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BRIDGING THE GAP IN ACADEMIC READING: EVALUATING SUPPLEMENTARY ENGLISH COURSES AND THE PREDICTIVE VALIDITY OF MUET AMONG ESL UNDERGRADUATES

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Abstract:

This study examines the variability in academic reading performance among ESL undergraduate students, focusing on the relationship between Malaysian University English Test (MUET) proficiency levels, quiz score disparities, and the effectiveness of supplementary English courses. Despite passing at least one supplementary course, students with lower MUET bands (≤ 3.5) exhibited significantly lower quiz performance than their higher MUET counterparts. Descriptive statistics revealed substantial score variation, with supplementary course students achieving a mean quiz score of 16.88 (SD = 6.17) compared to 20.96 (SD = 4.98) among non-supplementary students. An independent samples t-test confirmed a significant performance gap ($t = -2.82, p = 0.0066$), with a moderate-to-large effect size ($d = 0.73$). Correlation analysis indicated a moderate positive relationship between MUET bands and quiz performance ($r = 0.431, p = 0.0007$), while regression analysis showed that MUET explained only 18.6% of the variance in quiz scores ($R^2 = 0.186, p = 0.001$), suggesting that additional cognitive and instructional factors influence reading comprehension. These findings highlight the limited predictive power of MUET and the incomplete effectiveness of supplementary English courses in bridging the academic reading gap. The study underscores the need for pedagogical interventions beyond standardized test preparation, focusing on reading strategies, cognitive engagement, and discipline-specific literacy support. Future research should explore longitudinal impacts of supplementary instruction and alternative assessment models to better gauge students' academic reading readiness.

Keywords:

Academic Reading Comprehension, MUET, Supplementary English Courses, ESL Undergraduates, Standardized Assessment, Pedagogical Effectiveness

Introduction

Proficiency and competency in the English language have long been recognized as key determinants of academic success and subsequent accomplishment in the workforce. As the language of knowledge, English mastery is particularly crucial in science and technology fields (Fu & Wang, 2022). This has driven a nationwide effort in Malaysia, prompting local universities, especially technical universities, to implement various measures to enhance students' English proficiency. Such initiatives are essential, as academic programs in these disciplines require a high level of English competence for students to engage with complex academic texts and complete coursework effectively (Musah et al., 2016). This need is further underscored by Malaysia's goal of increasing STEM enrolment to 60% to ensure a sufficient workforce in these critical fields. According to Aziz and Subramaniam (2023), nearly half of Malaysian students pursue STEM subjects, with 20.51% specializing in Pure Science and 26.67% in Technical and Vocational Education and Training (TVET). To support this objective, universities offer various supplementary English courses, some of which are mandatory for graduation. In Malaysia, placement into these courses is often determined by students' scores on the Malaysian University English Test (MUET), which assesses proficiency in four language skills: listening, speaking, reading, and writing. Students with lower proficiency scores are typically required to enrol in remedial English courses for additional support in language development. This highlights the importance of ensuring that MUET serves as a reliable measure of students' actual language proficiency and that supplementary English courses effectively equip weaker students with the necessary skills to succeed academically and professionally.

Although MUET is widely used for university placement, its predictive validity concerning students' actual academic performance remains uncertain. Existing studies have reported mixed findings. For instance, Abd. Samad et al. (2008) examined whether MUET bands could predict students' academic success, as measured by their CGPA. The study, which focused on 52 third-year TESL undergraduates at a local university, found insufficient evidence to support MUET's validity as a predictor of academic achievement. In contrast, Mohd Nopiah et al. (2011) investigated the relationship between MUET results and students' academic performance and found a stronger correlation between the two. However, Othman et al. (2013), who examined the accuracy of MUET as a predictor of ESL undergraduates' academic performance, reported that MUET has only a moderate influence on students' academic success. These conflicting findings raise concerns about whether MUET effectively reflects students' language proficiency and preparedness for academic tasks. Given that MUET scores often determine students' placement in supplementary English courses, ensuring its reliability as a valid measure of academic readiness is crucial for supporting students' success in English-medium university programs.

