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Integrating Authentic Text into CEFR-Aligned English Reading Comprehension Module for Malaysian Upper Primary Schoolers

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ABSTRACT

Reading comprehension is a crucial aspect of English language education, particularly in multilingual contexts like Malaysia. Despite ongoing reforms, many Malaysian schoolers continue to struggle with this skill. This study developed an English Reading Comprehension Module that incorporates localized, authentic texts to improve reading proficiency among upper primary schoolers. The module was developed using the Design and Development Research (DDR) approach. Its theoretical framework integrates four theories: Schema Theory, Barrett's Taxonomy, Piaget's Cognitive Development Theory, and Vygotsky's Sociocultural Theory. These theories guided the selection of texts, the scaffolding of comprehension tasks, and the alignment of cognitive demand with students' developmental stages. The module comprises 60 authentic reading passages suitable for A1 High, A2 Low, and A2 Mid readers, aligned with the Revised Malaysian English Language Curriculum and CEFR descriptors. Barrett's Reading Comprehension Taxonomy informed the design of literal, reorganization, and inferential comprehension questions. Expert validation confirmed 99% content accuracy, while KR-20 reliability scores ranged from 0.820 to 0.918, indicating strong internal consistency. The module was trialed with 260 Year 5 students across three schools from both urban and rural contexts. Results showed a significant improvement in participants' pre-test and post-test scores, indicating the effectiveness of the reading module in improving comprehension skills. Pedagogically, the study affirms the value of authentic, contextually relevant materials in fostering engagement and comprehension and supporting the CEFR-aligned direction of Malaysia's English Language Education roadmap. Both print and online versions of the RCM are available to support self-paced learning and blended classroom instruction.

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Keywords: Common European Framework of Reference for Languages; Reading Comprehension; Reading Modules; Upper Primary Students; English Language Education; Authentic Text

1. Introduction

The acquisition of reading comprehension skills has been identified as a key factor in students' academic success[1,2]. In response, education systems worldwide have implemented targeted strategies to develop this critical competency. International assessments such as the Programme for International Student Assessment (PISA), by OECD's Programme for International Student Assessment (PISA), regularly evaluate reading literacy across nations, highlighting its global educational priority[3]. The importance of reading proficiency is further reflected in large-scale initiatives such as the Reading First Programme in the United States, which aims for universal reading proficiency by Year 3[4]. Similarly, the widespread adoption of the Common European Framework of Reference for Languages (CEFR) across Europe and Asia emphasizes a shared commitment to structured and measurable reading development[5,6]. Together, these efforts demonstrate a global consensus on the pivotal role of reading comprehension in educational attainment.

In Malaysia, the need for innovation in English reading pedagogy arises from four key challenges. The country's PISA 2022 results revealed a decline in reading literacy, with students struggling to interpret longer texts and differentiate between fact and opinion[4]. The conventional age-based class groupings failed to accommodate varied "reading ages"[7]. The heavy reliance on imported UK textbooks has led to cultural disconnects, exposing students to unfamiliar references such as "Red Poppy Day" and "car boot sales"[8,9]. Commercially available workbooks often focus on narrative texts, overlooking functional materials such as brochures and recipes, which are emphasized in the CEFR's call for authentic, real-world communication[10].

To bridge these gaps, this study introduced a CEFR-aligned English Language Reading Comprehension Module grounded in local cultural contexts and guided by Barrett's Reading Comprehension Taxonomy[11] to support differentiated learning and evaluate its effectiveness in facilitating English teaching and enhancing reading comprehension among upper primary schoolers. This approach seeks to close the gap between global proficiency standards and the practical realities of the local classroom by providing learners with meaningful and culturally relevant reading experiences.

2. Literature Review

2.1. English Language Education (ELE) in Malaysia

In Malaysia, English occupies a unique position as a historically rooted second language, primarily due to British colonial influence[12,13], which has led to its status as a compulsory subject throughout the educational system[14]. In recent years, the Malaysian government has reaffirmed its commitment to improving English language proficiency through the implementation of the English Language Education Reform Roadmap 2015–2025[15]. This comprehensive initiative builds upon earlier efforts to enhance the quality of English language teaching and learning nationwide, including the Dual Language Programme (DLP) for Mathematics and Science instruction[16].

A key component of the current reform is the integration of the Common European Framework of Reference for Languages (CEFR) into the national curriculum, establishing clear proficiency benchmarks, namely, CEFR Level A1 by the end of Year 3 and Level A2 by the end of Year 6 for primary schoolers. These efforts are further supported by the Malaysian English Language Curriculum Standards and the establishment of the English Language Standards and Quality Council (ELSQC), which oversees quality assurance and ensures alignment with national language education goals[17,18].

2.2. Previous Related Studies on English Reading Modules

Ma and Lin developed English Reading Comprehension Modules designed to enhance the reading proficiency of undergraduates in China[19]. Infused with Chinese cultural content, the modules were developed based on the ASSURE (Analyze Needs, State Requirements, Select Materials, Uti-

lize Materials, Require Participation, Evaluate) model. They describe how adapting culturally meaningful materials and crafting level-appropriate comprehension questions can support learners of varying reading levels. This combination of language development and cultural relevance informed the design of modules in the present study.

In the Malaysian context, Muhammad Javed et al. developed six Reading Comprehension Modules targeting ESL students at the secondary school level [20]. Developed using the Pebble in the Pond Model, these modules incorporated authentic materials relevant to students' lived experiences and appropriate to their reading level. Their findings emphasized the value of contextual relevance in enhancing comprehension, and their design approach informed the construction of texts and tasks in this study.

