

Decision-Making Skills in Independent Reading: Malaysian TESL Pre-University Students' Perceptions through Herbert Simon's Decision-Making Framework

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ABSTRACT

Independent academic reading within academic context requires learners to make continual decisions about which strategies to apply, how to allocate time, and when to adjust approaches. For TESL pre-university students in Malaysia, these decisions are critical as they engage with complex academic texts in preparation for higher education. Drawing on Herbert A. Simon's decision-making framework, which emphasizes bounded rationality and satisficing under constraints, this concept paper attempts to explore how these advanced language learners perceive decision-making during independent academic reading. Prior research highlights that while ESL learners report strong awareness of reading strategies, performance gaps remain, often due to difficulties in monitoring comprehension and adapting strategies effectively. By situating reading within Simon's bounded rationality, this study conceptualizes decision-making skills as problem-solving under cognitive and contextual limitations. Findings are expected to shed light on the decision points learners identify (e.g., slowing down, rereading, or seeking external support) and the cues that shape those choices. The study contributes theoretically by reframing decision-making process in academic reading practically by offering insights for TESL instructors to scaffold adaptive choices, thereby enhancing reading literacy and supporting Malaysia's broader educational agenda.

Keywords: Simon's Decision-making Framework, Academic Reading, ESL learners

INTRODUCTION

Independent academic reading is a critical learning skill for pre-university students, particularly those majoring in English programs. Beyond decoding and linguistic proficiency, academic reading involves complex decision-making processes such as choosing strategies, allocating time, and monitoring comprehension (Afflerbach et al., 2008). In multilingual contexts like Malaysia, where English is both a second language and an academic medium of instruction, the ability to make informed English reading decisions directly influences academic success. Unfortunately, Malaysia's reading performance for the Programme for International Student Assessment (PISA) 2022 remains below the OECD average, highlighting the urgency of equipping students with stronger reading literacy and strategy use (OECD, 2023). In Malaysia, studies have shown that ESL undergraduates frequently employ metacognitive reading strategies, particularly problem-solving approaches such as rereading and inference (Rajab et al., 2017). However, performance gaps persist. They may be aware of strategies but still struggle to deploy them adaptively in independent reading tasks (Li et al. 2024). This gap points to the importance of understanding how ESL learners perceive their own decision-making processes when engaging with academic texts.

Scholars consistently emphasize the distinction between reading skills and reading strategies, noting that strategies are deliberate, goal-oriented actions readers employ to manage comprehension (Afflerbach et al., 2008). Instruments such as the Metacognitive Awareness of Reading Strategies Inventory (MARSI) have been widely used to demonstrate how global, problem-solving, and support strategies are applied during academic

reading (Mokhtari & Reichard, 2002). However, research also suggests that possessing strategies does not always translate into effective application; the challenge lies in learners' decision-making about when, why, and how to use them (Bjork et al., 2013).

Herbert A. Simon's decision-making framework offers a valuable lens to examine this phenomenon. Simon (1955, 1979) introduced the concept of bounded rationality. He argued that decision-makers operate under cognitive and contextual constraints. Instead of optimizing, they rely on heuristics and satisficing—seeking solutions that are “good enough” in given time, information, and resource limitations. Within the context of independent academic reading, this perspective suggests that readers make constrained choices about whether to persist with difficult passages, switch strategies, or settle for partial comprehension depending on perceived task demands and available resources.

Metacognitive and self-regulated learning research aligns with Simon's model, framing reading as a cycle of monitoring and control. Nelson and Narens (1990) highlighted readers' judgments are about comprehension guide subsequent control decisions, such as whether to reread or move forward. However, these judgments are often prone to error, resulting in “illusions of competence” (Bjork et al., 2013). For ESL pre-university students, these bounded and sometimes flawed decision-making processes can significantly influence how effectively they engage with complex texts in preparation for higher education.