Moreover, academic reading proficiency is a critical skill for university students, particularly in English as a Second Language (ESL) contexts, where reading comprehension directly influences academic success (Edward et al., 2021; Grabe & Stoller, 2019; Owen et al., 2021). Baharum et al. (2021) and Othman et al. (2013) reported that the reading component in MUET is a significant predictor of students' academic performance, alongside speaking and listening components. However, discrepancies in students' academic reading performance, despite meeting institutional language requirements, raise concerns regarding the effectiveness of supplementary English courses designed to bridge proficiency gaps, as well as MUET's ability to predict specific reading comprehension skills. Hence, this study seeks to examine whether

MUET scores reliably predict academic reading comprehension and assess whether students who complete supplementary English courses achieve comparable reading proficiency to their peers with higher MUET bands.

Literature Review

Despite its institutional significance, MUET may not fully capture students' readiness for discipline-specific academic tasks, particularly in reading comprehension (Ng et al., 2019). Academic reading extends beyond general language proficiency, requiring higher-order cognitive skills such as synthesizing information, critically evaluating arguments, and making contextual inferences – skills that standardized tests like MUET may not comprehensively assess (Grabe & Stoller, 2020). Although MUET includes reading comprehension components, it does not explicitly measure discipline-specific literacy skills, which are essential for academic success across various fields. A corpus study examining lexical bundles (LBs) in MUET reading texts revealed that the functional distribution of LBs differs across disciplines, with science-based passages featuring more research-oriented LBs (Ong & Yuen, 2015). This suggests that MUET may not fully align with the literacy demands of specific academic domains. Consequently, this misalignment may explain why MUET results only moderately predict students' academic reading performance at the university level. Given these limitations, there is a need to complement MUET with targeted interventions that develop students' discipline-specific reading skills and cognitive engagement strategies to enhance their academic preparedness.

Furthermore, academic reading poses significant challenges for ESL students due to the complexity of texts, domain-specific vocabulary, and the inferential reasoning skills required for comprehension (Edward et al., 2021; Grabe & Stoller, 2020). However, standardized proficiency tests often fail to account for the nuanced difficulties students face when engaging with academic texts, particularly in discipline-specific contexts (Owen et al., 2021; Seshagiri et al., 2020). This limitation raises critical concerns for test developers and institutions seeking more effective assessment solutions for academic reading within diverse English-medium instruction (EMI) contexts. While research underscores the central role of academic reading in students' success, findings also reveal that learners adapt their study skills and reading strategies based on available resources and contextual demands (Owen et al., 2021). These variations highlight the need for assessment frameworks that go beyond general language proficiency, integrating discipline-specific literacy requirements and cognitive engagement strategies to more accurately measure students' academic readiness and support their learning needs.

To address gaps in English language proficiency, many universities implement supplementary courses aimed at strengthening students' language skills. While research indicates that these courses contribute to general language improvement (Heydarnejad et al., 2022), their effectiveness in fostering academic reading comprehension remains uncertain. One major limitation is their emphasis on surface-level linguistic features, such as grammar and vocabulary, rather than the higher-order cognitive and metacognitive skills essential for processing complex academic texts (De Zarobe et al., 2024; Hasani et al., 2022; Vettori et al., 2024). Additionally, these courses often prioritize standardized test preparation over equipping students with the deep comprehension strategies needed for academic success (He et al., 2025). On this note, ESL and EFL teachers working with L2 learners preparing for English proficiency

exams should seek a balance between engaging learners in effective test-preparation practices and helping them improve their overall language proficiency.

However, without explicit instruction in metacognitive awareness and cognitive reading strategies, students may continue to struggle with comprehension beyond standardized assessments. This gap is particularly evident in the way ESL students regulate their reading strategies, as many fail to refine ineffective approaches or apply successful ones consistently, resulting in a lack of deep engagement with academic texts. A critical barrier to reading proficiency among ESL students is their limited metacognitive awareness, which affects their ability to regulate reading strategies such as summarization, prediction, and monitoring comprehension (Mežek et al., 2022). Studies show that while students may reflect on their reading, they often fail to refine ineffective strategies or consistently apply successful ones, leading to superficial engagement with texts (McGrath et al., 2016). Furthermore, even high-proficiency L2 students struggle with academic reading when they lack exposure to discipline-specific texts, frequently approaching reading tasks with a short-term focus, such as fulfilling immediate writing requirements, rather than developing sustained comprehension skills (McGrath et al., 2016). These findings underscore the need for supplementary courses to integrate explicit instruction in metacognitive awareness and cognitive reading strategies to better prepare students for the demands of academic literacy.