Similarly, Lin et al. developed reading comprehension modules, guided by the Reading Evaluation and Decoding System (READS) [21]. Their work prioritized diagnostic evaluation and learner-specific instruction, stressing the importance of selecting suitable text types and scaffolding tasks to facilitate the gradual development of reading skills. The modules were underpinned by the earlier READS Assessment Kit introduced by Abdul and Lin [22], which focused on the importance of diagnosing students' reading levels and tailoring instruction accordingly. Building on these principles, the CRCM developed in this study integrates culturally relevant, technology-oriented, and level-appropriate materials to enhance student engagement and comprehension outcomes.

While past studies have demonstrated the effectiveness of authentic and level-appropriate reading materials, most of these works have targeted either secondary or tertiary-level learners and lacked alignment with the CEFR descriptors. Additionally, although prior research has acknowledged the importance of localization and learner diagnostic strategies, there is limited integration of multiple pedagogical theories within a single module framework. This study addresses these gaps by developing a comprehensive, theory-driven Reading Comprehension Module, grounded in the CEFR framework, specifically designed for upper primary learners. It incorporates localized, authentic texts and tiered scaffolding tailored to three proficiency bands (A1 High, A2 Low, A2 Mid), offering both print and digital formats to support differentiated instruction and broader access.

2.3. Theories Related to the Study

2.3.1. Schema Theory

Schema theory, first introduced by Bartlett and later expanded by Anderson [23], explains how prior knowledge, organized in mental frameworks called schemata, supports comprehension. When readers engage with a text, they activate relevant schemata to interpret and connect new information with what they already know. These mental structures include language schema (e.g., vocabulary, syntax), content schema (e.g., topic familiarity), and formal schema (e.g., text organization and genre), which interact dynamically to facilitate meaning-making.

Schema theory guided the selection and structuring of authentic reading texts in the CEFR-aligned Reading Comprehension Module (CRCM). Localized content, such as school routines, family events, and cultural practices, was used to activate background knowledge, while visual prompts were included to trigger schemata before reading. Reading comprehension tasks, especially reorganization and inferential questions, were designed to encourage learners to draw on and refine existing schemata, gradually expanding their understanding through scaffolded practice. See **Figure 1**.

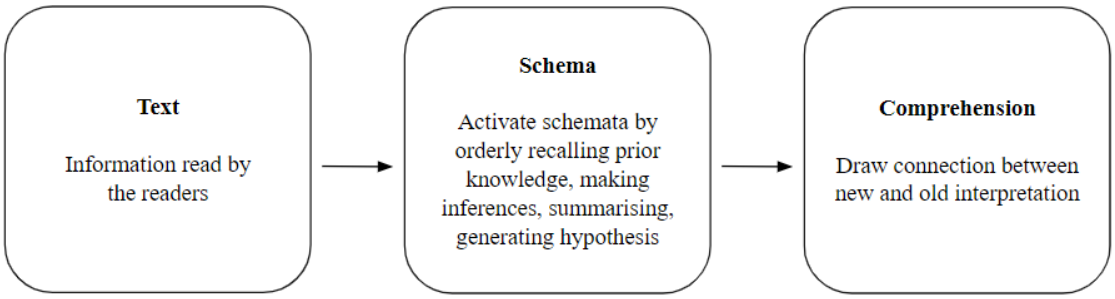


Figure 1. Schema Theory.

2.3.2. Barrett's Taxonomy of Reading Comprehension

Reading comprehension is divided into five levels of increasing complexity: Literal, Reorganization, Inferential, Evaluation, and Appreciation, based on Barrett's Taxonomy [11]. See **Figure 2**. Since the module is built on authentic, real-world materials such as notices, messages, and informational posters, the focus is on factual understanding and logical interpretation. These text types naturally align with the initial three levels of comprehension, i.e., Literal, Reorganization, and Inferential, making them ideal for building essential reading skills in practical, meaningful contexts.

The taxonomy guides the construction of questions in the module. Literal questions help learners locate directly stated information. Reorganization questions require students to summarize or connect ideas across the text. Inferential questions encourage logical thinking and prediction based on implicit meaning.

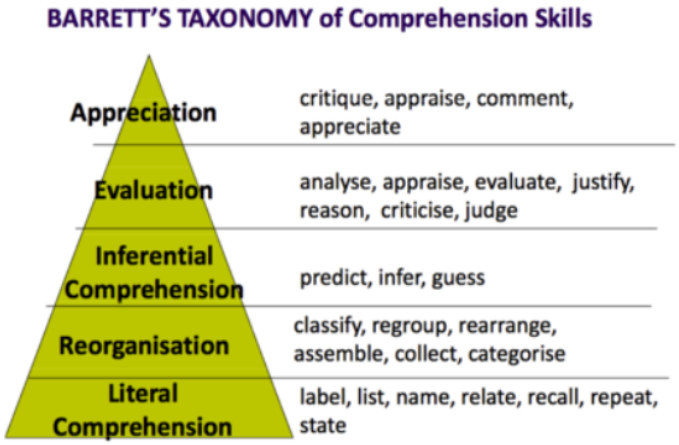


Figure 2. Barrett's Taxonomy of Reading Comprehension.

2.3.3. Theory of Cognitive Development

Piaget's Theory of Cognitive Development [24] explains how children build knowledge through active interaction with their environment. Children in the concrete operational stage (ages 7–11) are capable of logical thinking but depend heavily on concrete, real-world references. As they progress into the formal operational stage (12 years and above), their cognitive abilities develop further, enabling them to engage in more abstract and reflective thinking [25].

The theory informs the design of the CRCM. Authentic, localized texts and visuals help concrete operational learners connect reading to familiar contexts. Inferential questions support students starting to engage in abstract reasoning, promoting deeper comprehension and reflection.

