

The Effectiveness of Circle Book as A Multimodal Learning Tool to Improve Reading Comprehension Among Year 4 Pupils at A Rural School in Malaysia

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Abstract

Reading comprehension is a key skill in second language learning, especially for English as a Second Language (ESL) learners. It involves several cognitive processes that enable a reader to extract meaning from the words on the page, comprehend information presented, and make connections between different parts of the text. Pupils with a strong reading comprehension ability can extract information, analyse content critically, and apply their understanding in various contexts. Studies show that the use of customised visual aids can improve reading comprehension and vocabulary among second language learners. This study investigates the effectiveness of the Circle Book as a multimodal instructional tool in improving reading comprehension among Year 4 pupils in a rural Malaysian primary school. A quasi-experimental pre-test and post-test design was employed, complemented by qualitative data from classroom observations and semi-structured interviews. A total of 32 pupils participated in the six-week intervention. The findings suggest that multimodal instructional tools such as the Circle Book can effectively enhance reading comprehension among ESL learners, particularly in resource-constrained rural contexts. The study highlights the potential of low-technology, culturally responsive teaching strategies in improving literacy outcomes.

Keywords: reading comprehension, multimodal learning, visual scaffolding, ESL learners, rural education

1. Introduction

1.1 Background of the Study

Reading comprehension is a fundamental skill that plays an important role in second language acquisition and lifelong learning. For English as a Second Language (ESL) learners, reading comprehension is especially critical as it directly influences pupils' ability to master curricular content across subjects. In the Malaysian primary school context, reading comprehension is emphasized as part of the Common European Framework of Reference (CEFR) aligned curriculum, which requires primary school pupils to identify specific information, infer meaning from contextual clues, and understand short passages with increasing complexity. Despite curricular reforms, teachers in the rural primary schools still face persistent challenges while teaching reading comprehension.

As the Malaysian English textbook directly adopts European textbooks, the visual aids lack cultural relevance and context to fully support the learning outcomes. Limited exposure to English outside the classroom, restricted access to supplementary reading materials, and insufficient background knowledge constrain pupils' ability to decode vocabulary and construct meaning from text (Chua & Sulaiman, 2021). The current imported CEFR textbook emphasises British culture and does not align with the specific needs of rural pupils, who often require more culturally relatable materials to bridge their language gaps. (Nurul & Mohd, 2024). Effective ESL instruction should be culturally responsive and connected to learners' environment and living experiences. Masilamani (2026) argues that instructional materials which acknowledge learners' cultural backgrounds and contextual realities are more likely to promote meaningful language learning and classroom participation. Cultural misalignment can hinder pupils' ability to relate content to their surroundings and experiences, hence reducing comprehension. Effective English language teaching materials should be able to meet the diverse needs, ability and proficiency levels of learners, as well as provide engaging and relevant content that is aligned with educational goals. (Ayati et al., 2024)

Additionally, teachers in rural schools often face constraints such as large class sizes, limited instructional time, and inadequate training in the pedagogical integration of visual resources. Traditional text-heavy approaches may fail to engage learners with diverse needs and proficiency levels (Tsai, 2020). Multimodal instruction approaches can address these challenges by improving learners' engagement, vocabulary retention, and reading motivation among primary ESL learners. (Salamanti et al., 2023) It highlights the need for a culturally responsive and pedagogically structured multimodal tools that can scaffold reading comprehension while staying adaptable to rural classroom contexts.