Existing research has largely focused on either MUET's general validity or the effectiveness of supplementary English courses, with limited studies examining their combined impact on academic reading comprehension. This study seeks to address this gap by analysing how MUET proficiency levels and supplementary English courses interact to influence students' actual reading performance. Hence, the study challenges to answer these research questions:

- i. To what extent do MUET scores correlate with academic reading comprehension performance?
- ii. Is there a significant difference in reading comprehension performance between students who completed supplementary English courses and those who did not?
- iii. To what extent do MUET scores predict students' reading comprehension quiz scores?

By providing empirical evidence on the efficacy of current language policies in Malaysian universities, this research contributes to a broader discussion on improving academic literacy instruction. Findings from this study could inform curriculum design, university placement policies, and pedagogical strategies to enhance ESL students' readiness for discipline-specific academic reading.

Methodology

This study employs a quantitative, correlational research design to investigate the relationship between Malaysian University English Test (MUET) proficiency levels, completion of supplementary English courses, and academic reading comprehension performance. A comparative and predictive analysis approach was adopted to assess score disparities and evaluate the extent to which MUET proficiency predicts academic reading comprehension outcomes.

Conceptual Framework

This study is grounded in Krashen's Input Hypothesis (1985) and Cognitive Load Theory (Sweller, 1998). Krashen's theory emphasizes that reading comprehension improves when students are exposed to comprehensible input slightly above their proficiency level. Cognitive Load Theory, on the other hand, posits that excessive cognitive demands – such as decoding complex texts without adequate linguistic proficiency – impair comprehension. These frameworks provide insight into why students with lower MUET scores may struggle with academic reading tasks despite completing supplementary courses.

Selection of Participants

Participants were undergraduate students enrolled in an English for Specific Purposes (ESP) course at a Malaysian technical university. A total of 60 students were recruited using purposive sampling to ensure representation of varying MUET proficiency levels. Participants were categorized into two groups:

- i. Students who completed supplementary English courses ($\text{MUET} \leq 3.5$) ($n = 36$)
- ii. Students who did not require supplementary English courses ($\text{MUET} > 3.5$) ($n = 24$)

All students in the lower MUET group (Band 3.5 or lower) had passed at least one supplementary English course before enrolling in the ESP course (see Table 1 for a brief summary of the participants).

Table 1: Brief Summary of Participants

Participant Group	N	MUET Band Range
Students who took supplementary courses ($\text{MUET} \leq 3.5$)	36	2.0 – 3.5
Students who did NOT take supplementary courses ($\text{MUET} > 3.5$)	24	3.5 – 5.0
Total Participants	60	2.0 – 5.0

Note: MUET stands for Malaysian University English Test.

At this university, students who obtain Band 2.5 or lower in MUET are required to take a non-accredited (audited) course and pass with a minimum grade of C before they can register for the credited supplementary English course and, ultimately, the credited ESP course. Students who obtain Band 3 or Band 3.5 are exempt from the audited English course and only need to enroll in the credited supplementary English course. Meanwhile, students who achieve Band 4 or higher are only required to take the ESP course and do not need to complete any supplementary English courses (see Table 2 for an overview of the students' English curriculum pathway for graduation). This pathway is designed to ensure that students reach an English proficiency level of B2 or C1 before completing their bachelor's degree at the university.

Table 2: Undergraduate Student's English Curriculum Pathway

MUET Band	English Requirement Courses		
	English Supplimentary Course 1 (Audited)	English Supplimentary Course 2 (credited)	English for Specific Purposes Course (credited)
Band 1, band 2 or band 2.5	√	√	√
Band 3 or band 3.5		√	√
Band 4 and higher			√

Note: MUET stands for Malaysian University English Test.

The study adhered to ethical guidelines and measures taken to ensure research integrity and participant welfare included: obtaining informed consent from all participants before data collection; ensuring confidentiality by anonymizing all student data; and implementing data security measures to safeguard academic records and quiz responses.