2.3.4. Sociocultural Theory

Vygotsky's Sociocultural Theory emphasizes that cognitive development is deeply influenced by social interactions and the surrounding cultural environment [26]. Central to this theory is the Zone of Proximal Development (ZPD), which refers to the difference between what a learner can accomplish on their own and what they can achieve with support from a more knowledgeable individual. See **Figure 3**. Through scaffolding, learners receive support that helps them progress, with assistance gradually reduced as they gain confidence. Vygotsky's theory stresses that cultural tools, such as language and texts, mediate learning and that education should build on students' cultural backgrounds.

In this study, the CRCM combines scaffolded instruction with authentic, localized texts. Teacher modelling and guided practice help students approach comprehension tasks before they work independently, supporting them within their ZPD. By using familiar texts, such as signs, menus, and notes, the module acts as a cultural tool that promotes engagement and a deeper understanding of English reading.

This practical application of theory is further reflected in the CRCM's content and structure. As illustrated in **Figure 4**, the use of authentic materials is closely aligned with the study's theoretical foundations.

Schema Theory supports using localized texts to acti-

vate learners' background knowledge, while Barrett's Taxonomy ensures a structured progression of comprehension tasks. Piaget's theory reinforces the use of concrete, real-life texts suitable for learners in the operational stage. Vygotsky's Sociocultural Theory highlights how authentic materials, paired with scaffolding, function as cultural tools that support learning within the ZPD.

For instance, a school event notice helps students practice locating details (literal), reorganizing event information (reorganization) to identify the duration of the event, and making inferences about participation (inferential). Together, these theories inform the CRCM's design, linking authentic content to improved reading outcomes in real classroom contexts.

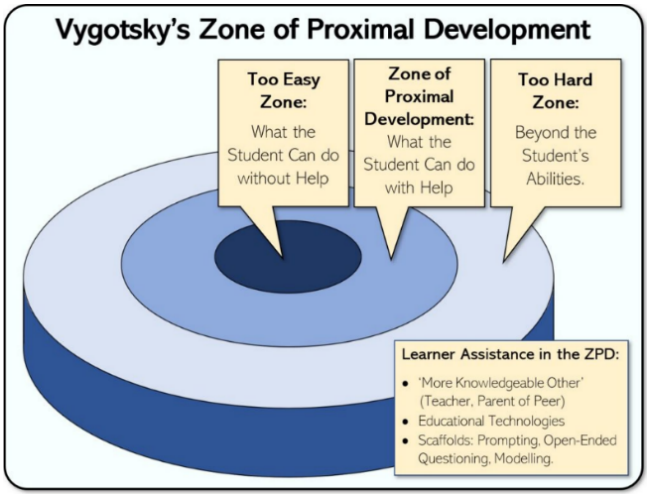


Figure 3. Sociocultural Theory.

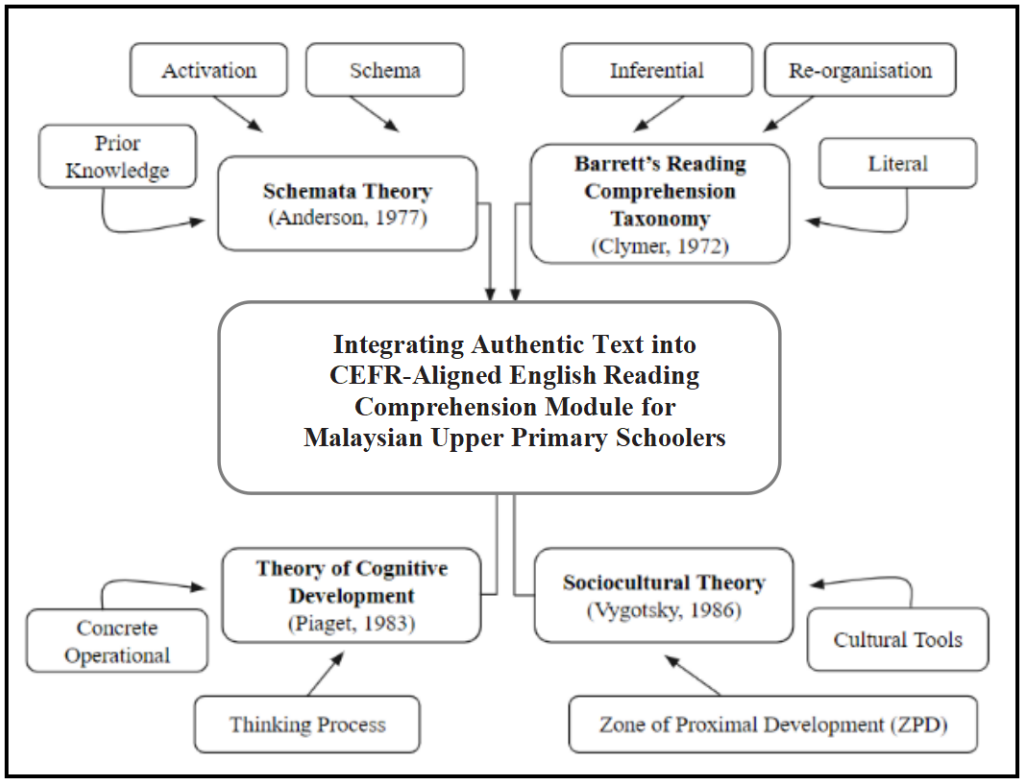


Figure 4. Theoretical Framework of the Study.

3. Methodology

The study adopted the Design and Development Research (DDR) approach to develop a CEFR-aligned reading comprehension module for upper primary schoolers in Malaysia. The study followed DDR Type 1, which focuses on the systematic creation and evaluation of an instructional product. This approach was carried out in three key phases: (1) needs analysis, (2) design and development, and (3) evaluation[27,28]. This development-centered methodology ensured that the module remained grounded in both theoretical principles and practical classroom needs.

