without giving any reason.
6. I have received a copy of the Subjects Information Sheet and Consent Form.
7. Except for damages resulting from negligent or malicious conduct of the researcher(s), I hereby release and discharge _____ and all participating researchers from all liability associated with, arising out of, or related to my participation. I agree to hold them harmless from any harm or loss that may be incurred by me due to my participation in the research.

Name of Subject/Legally authorized representative (LAR)

Signature

I.C No:

Date:

Name of Consent Taker:

Signature

I.C No:

Date

- 1 Original signed copy is to be retained by the Principal Investigator.
- 2 Delete whichever is not applicable.
- 3 A witness is only required for oral consent.

APPENDIX B

REC APPROVAL LETTER

Pejabat
Timbalan Naib Canselor
(Penyelidikan dan Inovasi)

Reference : 600-TNCPI (5/1/6)
Our reference : REC/02/2024 (ST/MR/42)
Date : 1445H شعبان 16
26 February 2024

Madam Khairunnisa binti Othman

and Greetings
سلام عليكم ورحمة الله وبركاته

Madam

APPROVAL LETTER RESEARCH ETHICS COMMITTEE

Thank you for submitting your research proposal to the Research Ethics Committee (REC). After considering your application, the Committee approved your proposal titled "Decision-Making Styles in English Academic Reading within a Flipped Classroom Model: A Case Study of TESL Pre-University Students" at the Centre of Foundation Studies.

Details of the approval are as follows:

Ref. number:	REC/02/2024 (ST/MR/42)
Approval Period:	26 February 2024 until 14 September 2025
Authorised personnel:	1. Khairunnisa binti Othman

The Research Ethics Committee operates in accordance to the ICH Good Clinical Practice Guidelines, Malaysian Good Clinical Practice Guidelines and the Declaration of Helsinki. The approval of this project is conditional upon your continuing compliance with these guidelines and declaration.

We draw to your attention the requirement that a report on this research, must be submitted every 12 months from the date of the approval or on the completion of the project, whichever occurs first. Failure to submit reports will result in withdrawal of consent for the project to proceed. Amendments, if any, to the study documents are to be submitted to the REC for approval.

If you require further information, please contact the REC Secretariat at [redacted] or email at [redacted]

اوسها، تقوى، موليا

"MALAYSIA MADANI"

"BERKHIDMAT UNTUK NEGARA"

Yours sincerely,



ISO 9001:2015 No. 5441: 10120136

APPENDIX C

INTERVIEW PROTOCOL

TITLE OF THE STUDY:

DECISION-MAKING STYLES IN ENGLISH ACADEMIC READING WITHIN A FLIPPED CLASSROOM APPROACH: A CASE STUDY OF TESL PRE-UNIVERSITY STUDENTS IN MALAYSIA

RESEARCHER: KHAIRUNNISA OTHMAN

DATE:

TIME:

INTERVIEWEE:

INTERVIEW QUESTIONS:

1. As a student majoring in English language studies, between 1 to 10, how do you rate yourself as a reader?
2. Can you describe your experience preparing for academic reading classes?

Prompt / Simplified/Real questions:

- a. How was the preparation like every time you attend academic reading class?
 - b. When do you usually do the preparation / research?
3. In your opinion, while you are reading independently (self-learning stage), what are the key decision-making skills required before you attend academic reading classes? (weigh credibility of material/evidence, critical thinking/analyze arguments/perspectives, problem solving, data analysis, identify contextual influences/information management, evaluate conclusion(s) if necessary, creativity?)

Prompt / Simplified/Real questions:

- c. While you are reading for supplementary materials, how do you know which material is useful for you? / How do you choose the materials?
- d. Once you've got the materials You believe is useful, what do you do?

4. How important do you consider decision-making skills to be while reading independently (self-learning stage), before you attend academic reading classes? (engagement, motivation, readiness?)

3a. to you. Why?

3b. to your classmates. Why?

3c. Any examples/incidents that happened in class that you can share?