Data Collection

Data collection was conducted systematically during the academic semester and comprised the following three phases as shown in Figure 1: conducting quiz, distributing demographic and language background survey, and administering reading comprehension test. Participants took a mid-semester quiz as part of the requirements for passing the compulsory English for Specific Purposes (ESP) course. The quiz consisted of three sections with a total score of 30 marks. Via an online survey, the participants provided self-reported data regarding their age, gender, year of study, programme of study, MUET result, and completion of supplementary English course(s). At the end of the semester, the participants completed an academic reading comprehension assessment designed to evaluate their reading abilities from A1 to C2 based on the Common European Framework of Reference for Languages (CEFR). The test consists of two passages with 5 MCQ questions each. The passages balance simplicity with enough context for higher-level students to analyse, featuring a clear main idea that supports effective comprehension testing. Overall, it evaluates reading comprehension while being engaging and accessible to a wide range of ESL learners.

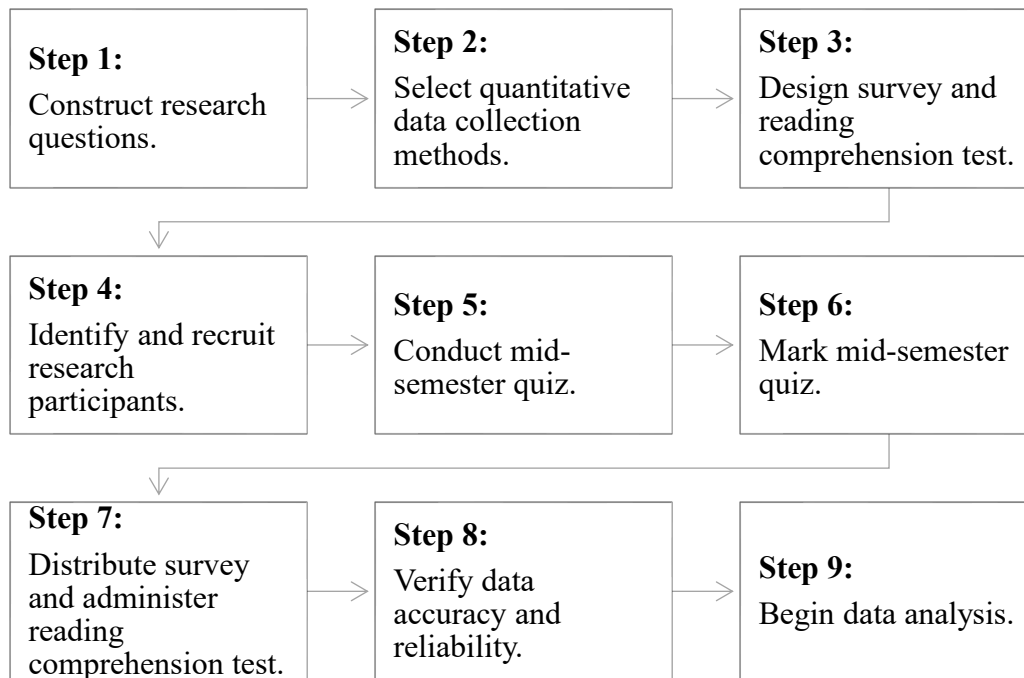


Figure 1: Data Collection Process Flowchart

Data Analysis

A robust statistical analysis framework was employed to ensure comprehensive evaluation (see Figure 2 in the following page):

- i. Descriptive Statistics: Measures of central tendency and dispersion (mean, standard deviation, minimum, maximum) were calculated.
- ii. Independent Samples t-Test: Applied to determine whether statistically significant differences existed between the quiz scores of students who had and had not taken supplementary courses.
- iii. Pearson's Correlation Coefficient: Used to examine the strength and direction of the relationship between MUET scores and quiz performance.
- iv. Linear Regression Analysis: Employed to assess the predictive validity of MUET scores for academic reading comprehension outcomes.

All statistical analyses were conducted using SPSS (Version 26), with a significance threshold set at $p < 0.05$ to determine statistical significance.