Guided by the DDR framework, the development process involved iterative refinements, enabling the module to be progressively improved. Content validity was established through expert evaluation, while reliability was assessed through internal consistency measures during pilot testing. Descriptive statistics were also used to report changes, supported by inferential analysis, specifically paired-sample t-tests, to determine whether the differences in scores before and after using the module were statistically significant. This approach ensured the findings were not attributable to chance and reinforced the impact of the intervention.

To ensure representation across proficiency levels and school contexts, a total of 260 Year 5 students from three national schools in Kuala Lumpur and Selangor were selected via purposive sampling. The sample included learners from both urban and rural settings and represented a mix of proficiency levels across A1 High, A2 Low, and A2 Mid CEFR proficiency bands.

Throughout the study, ethical procedures were strictly adhered to. Approval was obtained from the university's ethics committee and the Malaysian Ministry of Education. Prior to participation, written consent was obtained from school administrators and parents. Participants' anonymity and data confidentiality were ensured.

4. Development of CEFR-Aligned Reading Comprehension Module

The construction of the CRCM development was guided by the three-phase DDR process, with each phase contributing to the module's structure and content. See **Figure 5**.

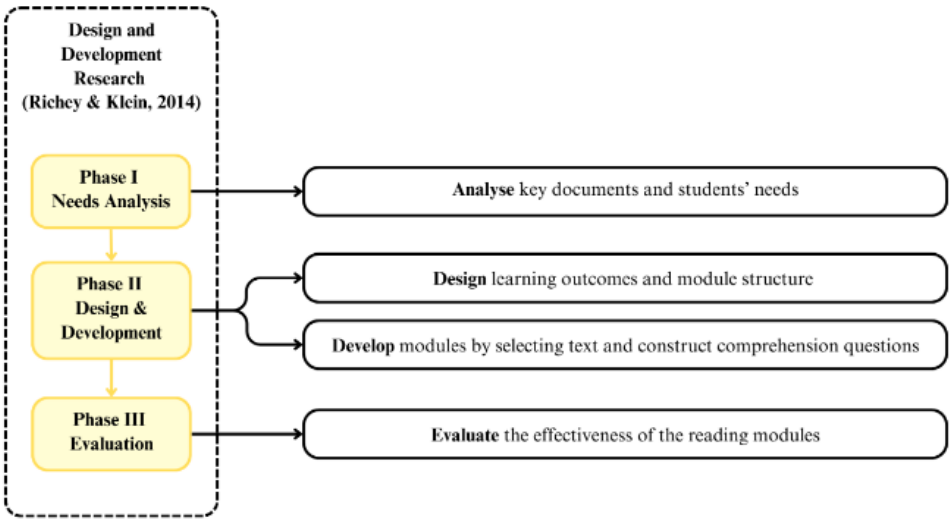


Figure 5. DDR Approach and its application in Module Development.

4.1. Needs Analysis Phase

4.1.1. Analyze the Existing Curriculum and CEFR

The researchers examined local needs through document analysis of curriculum standards. A document analysis was conducted on The Roadmap 2015–2025, Malaysian English Language Curriculum Standards, and the newly integrated CEFR.

English language education reform in Malaysia: The roadmap 2015–2025

English language education reform in Malaysia: The

roadmap 2015–2025 provides a strategic framework to enhance Malaysians' English language proficiency to meet national education policy goals [15]. The integration of CEFR has introduced clear benchmarks to evaluate student performance against international norms, aiming to develop core language competencies in reading, listening, speaking, and writing for global communication.

Despite these efforts, the CEFR target for Primary Year 6 is set at A2, yet the Cambridge Baseline Study found that only one-third of students surpassed A1, while another third failed to even reach it; notably, reading skills remained at A1, highlighting a critical gap in early literacy development [16]. These disparities underscore the urgent need for targeted interventions, especially in primary education, to support students with weak reading abilities. The limitations of the LINUS 2.0 program further call for the creation of effective, needs-based remedial strategies to help Primary Years 4 to 6 students achieve the desired CEFR-aligned proficiency.

Malaysian English Language Curriculum Standards

At the primary school level, English Language Education in Malaysia is guided by the English Language Curriculum Standards, which integrates the CEFR to align with global standards [29]. The focus of this curriculum for Primary Years 4 to 6 targets CEFR levels A1 High, A2 Low, and A2 Mid, respectively, with learning outcomes assessed through six performance levels, where higher levels indicate stronger proficiency.

For reading, key Content Standards 3.2 (understanding meaning) and 3.3 (reading independently) are prioritized in upper primary as students transition from foundational to more advanced comprehension. Specific Learning Standards progress from identifying main ideas and details to using contextual clues and reading for enjoyment, with Performance Level 6 indicating strong, independent reading abilities suitable for A1 and A2 texts. The curriculum themes, namely World of Self, Family and Friends, World of Stories, and World of Knowledge, and guidelines for text type, length, and vocabulary further support effective reading module development to help primary school students achieve CEFR-aligned proficiency.

CEFR Illustrative Descriptors for Reading Comprehension Skills

The Common European Framework of Reference for Languages (CEFR) is a framework that defines language proficiency levels and outlines the skills learners should develop at each stage, serving as a valuable guide for setting clear reading goals [12]. For upper primary school students, typically targeting A1 to A2 levels, CEFR descriptors are helpful in shaping reading comprehension activities by identifying expected outcomes and informing the selection of suitable texts. They help educators address specific learning needs and design tasks that are age-appropriate and achievable.

