

Mapping the difference of CEFR levels to explore the reading difficulties of EFL students

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Abstract

This study maps the CEFR reading competence levels of 81 EFL grade 12 students and assess their cognitive reading challenges. Using a descriptive qualitative, objective data from the Oxford Reading CEFR Test, which was mapped to Khalifa and Weir's (2009) framework, was combined with qualitative questionnaire findings. The findings indicate a systematic shift in reading problems. A2 levels students struggle with lower-level decoding but have a "failure to monitor comprehension" due to inadequate attentional resources, thus they are ignorant of their inability to handle higher-level activities. As basic decoding is automated, B1 students become more aware of higher-level issues such as inference. Meanwhile, B2 students confront challenges in developing a global mental model. These findings underscore the need of using customized educational interventions that are adapted to students' specific cognitive thresholds rather than providing universal reading training.

Keywords: CEFR; cognitive processing; comprehension monitoring; EFL students; reading difficulties

INTRODUCTION

Reading comprehension is a necessary language skill for high school students to perform academically and prepare for further education (Selvathurai & Ismail, 2024). Secondary-level EFL learners are expected to engage with more complex texts, but many struggle to grasp intended meanings (Hezam et al., 2022). These reading deficits frequently manifest as difficulties identifying major concepts, making inferences, and interpreting unfamiliar vocabulary, which can significantly hamper overall linguistic development (Ramadhianti & omba, 2023; Kao & Wu, 2022). To address these disparities, the Common European Framework of Reference for Languages (CEFR) offers an objective baseline for mapping and evaluating students' reading skill levels (Council of Europe, 2020).

Developing successful reading habits in secondary school requires integrating learning resources and assessments with CEFR levels (Gopal et al., 2023). According to research, learners with varying levels of proficiency use distinct reading strategies; high-proficiency high school students employ more diverse tactics than their low-proficiency counterparts (Tsai & Huang, 2023). Furthermore, mastery of reading vocabulary and the ability to deal with linguistic complexity are strongly related to a student's CEFR level (Li et al., 2024; Zhang & Lu, 2025). As

a result, adjusting textual complexity in reading activities is crucial for making materials both accessible and challenging for grade 12 students (Afdaliah et al., 2025; Anggia & Habók, 2023).

A cognitive processing lens can help us better understand these reading issues. According to Khalifa and Weir (2009), reading is made up of hierarchical steps that range from lower-level processes like lexical recognition to higher-level processes like mental model formation and inference. This paradigm establishes a solid framework for researching how proficiency-level variations manifest as specific cognitive issues for secondary students.

Despite prior studies on reading approaches, little research has been conducted into how different CEFR levels interact with the specific cognitive reading issues reported by Indonesian senior high school students. Understanding this relationship is crucial for instructors to provide targeted treatments that suit the cognitive needs of students in their last year of school. As a result, the purpose of this study is to map EFL students' CEFR levels and analyze their reading issues. The research is guided by three questions: (1) What are the CEFR reading proficiency levels of the EFL students? (2) What kinds of difficulties are faced by EFL students in reading? and (3) How do CEFR levels relate to students' reading difficulties?

METHOD

This descriptive qualitative study used a community empowerment framework that included three stages: preparation, implementation, and evaluation. During the preparation phase, a situational analysis was conducted in a senior high school with 81 grade 12 English as a Foreign Language (EFL) students serving as target participants. During this step, the main instruments were prepared and theoretically aligned. The Oxford Reading CEFR Test was utilized as the primary diagnostic tool. The 20 exam items were analytically mapped into four distinct domains using Khalifa and Weir's (2009) cognitive processing model: lexical access, syntactic parsing, inferencing, and building a mental model. Concurrently, a structured qualitative questionnaire was developed to cover the same four topics. During the implementation stage, data were collected methodically.

First, participants were administered the Oxford Reading CEFR Test to establish their reading ability levels, which answered the first research question. To address the second research question, students were given a questionnaire that asked them to report their perceived reading problems. Finally, in the assessment step, the data acquired during the implementation phase were analyzed to evaluate the overall findings and address the third research question. A data triangulation process was utilized to integrate objective performance findings (namely, error patterns on the mapped test items) with qualitative questionnaire insights. The data was analyzed utilizing Miles, Huberman, and Saldaña's (2014) interactive qualitative method, which included data condensation, display, and conclusion drawing. This rigorous evaluation phase provided a clear explanation of how certain CEFR levels relate to the students' cognitive reading difficulties, thus achieving the program's purpose of mapping and understanding EFL reading issues.

RESULTS AND DISCUSSION

This section summarizes and discusses the study's findings in the context of the cognitive processing framework and relevant prior research. The results of the Oxford Reading CEFR Test and structured questionnaire were used to completely address the three study questions.