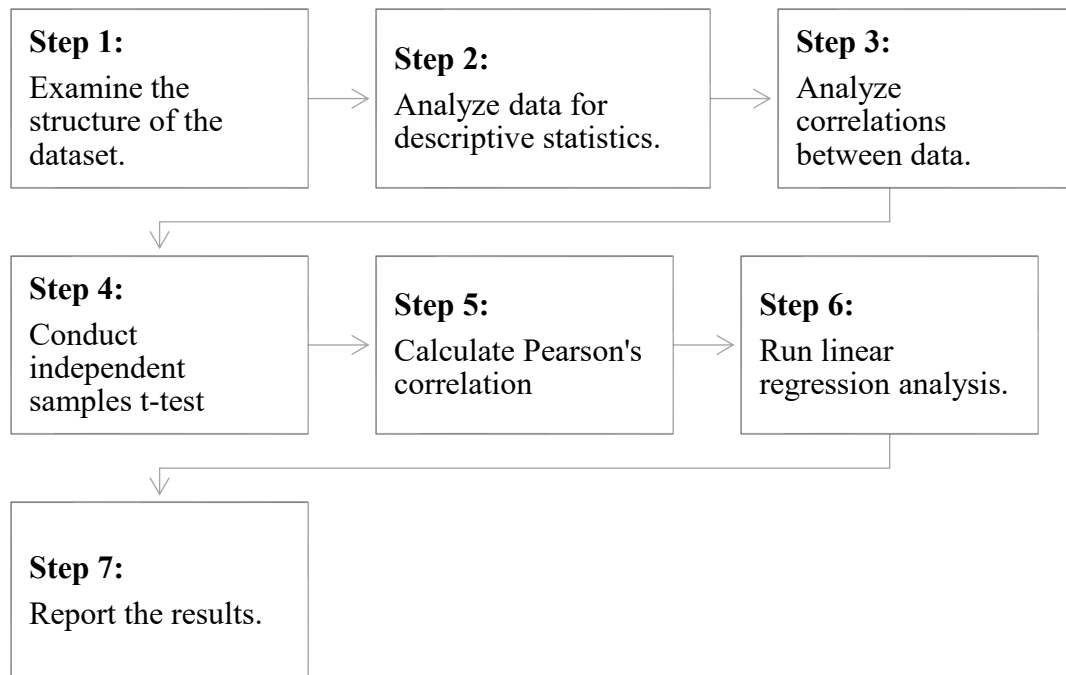


Figure 2: Data Analysis Process Flowchart

To ensure the rigor of this study, multiple measures were employed. The study utilized established assessment tools, such as MUET scores and a standardized reading comprehension quiz, to measure students' academic reading proficiency. The quiz was content-validated by ESL experts to align with academic reading demands, ensuring its relevance. Additionally, triangulation was achieved by comparing multiple statistical analyses (descriptive statistics, t-tests, correlation, and regression) to ensure the consistency of findings. Additionally, the study followed a systematic data collection and analysis process. All quiz scores were cross-checked for accuracy, and statistical tests were conducted using recognized methodologies. In brief, these measures collectively enhance the validity of the results, ensuring that the conclusions drawn are valid and reliable.