CEFR describes five key reading purposes, each linked to real-world text types: (1) Reading for orientation, involving materials like signs, menus, and brochures; (2) Reading for information and argument, including news articles and factual descriptions; (3) Reading instructions, such as recipes, directions, and safety guidelines; (4) Reading as a leisure activity, covering stories, comics, and short magazine texts; and (5) Reading correspondence, including simple messages, emails, and letters. These categories guide the development of targeted reading materials that support learners in practicing purposeful reading aligned with their CEFR level.

4.1.2. Analyze the Learners' Needs

A pre-test, using the Standardized Reading Comprehension Test (SRCT) [30], was administered to 260 Year 5 students across three schools, i.e., Urban School 1 (n = 34), Urban School 2 (n = 114), and a Rural School (n = 112) to assess the students' reading comprehension performance level and analyze their needs.

The pre-test included eight texts that varied in type, length, and difficulty level, accompanied by comprehension questions that encompassed literal, reorganization, and inferential comprehension skills. It categorized students into five proficiency bands based on their performance scores. Band 1 (37–50) represented advanced proficiency equivalent to Year 6 level; Band 2 (29–36) represented intermediate proficiency at Year 5 level, and Bands 3 to 5 (0–28) indicated below-standard performance, equivalent to Year 4 and below.

The pre-test results revealed that 58.08% of students were below the expected reading level, while only 41.92% performed at or above expectations. These findings provided critical baseline data on students' reading comprehension challenges and informed the design of CRCM development. The fact that more than half of the students performed below expectations requires urgent attention.

4.2. Design and Development Phase

4.2.1. Design Learning Outcomes and Structure of the CRCM

The study set targeted learning outcomes based on the requirements for Malaysian upper primary schoolers' reading proficiency outlined in the Malaysian English Language Curriculum Standards and CEFR. These documents establish learning outcomes for the three reading proficiency levels: Basic (CEFR A1 High), Intermediate (CEFR A2 Low), and Advanced (CEFR A2 Mid), aligning with the target proficiency of Malaysian students in Years 4–6.

Each level is structured into four thematic parts, with five exercises per part, resulting in a total of 20 exercises (as outlined in **Table 1**). Each exercise consists of five multiple-choice questions (MCQs), amounting to 100 questions per module. While each question contributes one point, it adds up to 100 points per module level. The design incorporates authentic texts that reflect real-world scenarios to ensure the progressive development of literal, reorganization, and inferential reading skills in line with the CEFR and Barrett's Taxonomy.

Table 1. CRCM Layout.

CRCM	Level 1 A1 High	Level 2 A2 Low	Level 3 A2 Mid
Part A: Literal Comprehension Questions	5 exercises 20 questions	5 exercises 20 questions	5 exercises 20 questions
Part B: Reorganization Comprehension Questions	5 exercises 20 questions	5 exercises 20 questions	5 exercises 20 questions
Part C: Inferential Comprehension Questions	5 exercises 20 questions	5 exercises 20 questions	5 exercises 20 questions
Part D: Enrichment Exercises	5 exercises 20 questions	5 exercises 20 questions	5 exercises 20 questions
Total Questions	**100**	**100**	**100**

4.2.2. Develop the CRCM

Select Reading Texts

The researchers selected and adapted the reading texts based on the established module structure discussed in the previous subsection. Authentic texts were selected based on specific criteria to ensure alignment with CEFR-M standards.

First, the reading passages adhered to the recommended word counts: around 50 words for A1 High (Level 1 - Beginner), 70 words or more for A2 Low (Level 2 - Intermediate), and 100 words or more for A2 Mid (Level 3 - Advanced).

Second, the selected texts reflected the five CEFR-defined reading purposes to ensure purposeful engagement with various text types. Examples of appropriate text types include emails, social media posts, notices, menus, recipes, posters, and more. These materials reflect everyday communicative texts relevant to Malaysian primary learners and align with CEFR descriptors for A1 and A2 levels.

Third, all texts were thematically relevant to the Malaysian English Language Curriculum Standards, focusing on three key themes, thereby ensuring age appropriateness and contextual relevance for upper primary learners.

The researchers also complement the selected texts with visually appealing illustrations that were relevant to the content. These visuals capture students' interest and support their understanding of the text to a certain extent. See **Figure 6**.

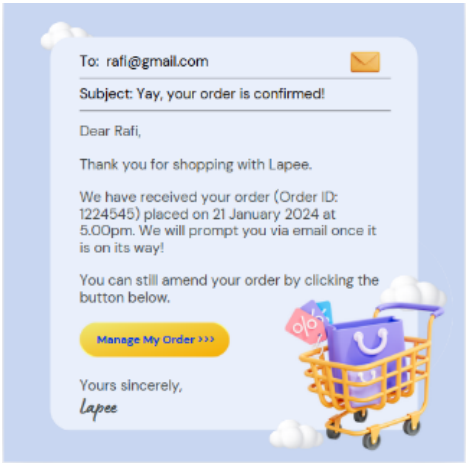
For Level 1 (A1 High), the email and product label expose learners to short, familiar texts with basic sentence structures and everyday vocabulary. These help students in identifying key details and understanding simple information.

Level 2 (A2 Low) features a short news article and a shopping coupon. These texts introduce slightly more complex layouts and lexical items, requiring learners to reorganize information and begin drawing simple inferences.

Level 3 (A2 Mid) utilizes a recipe and a travel guide, which are more comprehensive and detailed. These texts challenge learners to follow multi-step instructions, navigate unfamiliar vocabulary in context, and make logical connections within and across paragraphs.

This structured progression of text complexity, paired with consistent comprehension skill focus, ensures a balanced cognitive load while supporting reading development aligned with CEFR levels. The varied, real-life text types enhance authenticity, practical application, and learner engagement.