CEFR reading proficiency levels

The major purpose of this study was to map the CEFR reading proficiency levels of the 81 grade 12 EFL students who took part. According to the diagnostic results of the Oxford Reading CEFR Test, the students were categorized into three competency levels: A2 (Waystage), B1 (Threshold), and B2 (Vantage)

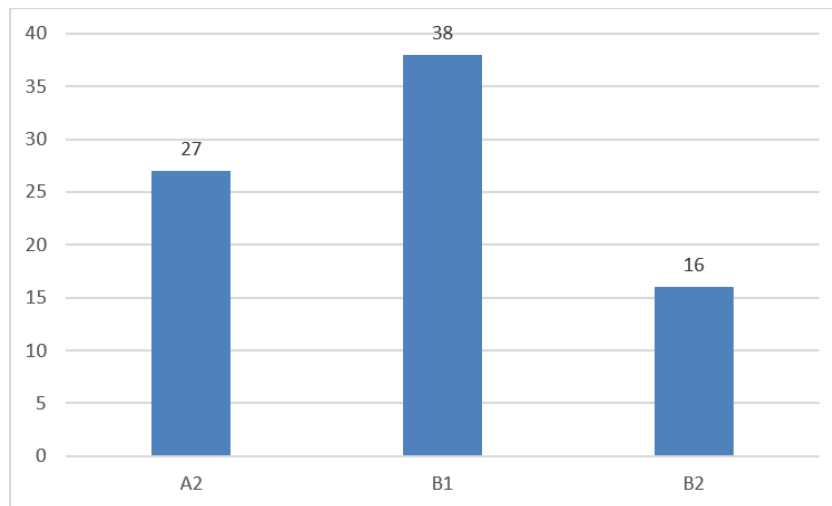


Figure 1. Bar Chart showing the distribution of CEFR Levels: A2 (27 students), B1 (38 students), B2 (16 students)

As seen in Figure 1, the majority of students are at the B1 level, showing an intermediate ability to comprehend standard texts. A substantial group remains at the A2 level, indicating that they have basic reading skills but may struggle with challenging academic materials. Meanwhile, the smallest group of students received a B2, indicating upper-intermediate capacity to assimilate texts effectively. This distribution highlights a critical transition phase for senior high school students. The fact that only a small fraction of grade 12 students has reached the B2 level suggests that while most can handle standard texts, they may lack the advanced cognitive processing required to fully engage with rigorous academic literature. This finding underscores the gap between the students' current proficiency and the expected reading demands for their further education, emphasizing the necessity for targeted pedagogical interventions to bridge this divide.

Mapping and Perceived Reading Difficulties

To assess the students' reading difficulties, the 20 items on the Oxford Reading CEFR Test were analytically mapped into four cognitive domains using Khalifa and Weir's (2009) methodology, as shown in Table 1.

Table 1. Mapping of Oxford Reading Test Items to Cognitive Processing Domains

No	Questions	Difficulties
1	It took Sarah _____ to get used to living in Canada.	Inferencing
2	Sarah thinks that she has _____ since coming to Canada.	Building a Mental Model
3	When she left school, her English was _____.	Syntactic Parsing
4	Sarah’s feelings about her first job were _____.	Lexical Access
5	Sarah thought that living in Canada _____.	Syntactic Parsing
6	Nathan is _____.	Lexical Access
7	Nathan and Sarah _____.	Building a Mental Model
8	Sarah decided to train as an English teacher because _____.	Inferencing
9	Which sentence best describes Sarah’s attitude now towards her decision to stay in Canada?	Building a Mental Model
10	When Sarah was at school, she _____ learning English.	Lexical Access
11	In her first job, she _____.	Syntactic Parsing
12	When Sarah went to Canada, she thought _____.	Syntactic Parsing
13	Nathan works _____.	Inferencing
14	Sarah has lived in Canada _____.	Lexical Access
15	At weekends, Sarah and Nathan often _____.	Building a Mental Model
16	Sarah and Nathan have _____.	Lexical Access
17	When Sarah met Nathan for the first time, _____.	Building a Mental Model
18	Because of Nathan, Sarah initially decided to stay in Canada _____.	Lexical Access
19	The children in Sarah’s first job _____.	Syntactic Parsing
20	During her first few months in Canada, Sarah _____.	Inferencing

Following this objective mapping, the students’ subjective, perceived difficulties were captured through the questionnaire.