Prompt / Simplified/Real questions:

e. Going through the process of reading supplementary materials, how important do you think the process is

i. to you? Why?

ii. To you classmates? Why?

iii. Any examples/incidents that happened in class that you can share?

5. When you look for references, how does

a. written texts assist you in learning the topic given. Elaborate.

b. multimedia references assist you in learning the topic given. Elaborate.

c. Which of the two, assist you better? Elaborate.

6. When you make the decisions during independent reading (self-learning stage), have you ever considered the implication to:

a. you as a student? Elaborate.

b. your classmates? Elaborate.

c. the class environment/mood? Elaborate.

7. What challenges or difficulties have you faced when making decisions while reading independently (self-learning stage), as a preparation to attend academic reading class?

How did you solve them?

Prompt / Simplified/Real questions:

f. Did you experience any challenges/difficulties when deciding on the information / materials you have read?

8. Are there any specific techniques you use to improve your decision-making skills during independent reading (self-learning stage), before you attend academic reading classes? Can you provide examples?

9. How do you evaluate your own decision-making skills in academic reading for academic reading?

9.a. Do you feel confident in your ability to make effective decisions while reading independently? Yes / No, Elaborate.

10. Do you think it is important for you and your friends to address decision-making skills during independent reading (self-learning stage)? Why?
Who would benefit from it? Why?
11. What suggestions or recommendations would you give to instructors or curriculum designers to better support learners' decision-making during independent reading (self-learning stage) for academic reading classes?

Prompt / Simplified/Real questions:

- g. Do you have any suggestions to lecturers / curriculum designers to better support students' choices during independent reading for this class?
12. Do you believe that decision-making skills in academic reading differ in a flipped classroom compared to a traditional classroom? If so, how?

Reference:

Turner, Daniel W., III. "Qualitative Interview Design: A Practical Guide for Novice Investigators." *The Qualitative Report* 15, no. 3 (2010): 754-760.
<https://doi.org/10.46743/2160-3715/2010.1178>.

APPENDIX D

FC CLASS OBSERVATION (OBSERVATION CHECKLIST)

Observation date: _____

Participants / class: _____

Topic: _____

Note to researcher:

1. Observation ***can't be recorded***.
2. Proposed topics: Making Inferences / Drawing Conclusions / Generating Implied main ideas. (HOTS topics to minimize students using Ai apps)
3. Researcher acts as the instructor (with minimal interference- only giving prompts / questions to encourage class discussions)
4. Observe the frequency of responses, **cognitive engagement** of the students. Look for other types of engagements; behavioural & emotional engagement (**if any**)
5. Tick next to the relevant constructs that reflect the student's engagement.

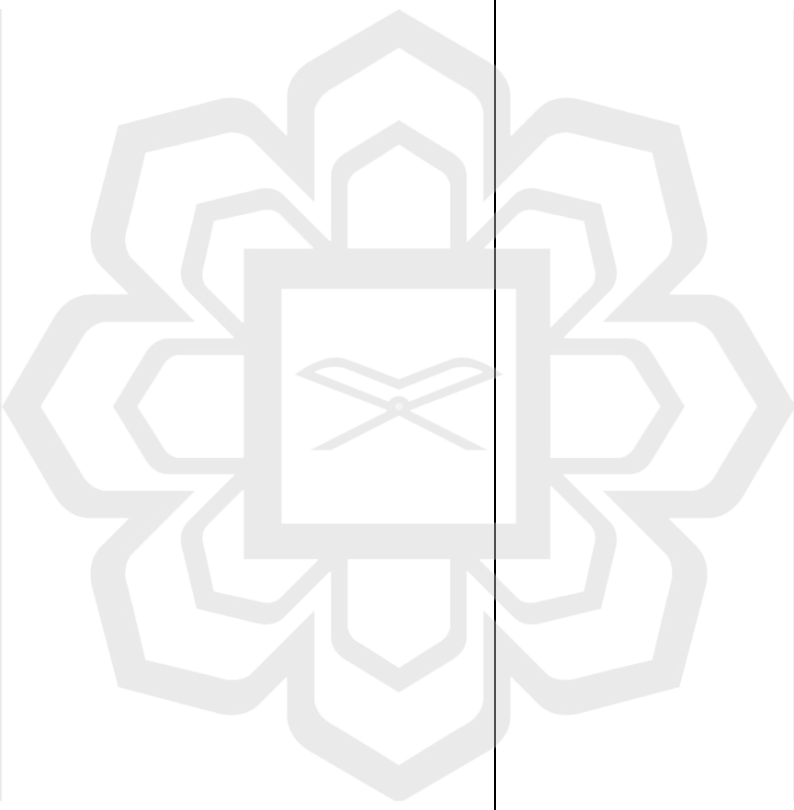
Revised Bloom's Taxonomy levels	Level 1 Recall and Reproduction	✓	Level 2 Skills and Concepts	✓	Level 3 Strategic Thinking/ Reasoning	✓	Level 4 Extended Thinking	✓
Remember Retrieve knowledge from long-term memory, recognize, recall, locate, identify	Recall, recognize, locate basic facts, ideas, principles. Recall or identify conversions: between units of measure. Identify facts/details in texts.							

Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion, predict, compare/contrast, match like ideas, explain, construct models	Evaluate an expression. Locate points on a grid. Symbolize math relationships. Write simple sentences. Describe/explain how or why.	Specify and explain relationships Give non-examples/examples Make and record observations Summarize results, concepts, ideas Infer or predict from data or texts Identify main ideas	Explain, generalize, or connect ideas using supporting evidence. Explain phenomena in terms of Concepts. Write full composition to meet specific purpose. Identify themes.	Explain how concepts or ideas specifically relate to other content domains or concepts. Develop generalizations of the results obtained or strategies used and apply them to new problem situations.	
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	Follow simple/routine procedures Solve a one-step problem. Calculate, measure, apply a rule. Apply an algorithm or formula Represent in words or diagrams a concept or relationship. Apply rules or use resources to edit spelling and grammar.	Select a procedure according to task needed and perform it. Solve routine problem applying multiple concepts or decision points. Retrieve information from a graph and use it solve a multi-step problem. Use models to represent concepts. Write paragraph using appropriate organization, text structure	Use concepts to solve non-routine problems. Design investigation for a specific purpose or research question. Conduct a designed investigation. Use reasoning, planning, and evidence. Revise final draft for meaning or progression of ideas.	Select or devise an approach among many alternatives to solve a novel problem. Conduct a project that specifies a problem, identifies solution paths, solves the problem, and reports results. Illustrate how multiple themes (historical, geographic, social) may be interrelated.	

Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for bias or point of view)	Retrieve information from a table or graph to answer a question. Identify or locate specific information contained in maps, charts, tables, graphs, or diagrams.	Categorize, classify materials. Compare/ contrast figures or data Select appropriate display data. Extend a pattern Identify use of literary devices. Identify text structure of paragraph.	Compare information within or across data sets or texts. Analyze and draw conclusions Generalize a pattern. Organize/interpret data. Analyze author's craft or viewpoint.	Analyze multiple sources of evidence or multiple works by the same author, or across genres. Analyze complex/abstract themes. Gather, analyze, and organize information Analyze discourse styles	
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique			Cite evidence and develop a logical argument for concepts. Describe, compare, and contrast solution methods. Verify reasonableness of results. Justify conclusions made.	Gather, analyze, and evaluate relevancy and accuracy. Draw and justify conclusions. Apply understanding in a novel way, provide argument or justification for the application.	
Create Reorganize elements into new patterns/ structures, generate, hypothesize, design, plan, construct, produce	Brainstorm ideas, concepts, or perspectives related to a topic or concept.	Generate conjectures or hypotheses based on observations or prior knowledge.	Synthesize information within one source or text. Formulate an original problem Develop a complex model for a given situation	Synthesize information across multiple sources or texts. Design a model to inform and solve a real-world, complex, or abstract situations	

APPENDIX E

RESEARCHER'S FIELD NOTE

<i>No.</i>	<i>Descriptive Notes</i>	<i>Reflective Notes</i>
		

Adapted from: Observation Protocol Example (Creswell, 2007, p.137).