CRCM Reading Texts for Level 1



Email

Product label

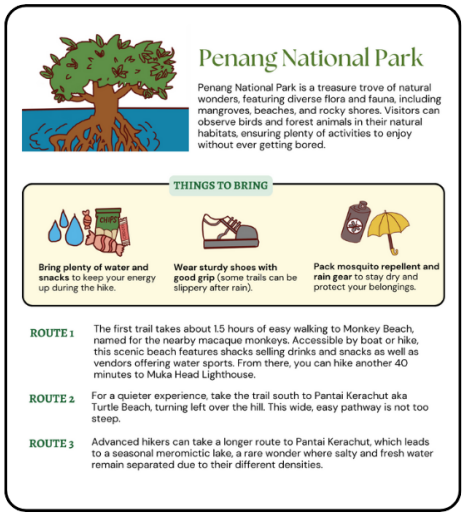
CRCM Reading Texts for Level 2

News

Coupon

CRCM Reading Texts for Level 3

Recipe



Travel guide

Figure 6. Examples of reading comprehension texts accompanied by illustrations.

Construct Reading Comprehension Questions

The accompanying reading comprehension questions were constructed based on Barrett's taxonomy, targeting three levels of comprehension: literal, reorganization, and inferential. Literal comprehension involves identifying explicitly stated information. Reorganization required students to understand text structure using both bottom-up and top-down processing through organizing ideas, meaning guessing, and summarizing. Inferential comprehension focused on interpreting implicit meaning and drawing logical conclusions, a process rooted in top-down reasoning.

An example is shown in **Figure 7**. In Level 1 Part A Practice 1, the text entitled "Yay, your order is confirmed!" presents an order confirmation email from an online shopping platform addressed to the buyer. Since Part A focuses on Literal Comprehension exercises, one of the reading comprehension questions is: "Rafi was shopping with ...."

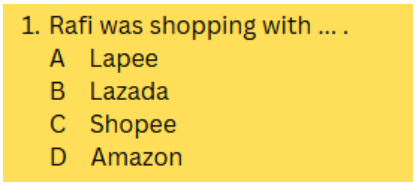


Figure 7. An example of a literal comprehension question in Level 1 (Basic Level; CEFR A1 High).

The literal question "Rafi was shopping with ..." helps students find exact information from the text. Instead of asking "**Who** was Rafi shopping with?", the sentence completion format makes it easier for students to complete the answer directly using words from the text. This is useful for students who are still learning English at a basic level.

Another example shown in **Figure 8**, from Level 3 Part B A Practice 4, titled "10 Fun Facts about Durians". It describes various interesting details about durians. Since Part B focuses on Reorganization Comprehension exercises, one of the questions is: "Why is Penang suitable for growing durians?". The answer is not stated directly in the text, but students can find it by reorganizing information from several facts mentioned about the weather in Penang. By connecting clues such as climate conditions and durian growth needs, students practice combining ideas from different parts of the text to form a logical conclusion.

Validity and Reliability

After the initial module drafts were completed, they underwent expert validation by two content specialists: a retired English teacher and a university lecturer in linguistics. The experts assessed the module using a 5-point Likert scale. Based on their feedback, the content was revised to address minor grammatical errors and inappropriate elements, resulting in a content validity score of 99%. The mean score for Level 1 was 4.91, while both Level 2 and Level 3 achieved a mean score of 4.97. These high scores indicate that the module was considered highly appropriate and well-aligned with the intended learning objectives.

Subsequently, pilot testing was conducted to check the reliability of the CRCM. The CRCM's internal consistency was measured using the Kuder-Richardson Formula 20 (KR-20), with reliability coefficients ranging from 0.820 to 0.918, indicating a high level of reliability. This systematic development process ensured the CRCM was pedagogically sound, valid, and tailored to support the enhancement of literal, reorganization, and inferential reading skills among upper primary students.

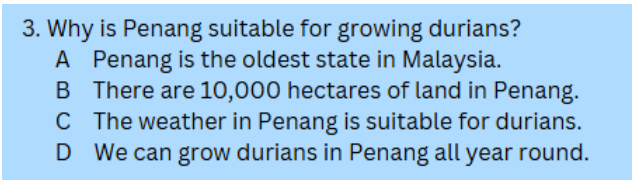


Figure 8. An example of a literal comprehension question in Level 3 (Advanced Level; CEFR A2 Mid).

4.3. Evaluation Phase

CRCM implementation was conducted with 32 Year 5 students at *SK Seri Bintang Utara* at the first stage to assess the effectiveness and quality of the module to determine whether they met the intended learning outcomes. Students were assigned to the module corresponding to their reading levels as determined by pre-tests. Each student was assigned one of the three module levels based on their pre-test proficiency (see **Table 2**). They completed eight hours of reading activities, which combined guided and independent tasks.

Upon completing the module, students sat for a post-test using a second set of the Standardized Reading Comprehension Test (SRCT)[31]. The pre-test and post-test results were analyzed to evaluate the effectiveness of the developed reading module. **Table 3** demonstrates the comparison of student reading comprehension levels before and after using CRCM in the pilot study.

The results indicated notable progress, as the number

of students in the weakest group (Band 3–5) decreased from 8 to 2, suggesting a significant improvement. Conversely, Bands 2 and 1 saw increases in student numbers, from 14 to 16 and from 10 to 14, respectively, indicating that more students moved into higher proficiency levels after completing the CRCM.

Based on SRCT pretest scores, participants were assigned to CRCM module levels aligned with their CEFR-aligned reading proficiency, as shown in **Table 4**. A total of 99 students from Bands 3 to 5 were placed in Level 1 (A1 High), 55 students from Band 2 were placed in Level 2 (A2 Low), and 28 students from Band 1 received Level 3 (A2 Mid). Most rural students were assigned to Module Level 1, while students in urban schools showed a more even distribution across all three levels.