This study therefore intends to investigate Malaysian TESL pre-university students' perceptions of decision-making in independent academic reading through Simon's decision-making framework. The emphasis on this spectrum of academic reading should prioritize pre-university students as 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 et al., 2009) that are necessary and critical for academics to leverage pedagogical approaches (Sharma et al., 2019) on English Education in Malaysia. By conceptualizing academic reading as a sequence of constrained decisions under bounded rationality, the study contributes to both theory and practice. Theoretically, it reframes independent reading as a decision-making process rather than merely a strategy inventory. Practically, it offers insights not only for instructors from TESL programs but also academics from other disciplines on how to scaffold students' decision-making while reading independently, promote more adaptive reading behaviours, and ultimately strengthen reading literacy within Malaysia's broader educational agenda (National Library of Malaysia, 2024).

LITERATURE REVIEW

Independent academic reading as a strategic, decision-making activity Independent academic reading (IAR) involves setting goals, choosing strategies such as previewing, annotating, rereading, and monitoring outcomes. In this sense, reading habits are better understood as strategic decisions rather than automatic skills. Reading strategies are deliberate, goal-directed actions; they are not routine behaviours, showing how readers adjust to the demands of academic texts (Afflerbach et al., 2008). This view aligns with research in self-regulated learning (SRL), where learners must manage limited cognitive resources, balance effort with comprehension, and decide when their understanding is “good enough” (Zimmerman & Moylan, 2009).

A major challenge, however, is that ESL learners often misjudge which reading strategies truly support long-term understanding. A situation Bjork et al. (2013) call as ‘illusions of competence’. Commonly used strategies like rereading and highlighting may feel effective but are less powerful than generative or elaborative strategies (Callender & McDaniel, 2009; Yan et al., 2014). According to Hunutlu (2022), while many students reported using strategies such as rereading and translation, their metacognitive monitoring often fails to distinguish between productive and unproductive decisions while reading.

Research increasingly shows that IAR is a strategic and adaptive process especially in multilingual settings. ESL learners adjust their reading strategies depending on text difficulty, time limits, and purpose—an example of decision-making under bounded cognitive capacity (Jeevaratnam & Stapa, 2022). In digital environments, readers must also decide whether to use AI tools, such as summarizers or glossaries, highlighting how reading

now involves judgment and evaluation, not just decoding (Zhang & Zou, 2021). Viewing IAR as a decision-making process helps explain why some learners achieve deep comprehension while others settle for surface understanding.

Metacognitive Awareness of Reading Strategies: Constructs and Measures

Research on IAR often measures how readers perceive their strategy use through validated instruments. The Metacognitive Awareness of Reading Strategies Inventory (MARSI) (Mokhtari & Reichard, 2002) and the Survey of Reading Strategies (SORS) (Sheorey & Mokhtari, 2001) identify three key factors: Global, Problem-Solving, and Support strategies. Later versions such as MARSI-R confirmed the instrument's reliability and structure (Mokhtari, Dimitrov, & Reichard, 2018). Recent large-scale studies continue to show positive links between MARSI dimensions and English reading comprehension outcomes.

Simon's bounded rationality and decisions in academic reading

Herbert Simon's notion of bounded rationality reframes decision-making as adaptive rather than optimizing; people satisfice - selecting an option that is "good enough" in given limits of information, time, and cognitive resources—rather than compute an unreachable optimum (Simon, 1955). In his foundational articles, real decision makers rely on aspiration levels and heuristics to terminate search once acceptable criteria are met (Simon, 1956). This lens is especially apt for independent academic reading in a second language (ESL), where learners frequently decide what to read, how deeply to process, and when to stop searching or rereading under severe constraints of time, linguistic proficiency, topic knowledge, and task demands.