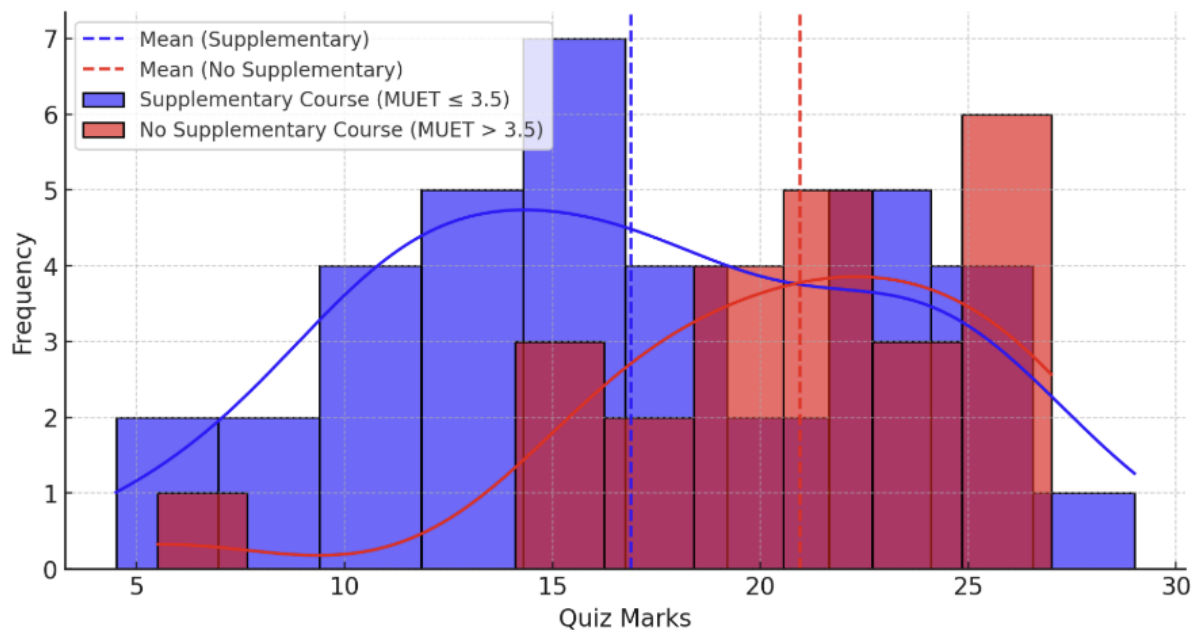
Results

This study examined the relationship between students' MUET proficiency levels, completion of supplementary English courses, and their performance on an academic reading comprehension quiz. Specifically, the study aimed to determine whether students who completed supplementary courses (due to lower MUET bands) performed comparably to their peers with higher MUET bands and to assess the extent to which MUET scores predict academic reading comprehension ability. The analysis involved descriptive statistics, independent samples t-tests, correlation analysis, and regression modelling. Table 3 (in the following page) presents the summary statistics for quiz performance based on students' MUET bands and supplementary course status.

Table 3: Summary Statistics for Quiz Performance Based on Students' MUET Bands and Supplementary Course Status

Group	N	Mean Quiz Score	Std Dev	Min	Max
Students who took supplementary courses (MUET ≤ 3.5)	36	16.88	6.17	4.5	29
Students who did NOT take supplementary courses (MUET ≥ 3.5)	24	20.96	4.98	5.5	27

Students who took supplementary courses scored lower on average (16.88) than those who did not (20.96). Figure 3 highlights greater variability in the supplementary course group ($\sigma = 6.17$) than in the non-supplementary group ($\sigma = 4.98$). The highest score achieved was similar between groups (29 vs. 27), but the lower end of the range was significantly lower among supplementary course students.

**Figure 3: Distribution of Quiz Scores: Supplementary vs. No Supplementary Course**

An independent samples t-test was conducted to examine whether the difference in quiz scores between the two groups was statistically significant: $t(\text{unequal variances}) = -2.82$, $p = 0.0066$; and the effect size (Cohen's d) = 0.73, indicating a moderate-to-large effect. Since $p < 0.01$, the difference in quiz scores is statistically significant. The moderate-to-large effect size suggests that the gap in quiz scores between these two groups is practically meaningful. These results indicate that even after completing supplementary English courses, students in the lower MUET bands still perform significantly worse on academic reading comprehension quizzes compared to their peers.

To further examine the relationship between MUET scores and quiz performance, Pearson's correlation was calculated: Pearson's $r = 0.431$, $p = 0.0007$

This suggests a moderate positive correlation between MUET scores and quiz performance. Higher MUET scores are associated with better quiz performance, but the relationship is not strong enough to be a sole predictor. A simple linear regression model was constructed to determine whether MUET scores significantly predict quiz scores. The results are as follows: $R^2 = 0.186$, meaning MUET scores explain 18.6% of the variance in quiz performance.

Adjusted $R^2 = 0.171$, confirming the model's generalizability.
Regression coefficient for MUET = 4.65 ($p = 0.001$).

This means that for each 1-point increase in MUET, quiz scores increase by approximately 4.65 points. However, the intercept is not significant ($p = 0.701$), suggesting that other variables (such as reading strategies or prior exposure to academic texts) also play a role. While the model shows a statistically significant relationship, it also highlights that MUET scores alone are not a strong predictor of reading comprehension performance. In conclusion, the results underscore the limited predictive power of MUET and the incomplete effectiveness of supplementary English courses in bridging the academic reading gap.