After completing the module, all students took a post-test. The post-test results demonstrated the effectiveness of the CRCM in enhancing students' reading proficiency. **Table 5** presents the distribution of main study participants by CRCM level based on post-test SCRT scores.

Table 2. Distribution of CRCM Level based on SCRT score.

SCRT Score Range	SCRT Band	CRCM Level	CEFR Level	Difficulty Level
0-28	3-5	Level 1	A1 High	Beginner
29-36	2	Level 2	A2 Low	Intermediate
37-50	1	Level 3	A2 Mid	Advanced

Table 3. Comparison of Student Count Based on CRCM Level Before and After Using the CRCM in the Pilot Study.

CRCM Level	CEFR Level	Pre-Test	Post-Test	Difference
Level 1	A1 High	8	2	−6
Level 2	A2 Low	14	16	+2
Level 3	A2 Mid	10	14	+4
Total		32	32	

Table 4. Distribution of Main Study Participants by CRCM Level Based on Pre-Test SRCT Scores.

CRCM Level	CEFR Level	Urban (n = 92)	Rural (n = 90)	Total (n = 182)	Percentage (%)
Level 1	A1 High	45	54	99	54.40%
Level 2	A2 Low	29	26	55	30.22%
Level 3	A2 Mid	18	10	28	15.38%

Table 5. Distribution of Main Study Participants by CRCM Level Based on Post-Test SRCT Scores.

CRCM Level	CEFR Level	Urban (n = 92)	Rural (n = 90)	Total (n = 182)	Percentage (%)
Level 1	A1 High	37	50	87	47.80%
Level 2	A2 Low	33	27	60	32.97%
Level 3	A2 Mid	22	13	35	19.23%

Compared to the pre-test distribution, there was a decrease in the number of students at Level 1 (from 99 to 87) and corresponding increases at Level 2 (from 55 to 60) and Level 3 (from 28 to 35), reflecting an overall improvement in students' reading proficiency. The distribution remained relatively balanced across urban and rural groups, with rural students still more concentrated at Level 1 but showing increased representation in higher levels post-test. A comparative summary of these changes is presented in **Table 6**.

The data show encouraging progress across both school types. Level 1 saw a reduction of 8 students in urban schools and 4 in rural schools. At the same time, Level 2 gained 4 urban and 1 rural student, while Level 3 saw increases of 4 urban and 3 rural students. These upward shifts indicate that students in both urban and rural contexts made meaningful gains in reading proficiency after engaging in the CRCM.

In addition to changes in CEFR-aligned level distributions, students' pre-test and post-test total scores were also

analyzed. As shown in **Table 7**, the mean percentage score increased from 51.85% in the pre-test to 59.33% in the post-test. This 7.48% gain further supports the effectiveness of the module in enhancing overall reading performance.

Table 6. Comparison of Urban and Rural Student Counts by CRCM Level Before and After the Module Implementation in the Main Study.

CRCM Level	School	Pre-Test (n=182)	Post-Test (n=182)	Difference
Level 1	Urban Rural	45 54	37 50	−12
Level 2	Urban Rural	29 26	33 27	+5
Level 3	Urban Rural	18 10	22 13	+7

Table 7. Comparison of Total Scores in Pre-Test and Post-Test in the Main Study.

Performance Score	Total
Pre-Test (%)	51.85%
Post-Test (%)	59.33%
Difference (Post-Pre)	7.48%

4.4. Iteration

Following the principles of Design and Development Research (DDR), this study was conducted through three systematic stages, as previously discussed, accompanied by iterative refinement processes. DDR emphasizes the importance of continuous evaluation and revision to enhance the quality and effectiveness of educational interventions. In this study, three iterations were carried out to optimize the CRCM.

Iteration 1 involved expert validation, where content experts evaluated the module for content validity, appropriateness, and alignment with the intended learning objectives. Feedback from this stage informed initial revisions to ensure the module met educational standards.

Iteration 2 consisted of a pilot study with a representative sample of students (n = 32) to identify practical challenges associated with implementing the module. Observations and feedback from the pilot informed further adjustments to instructional strategies and content clarity.

Iteration 3 incorporated performance-based refinements, using post-test results to guide final modifications. Data-driven analysis identified specific areas for improvement, ensuring the module addressed learners' actual needs and performance levels.

Each iteration addressed identified shortcomings, contributing to the development of an effective and responsive module that enhances students' reading comprehension abilities.

5. Discussion

This study set out to develop a CEFR-aligned Reading Comprehension Module (CRCM) for upper primary schoolers in Malaysia, using authentic texts and structured comprehension tasks to strengthen reading proficiency. Guided by a Design and Development Research (DDR) approach, the study progressed through three core phases: analysis, design and development, and evaluation, with three iterative cycles embedded in the development phase to refine the module.

During the needs analysis phase, the study identified a lack of localized, age-appropriate English reading materials that align with CEFR descriptors. The CRCM was designed to address this gap by using CEFR-aligned reading purposes and the Malaysian English Language Curriculum Standards as reference points. Modules were tailored to students across A1 High to A2 Mid levels, integrating culturally and contextually relevant materials. Such materials enable learners to relate linguistic input to familiar contexts, improving comprehension and retention [31].

Barrett's Taxonomy of Reading Comprehension was used to structure comprehension questions across literal,

reorganization, and inferential domains. This framework ensured a clear progression in comprehension difficulty while targeting distinct reading skills. The application of Barrett's levels helped guide learners from understanding surface details to constructing meaning beyond the text. This approach aligns with findings by Aynalem and Tesmand, who noted the need for increased inferential and reorganizational tasks in early reading instruction to foster deeper comprehension [32]. The questions were also aligned with CEFR reading descriptors to ensure that each level reflected the appropriate language and cognitive demands expected of A1 High to A2 Mid learners.