In academic reading among ESL learners, bounded rationality is evident in academic reading when readers satisfice in information seeking. Prabha et al., 2007 claims that students often stop searching when they have "enough" to satisfy assignment requirements at minimal cost, a behaviour explicitly theorized as satisficing. In independent reading assignments, such satisficing manifests in selecting accessible sources, skimming to reach task thresholds, or prioritizing abstracts and conclusions over full-text comprehension. Simon anticipated precisely these adaptations to environmental complexity: the decision to settle for adequacy rather than optimality emerges when information spaces are vast and computationally expensive to navigate (Simon, 1956).

Secondly, bounded rationality is evident when cognitive capacity restricts comprehension depth in a second language. Language comprehension is constrained by working memory capacity, which limits syntactic parsing and integration during reading; smaller effective capacity yields more shallow or delayed integrations, particularly under complex syntax or ambiguity (Just & Carpenter, 1992). Complementarily, Cognitive Load Theory argues that learning (and by extension, complex comprehension) is throttled by limited working memory and by extraneous load in task design; minimizing extraneous load improves performance under constraint (Sweller, 1988). For ESL readers who must allocate resources to decoding, vocabulary inference, and discourse integration simultaneously, these capacity and load constraints make "good-enough" comprehension a rational outcome. This merges with the good-enough processing where readers often construct superficial or underspecified representations that suffice for current goals rather than exhaustively disambiguating every detail which is another satisficing strategy under bounded resources (Karimi et al., 2016). In independent academic reading, ESL learners may rely on gist extraction, key-sentence scanning, or graphic cues as heuristics to meet task goals efficiently, especially when time-pressured or when texts exceed lexical/structural comfort zones. From a Simonian perspective, these are ecologically rational adaptations to the structure of academic texts and the study environment rather than deficits in isolation (Pleskac & Hertwig, 2014).

While reading within a time sensitive situation, metacognitive regulation reflects Simon's concept of bounded rationality, as learners regulate their reading under cognitive and linguistic constraints making satisficing rather than fully optimal decisions. Metacognitive reading strategies (planning, monitoring, and evaluating) help learners allocate scarce attention, select heuristics, and set aspiration levels – readers decide in advance what counts as 'enough' understanding for the task, given the constraints of time, cognition, and language proficiency. Studies with English as Second Language (ESL) learners in higher institutions consistently show

that higher metacognitive awareness of reading strategies (MARSI) correlates with better comprehension and lower anxiety, indicating that explicit regulation improves how readers cope with constraints during independent study (Anggia et al., 2024). In this sense, metacognitive strategy instruction can be interpreted as designing better mental shortcuts and better stopping rules for bounded agents, enabling more vigilant satisficing when facing complex texts.

Therefore, applying bounded rationality to ESL independent academic reading (a) normalizes satisficing behaviours as rational adaptations to linguistic and cognitive constraints; (b) predicts heuristic reading (gist-first, section targeting, abstract-led sampling) as ecologically rational responses to the structure of academic articles; and (c) motivates instructional scaffolds that reshape the environment (reducing extraneous load, clarifying task goals) and cultivate metacognitive control so that learners satisfice well rather than poorly. This synthesis connects decision science with second language (L2) reading research: when ESL students read independently, they are not failed optimizers but bounded agents whose choices can be improved by better heuristics, clearer aspiration levels, and environments designed with cognitive constraints in mind—exactly the concept Simon outlined (Simon, 1955, 1956).

Academic Reading Literature within the Malaysian context.

Malaysian studies provide directly relevant context. Rajab et al., (2017) in their study reported that among ESL undergraduates, Problem-Solving strategies were the most used, followed by Global and Support strategies—mirroring broader ESL trends. A different study by Abd Halim, Satimin, Obaid, & Ghazali, 2022 revealed that metacognitive awareness (especially Problem-Solving and Global strategies) correlated positively with reading comprehension performance. Research on Malaysian university students' online academic reading similarly documents active use of metacognitive and navigational strategies (Azmuiddin et al., 2017). These findings suggest Malaysian ESL learners in higher institutions make systematic reading decisions that can be modelled with Simon's framework - limited time or effort, heuristic selection & satisficing thresholds.