Discussions and Recommendations

The findings indicate that passing a supplementary English course does not fully bridge the gap in academic reading comprehension. Students with lower MUET scores still perform significantly worse on quizzes, and their scores exhibit greater variability. Several explanations could account for this, one of which is the effectiveness of supplementary courses. If these courses were fully effective, students completing them should perform comparably to higher-MUET students. However, the results suggest that while these courses may provide a baseline level of proficiency, they do not sufficiently prepare students for the complex demands of academic reading. He et al. (2025) argues that many supplementary courses prioritize standardized test preparation over the development of long-term reading comprehension skills, which may explain why students struggle to transfer their learning to real academic contexts. This highlights the need for instructional approaches that go beyond test readiness and focus on equipping students with the cognitive and metacognitive strategies necessary for academic literacy.

Additionally, MUET could be an imperfect predictor of academic reading success. Although MUET scores correlate with quiz performance, the relationship is only moderate ($r = 0.431$), meaning other factors significantly influence comprehension. Academic reading success is not solely dependent on general English proficiency but also on discipline-specific literacy skills, cognitive engagement with texts, and self-regulated learning strategies. Grabe & Stoller (2020) emphasize that academic reading requires higher-order cognitive skills, such as synthesizing information and critical evaluation, which standardized tests may not fully assess. This finding suggests that while MUET provides a useful proficiency benchmark, it may not fully account for the complexities of academic reading at the university level.

Moreover, the high standard deviation among students who completed supplementary courses suggests inconsistent outcomes. Some students performed well, while others struggled significantly, implying that factors beyond MUET scores and supplementary courses contribute to performance differences. These inconsistencies highlight the need for targeted interventions to enhance students' academic reading competencies. One key recommendation for improving academic reading performance is to integrate explicit reading strategy instruction

into supplementary courses (Yapp et al., 2023). These courses should go beyond general English proficiency and provide structured training in essential academic reading strategies such as inferencing, summarization, skimming, scanning, and critical evaluation of texts. Additionally, teaching metacognitive strategies, including monitoring comprehension, adjusting reading speed, and re-reading difficult sections, can help students develop more effective reading habits.

Cognitive engagement with texts also plays a crucial role in academic reading success. Instead of passively reading assigned materials, students should be encouraged to actively interact with texts through annotation, questioning, and synthesis of information. Academic reading tasks should include structured discussions, guided reflections, and comprehension monitoring techniques to help students engage deeply with content rather than simply skimming through it. On this note, Mežek et al., 2022 propose that a carefully developed pedagogical approach, with a well-designed task and feedback that scaffolds students' reading, can positively influence how students respond in an authentic reading context.

Another important aspect to consider is discipline-specific literacy support. Academic reading requirements differ across disciplines, and students may struggle with unfamiliar terminology and genre conventions specific to their field of study. Supplementary courses should therefore incorporate disciplinary literacy modules that equip students with the skills to navigate subject-specific texts effectively. Such modules would help bridge the gap between general English proficiency and the specialized reading demands of different academic disciplines.

Finally, there is a need to re-evaluate the structure and effectiveness of supplementary courses to ensure they align with the academic reading demands students face in their undergraduate studies. A more longitudinal approach, where students receive continued reading support beyond the supplementary course, may be more effective in sustaining academic literacy development (Yapp et al., 2023). This could include extended mentoring, follow-up workshops, or integration of reading skills development across multiple semesters.

Conclusion

This study highlights that while supplementary English courses help students meet university language requirements, they may not sufficiently prepare them for academic reading comprehension demands. Additionally, MUET scores alone do not strongly predict quiz performance, reinforcing the need for additional instructional support beyond supplementary courses. Future research should explore the specific reading strategies and cognitive processes that contribute to successful academic reading in ESL undergraduate students.

While this study provides valuable empirical insights, certain limitations must be acknowledged. The sample size is limited to students from a single technical university, restricting the generalizability of findings. The cross-sectional nature of the study does not capture longitudinal developments in academic reading proficiency. The reliance on a single reading comprehension quiz may not comprehensively represent students' overall reading abilities. Thus, future research should consider longitudinal studies with larger, more diverse participant pools, as well as mixed-method approaches incorporating qualitative insights into students' reading strategies and metacognitive processes. Further investigations should also explore the long-term impact of supplementary English courses, the role of discipline-specific

reading interventions, and the effectiveness of cognitive and metacognitive reading strategies in improving comprehension outcomes.

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Declaration Statement

The author affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

Conflict of Interest

The author has no conflict of interest to declare and there is no financial interest to report.

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