Authentic texts were carefully selected to align with CEFR-M word count recommendations and were mapped to national curriculum themes. These themes included The World of Self, Family and Friends, The World of Stories, and The World of Knowledge. The inclusion of visuals supported students' understanding of unfamiliar vocabulary and abstract ideas, which is consistent with studies on the role of visual literacy in reading development.

The module was implemented in three schools situated in urban, suburban, and rural areas, involving 260 Year 5 students. Quantitative data revealed a 28.95% increase in higher-band performance, indicating substantial reading improvement. These findings support earlier claims by Alghonaim, as well as Guariento and Morley, that authentic materials enhance learner engagement and comprehension when paired with supportive tools such as visuals and scaffolding [33,34].

The inferential analysis further reinforced the module's effectiveness across different proficiency levels via its significant improvements in students' overall reading comprehension performance from pretest to posttest. Exposure to a variety of question types within each module could have helped students engage more deeply with the texts and apply higher-order thinking. Furthermore, regrouping learners based on their pretest performance allowed instruction and materials to be better matched to their proficiency, which may have reduced gaps in performance and supported more equitable learning outcomes.

However, not all students benefited equally. A small number of outliers demonstrated minimal or negative gains. These cases may be attributed to various factors, including differences in cognitive development, irregular attendance, lack of motivation, or test-related anxiety [35–38]. While such variation is expected in classroom-based research, these instances highlight the importance of differentiated instruction and individualized support strategies, especially in diverse, mixed-ability classrooms.

In addition, the CRCM's dual-format delivery in both print and online versions allowed for flexible learning experiences. The online module's automated scoring feature enabled self-paced learning and revision, enhancing student autonomy and confidence. This finding is consistent with studies by Noordan and Yunus, who observed that digital reading platforms can foster learner independence and enhance engagement in ESL contexts [39].

Limitations

Despite its strengths, the study has limitations that may inform future research directions. First, the sample was drawn from three national schools in Kuala Lumpur and Selangor, which may limit the generalizability of findings to other regions or educational contexts. Second, while purposive sampling and regrouping based on pretest results ensured alignment between learner proficiency and module difficulty, future studies could consider broader sampling techniques to capture a more representative student population. Third, although the study focused on observable learning outcomes, future work may benefit from incorporating qualitative methods such as interviews to gain deeper insights into student engagement and learning processes. Lastly, this study emphasized short-term learning gains. Investigating long-term retention and the transferability of reading strategies would provide a more comprehensive understanding of the module's sustained impact.

6. Conclusion

This study affirms that a systematically developed, CEFR-aligned reading comprehension module (CRCM), grounded in authentic and localized content, can significantly improve English reading performance among Malaysian upper primary learners. Rooted in established theoretical frameworks such as Schema Theory, Barrett's Taxonomy, and the CEFR, the CRCM addresses both pedagogical gaps and curricular demands by offering structured exposure to increasingly complex comprehension tasks.

Developed through iterative cycles of expert review, pi-

lot testing, and classroom implementation, the CRCM meets the needs of diverse proficiency levels, especially in mixed-ability ESL classrooms. Descriptive findings revealed a 7.48% improvement in mean percentage scores from pre-test to post-test, indicating positive learning gains following module instruction. These results reflect the module's potential to strengthen reading comprehension, particularly in contexts where existing resources fall short of supporting differentiated proficiency levels.

Beyond its empirical contribution, the CRCM offers practical implications for key stakeholders. For teachers, the CRCM provides ready-to-use, scaffolded materials aligned with CEFR and national learning outcomes, aiding in differentiated instruction. For curriculum developers, it serves as a replicable model that integrates global standards with local relevance and context. For policymakers, the CRCM exemplifies how context-responsive innovation can support national literacy goals and close equity gaps in English language education.

Moving forward, the CRCM could be expanded to include lower primary levels, further digital integration, and multilingual scaffolding to support early-stage learners. As Malaysia continues to align its English education system with international frameworks, this study demonstrates how linguistically and culturally grounded interventions can enhance literacy outcomes and contribute to more equitable and globally competitive ESL instruction.

Author Contributions

Conceptualization, J.K. and S.L.; methodology, J.K. and S.L.; software, J.K.; validation, J.K. and S.L.; formal analysis, J.K.; investigation, J.K.; resources, J.K. and S.L.; data curation, J.K.; writing—original draft preparation, J.K.; writing—review and editing, J.K. and S.L.; visualization, J.K.; supervision, S.L.; project administration, J.K. and S.L. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

This study was conducted in accordance with ethical clearance from the University's Ethics Committee (Reference: IEC-2024-FOSSLA-0002) (approval date: 9 April 2024) and official research approval from the Ministry of Education, Malaysia (Reference: KPM.600-8/2/7 Jld.47(73)) (approval date: 26 August 2024), the Jabatan Pendidikan Wilayah Persekutuan Kuala Lumpur (Reference: JPW-PKL.600-9/1/5 Jld.15(18)) (approval date: 9 August 2024), and the Jabatan Pendidikan Negeri Selangor (Reference: JPNS.SPD 600-1/1/2 JLD. 43(28)) (approval date: 13 August 2024).

Informed Consent Statement

Prior to data collection, written permission was obtained from the principals of all participating schools. Informed consent was also secured from the parents or legal guardians of all student participants in accordance with ethical research standards.

Data Availability Statement

Relevant data from this study can be obtained on reasonable grounds by requesting the authors by email.

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Conflicts of Interest

The authors declare no conflict of interest.

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