Taken together, the literature depicts IAR as a cascade of bounded, heuristic decisions about what to read, how to process it, and when to persist or stop. SRL and metacognitive research studies explain why some decisions help (accurate monitoring, strategic allocation), while MARSI-type surveys map learners perceived decisions. However, few studies explicitly theorise Malaysian ESL pre-university students' IAR through Simon's bounded rationality, linking satisficing, limited search, and heuristic choice directly to strategy profiles and perceived challenges.

METHODOLOGY

This study will adopt a qualitative exploratory design (Merriam & Tisdell, 2016) to examine Malaysian TESL pre-university students' perceptions of their decision-making skills in independent academic reading. Simon's (1977) Decision-Making Framework, which emphasizes the processes of decision-making which involve identification, evaluation and selection of reading skills and academic texts, will guide the investigation. The focus will be on students' perceptions of decision-making while reading academic texts independently and justify their strategic choices when engaging with academic texts. The participants will also reveal the materials used to aid their academic reading comprehension.

Participants will consist of thirty TESL pre-university students from a Malaysian public university, selected through purposive sampling to ensure they have sufficient experience with academic reading tasks. Their advanced language mastery and vocabulary put 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. Data will be collected through semi-structured interviews structured around Simon's framework. The structured interview will encourage students to describe their thought processes and challenges in strategic decision-making while reading academic texts independently.

Gathered data will be analysed using thematic analysis, with codes developed inductively based on Simon's framework. The thematic analysis will follow a three-phase process: open coding, axial coding and selective coding (Strauss & Corbin, 1990, p. 96). Trustworthiness will be established through inter-rating process by

three experts, member checking with participants, and researcher reflexivity. These procedures will ensure that the findings remain credible, contextually relevant, and aligned with the conceptual framing of decision-making in ESL academic reading.

RECOMMENDATIONS

Future studies should expand the focus beyond perceptions to examine actual decision-making processes in real-time independent reading. Think-aloud protocols, eye-tracking, and digital log analyses could complement self-reported strategies to capture how ESL learners make bounded, satisficing choices when processing complex texts (Thiede et al., 2003; Metcalfe & Kornell, 2005). In addition, comparative research across proficiency levels would illuminate how novice versus advanced ESL learners differ in monitoring comprehension and allocating cognitive efforts.

For academics and instructors, future research should test intervention models that scaffold decision-making in independent academic reading. For example, experimental studies could evaluate the impact of explicit training in metacognitive monitoring, guided annotation tools, or AI-based adaptive feedback on students' ability to make more effective reading decisions (Mokhtari & Reichard, 2002; Bjork et al., 2013). Classroom action research could also identify practical methods to apply Simon's bounded rationality—such as teaching students to recognise when “good enough” is sufficient or how to use simple decision rules effectively—in reading lessons. To add, English instructors can incorporate AI-tools to scaffold students' decision-making in reading academic materials. This allows the students to be more independent and they can choose to personalize reading based on their proficiency levels.

CONCLUSION

This paper has conceptualized independent academic reading among Malaysian TESL pre-university students through Simon's decision-making framework, emphasizing that reading is not merely a matter of strategy awareness but a sequence of bounded choices shaped by cognitive, linguistic, and contextual constraints. By framing students as boundedly rational agents who satisfice rather than optimize, the paper contributes theoretically by linking decision science with ESL reading research and practically by offering insights into how instructors may scaffold more adaptive reading behaviours. The significance of this approach lies in its ability to explain why performance gaps persist despite reported metacognitive awareness, and in positioning TESL pre-university learners as a pivotal group within Malaysia's higher education landscape. Future research may build on this conceptual foundation by investigating real-time reading decisions and testing interventions that foster more effective satisficing, aligning instructional practices with national efforts to strengthen academic literacy.

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