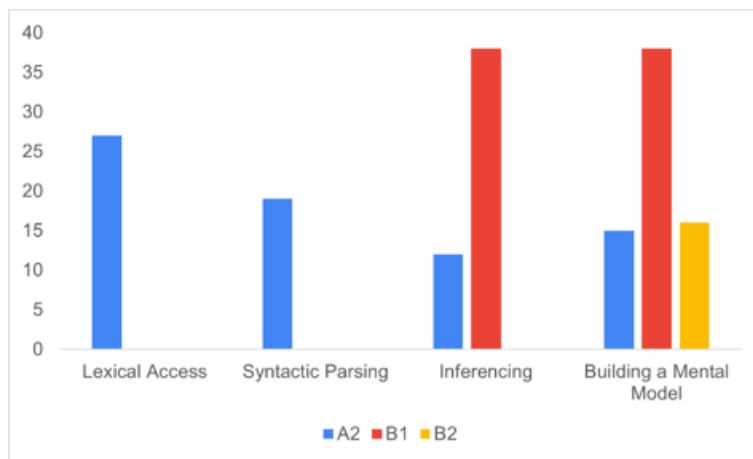


Figure 2. Number of students reporting perceived reading difficulties across cognitive domains by CEFR levels

As seen in Figure 2, The questionnaire results revealed radically divergent patterns of perceived difficulty among proficiency levels. Lexical access and Syntactic Parsing were only cited as substantial challenges by A2 students, while B1 and B2 students reported no issues with these lower-level processes. In contrast, B1 students reported the most difficulties with higher-level processing, notably inferencing and building a mental model, suggesting a distinct difference in how A2 students regarded their higher-level cognitive activities. This stark contrast highlights that grade 12 students at different proficiency levels experience distinct cognitive

bottlenecks. The underlying reasons for these perceived differences, particularly regarding higher-level cognitive activities, will be further elaborated in the subsequent section.

The relationship between CEFR levels and cognitive reading difficulties

To answer the third research question, a data triangulation process was utilized. The objective error patterns produced from the mapped test items were compared to qualitative questionnaire results and interpreted using the cognitive processing model. The synthesis revealed a clear hierarchical relationship between the students' ability levels and the specific cognitive obstacles they faced.

A2 level students (27 participants) made a high number of errors across all domains, notably in lower-level procedures. This was replicated in the questionnaire, where all students expressed severe difficulty with Lexical Access. Despite failing those test items, just 12 students found Inferencing to be challenging. This tendency is corroborated by Khalifa and Weir (2009, p. 74), who argue that "the attentional resources of a reader are finite and, in the early stages of L2 development... a large part of those resources to be diverted towards more low-level considerations concerning the linguistic code." Because their mental energy is completely absorbed by word-level decoding, these students have a "failure to monitor understanding" (Khalifa & Weir, 2009, p. 55). Consequently, they remain unaware of the deeper textual meanings they miss, creating an illusion of ease in higher-level tasks.

The B1 level students (38 participants) demonstrated a considerable increase in cognitive awareness. Their test findings revealed greater accuracy in lower-level procedures, and they reported no difficulty with Lexical Access and Syntactic Parsing. Interestingly, all 38 students listed Inferencing and Building a Mental Model as their main challenges. This shows that their lower-level processing has become sufficiently automated, freeing up attentional resources for higher-level integration. Unlike the A2 group, B1 students have the metacognitive ability to recognize when they meet a barrier in synthesizing implicit knowledge, which corresponds to the transition to the "threshold level" of reading proficiency (Khalifa & Weir, 2009, p. 195).

The B2 level students (16 participants) demonstrated great command of the text. Their findings found no issues with lexical access, syntactic parsing, or inference. Their rare obstacles were strictly limited to Building a Mental Model. This supports the hypothesis that higher-proficiency readers can efficiently navigate complicated texts by maintaining "careful reading global" processes (Khalifa & Weir, 2009, p. 43) while effectively monitoring their comprehension.

Overall, the findings indicate that as grade 12 EFL students progress through the CEFR levels, their reading difficulties increasingly shift from unconscious lower-level linguistic decoding concerns to consciously monitored higher-level cognitive challenges. Understanding these varied attentional boundaries is crucial for designing targeted pedagogical interventions based on the learner's cognitive level.

CONCLUSION

The purpose of this study was to map the reading proficiency of grade 12 EFL students and evaluate their individual cognitive reading challenges across several CEFR levels, in accordance with the objectives stated in the introduction. Using Khalifa and Weir's (2009) cognitive processing framework, the study successfully combined objective test results with students' reported challenges. The data suggest that reading difficulties shift routinely as language skill improves. Lower-level linguistic decoding (lexical access and syntactic parsing) places a heavy load on A2 students; due to limited attentional resources, they suffer from a "failure to monitor comprehension," leaving them ignorant of their incapacity to comprehend higher-level activities.

As students go to the B1 level, lower-level processing becomes automatic, allowing them to actively notice and cope with higher-level issues such as inference. Finally, B2 students display great basic text mastery, with challenges limited to the most complicated cognitive integration, namely mental model creation.

To build on these findings, future research should focus on developing and evaluating customized pedagogical interventions that accommodate these individual cognitive thresholds, ensuring that classroom reading practices are aligned with students' attentional capacities. Furthermore, longitudinal studies that track how a single cohort's comprehension monitoring changes over time would provide further insight into the continual L2 reading development process.

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