APPENDIX F

REFLECTION LOG

(DECISION-MAKING ACTIVITIES)

Note to researcher: This log is to be completed after students have completed all flipped classroom sessions.

1	2	3	4	5	6
Very untrue of me	Untrue of me	Somewhat untrue of me	Somewhat true of me	True of me	Very true of me

INSTRUCTIONS TO PARTICIPANTS:

People have different approaches when it comes to making decisions while reading academic materials independently. Please indicate how you make decisions while preparing for your academic reading class by putting a tick in the box according to the scale above and share your reasons with me. I would love to know!

When I make decisions during extensive reading for my Academic Reading class today,

- 1. I feel as if I am under tremendous pressure when I make decisions** on what should I read apart from the given materials.
Why? Explain your answer.

1 2 3 4 5 6
- 2. I like to consider all the alternatives** (on the additional information) when I'm doing my reading independently.
Why? Explain your answer.

1 2 3 4 5 6

3. When it comes to sharing additional information for online class discussions, **I prefer to leave the decisions to my classmates.** 1 2 3 4 5 6
Why? Explain your answer.

4. In regards to preparing for academic reading classes, **I delay making decisions until it is too late.** 1 2 3 4 5 6
Why? Explain your answer.

5. When selecting information for a given topic, **I try to find the disadvantages of all alternatives.** 1 2 3 4 5 6
Why? Explain your answer.

6. When choosing information to read, **I waste a lot of time on insignificant matters before getting on the final decisions** 1 2 3 4 5 6
Why? Explain your answer.

7. ***I consider how best to carry out a decision*** when I **1 2 3 4 5 6**
look for information for the given topic.
Why? Explain your answer.

8. ***Even I have made a decision during my reading, I*** **1 2 3 4 5 6**
delay acting upon it.
Why? Explain your answer.

9. ***When making decisions, I like to collect a lot of*** **1 2 3 4 5 6**
information regarding the given topic.
Why? Explain your answer.

10. ***I avoid making decisions*** when I read. **1 2 3 4 5 6**
Why? Explain your answer.

11. When I have to make a decision in choosing which information to read, **I wait a long time before starting to think about it.** 1 2 3 4 5 6
Why? Explain your answer.

12. **I don't like to take responsibility for making decisions** when I read for a given topic. 1 2 3 4 5 6
Why? Explain your answer.

13. **I try to be clear about my objectives** before choosing the information related to the given topic. 1 2 3 4 5 6
Why? Explain your answer.

14. **The possibility that small things might go wrong causes me to swing abruptly in my preference of** choosing information to read. 1 2 3 4 5 6
Why? Explain your answer.

15. *If a **decision can be made by me or a friend**, I let my friend make it.* 1 2 3 4 5 6
Why? Explain your answer.

16. *Whenever I face a **difficult decision** in choosing which information to read, I feel **pessimistic about finding a good solution**.* 1 2 3 4 5 6
Why? Explain your answer.

17. *I take a lot of care before choosing relevant information for the given topic.* 1 2 3 4 5 6
Why? Explain your answer.

18. *When I read, I **don't make decisions until I really have to**.* 1 2 3 4 5 6
Why? Explain your answer.

19. In regards to independent reading, **I prefer friends who are better informed decide for me.** 1 2 3 4 5 6
Why? Explain your answer.

20. During independent reading, **after a decision is made, I spend a lot of time convincing myself it was correct.** 1 2 3 4 5 6
Why? Explain your answer.

21. **I put off making decisions** when it comes to independent reading. 1 2 3 4 5 6
Why? Explain your answer.

22. When it comes to choosing what to read, **I can't think straight if I have to make decisions in a hurry.** 1 2 3 4 5 6
Why? Explain your answer.