1.2 Problem Statement

The integration of visual aids in CEFR-aligned textbooks reflect recognition of the benefits of multimodal instruction. However, visuals alone do not guarantee improved comprehension outcomes. Numerous studies reported that Malaysian upper primary pupils still struggle with vocabulary knowledge, inferencing skills, and effective reading strategies despite curriculum reforms (Chua and Sulaiman, 2021). Besides, poorly designed visuals might lead to

miscommunication and reduced learning effectiveness among ESL learners with low English proficiency rather than enhancing understanding (Eileen, 2019). While multimodal pedagogy is theoretically supported, there remains limited empirical evidence examining the effectiveness of structured, low-technology multimodal tools specifically within rural Malaysian primary ESL classrooms. Recent studies have explored the use of digital multimodal tools in urban school contexts rather than culturally contextualized instructional tools tailored to rural learners. Previous studies emphasized that multimodal reading tools enhance the effectiveness of reading by simplifying classroom delivery in a diverse student background at a rural elementary school. (Bernarte & Digo, 2024). The research also addresses the issue of reading comprehension among pupils in rural area schools. There is also limited research which combines quantitative performance data with qualitative learner perspectives using a quasi-experimental design. Therefore, this study aims to address these gaps by evaluating the use of Circle Books as an innovative tool to enhance reading comprehension. The research seeks to determine whether this tool can overcome the limitations of textbook visuals and improve pupils' understanding of English texts through a systemic evaluation.

1.3 Literature Review

Reading comprehension is a complex, multiple task ability. It involves the active construction of meaning between interaction between the reader, the text, and context which reading occurs. Reading ability does not only require pupils to correctly read aloud the text, but to understand the semantic structure of the English language. Reading comprehension requires pupils to demonstrate their understanding of a text by responding to a text-related question. (Chua and Sulaiman, 2021) It is a multidimensional construct that is influenced by language proficiency, background knowledge and cognitive engagement. (Smith, Snow, Serry, & Hammond, 2021). Recent studies show that reading comprehension abilities are significantly enhanced for ESL learners when instructional approaches include multimodal and contextually relevant supports. (Hazaymeh and Khasawneh, 2024). Yawiloeng (2022) further suggests that instructional scaffolding through visual texts, images, and multimodal resources enhances learners' comprehension and increases motivation and engagement levels during reading activities. In line with these findings, reading comprehension is increasingly understood as a dynamic and interactive process that can be supported through pedagogical interventions which align with learners cognitive and contextual needs.

The pedagogical value and use of multimodal learning to enhance reading comprehension is grounded in several theoretical frameworks. Mayer's Cognitive Theory of Multimedia Learning (2021) states that learning is enhanced when both verbal and visual channels are engaged simultaneously. It is relevant for learners with limited language proficiency as visuals can scaffold meaning and support understanding of unfamiliar vocabulary. Paivio's Dual Coding Theory (1986) emphasizes that information presented in both verbal and non-verbal communication formats enhances memory retention. Schema Theory explains how learners understand texts by activating prior knowledge and linking new information to existing cognitive frameworks. (Smith et al., 2021) Multimodal resources facilitate schema activation by providing contextual cues through images, diagrams, and symbols, allowing

learners to make meaningful connections with the text. This is important as learners often lack sufficient background knowledge to interpret texts independently without further input or assistance.

Krashen's Input Hypothesis highlights the importance of providing comprehensible input that is slightly beyond learners' current proficiency levels (Krashen, 1985) to enhance the learning experience. Multimodal tools made such input accessible by simplifying complex concepts and reducing learners' affective filters through visual mediation. Vygotsky's Sociocultural Theory (1978) also underscores the importance of scaffolding within learners' zones of proximal development, by enabling progressive skill development through structured instructional support.

Over the years, a great number of empirical studies have been devoted towards multimodal approaches. Lim et al. (2021) demonstrated that multimodal pedagogies improved comprehension and retention in primary classrooms, and encourage learners to engage with multiple semiotic resources and improve classroom participation through visually supported language learning environments. Jamil and Aziz (2021) also reported that multimodal texts enhanced pupils' motivation and reading engagement. Millalen (2015) found concrete evidence that learners exposed to multimodal texts achieved higher comprehension levels. Similar findings were also reported by Salamanti et al. (2023) who found that learners exposed to multimodal learning strategies demonstrated higher language proficiency and increased motivation compared to learners taught using traditional teaching methods. Their findings highlights that multimodal approaches created a more inclusive and learner-centred language learning environment. However, other research highlights challenges related to teacher readiness and resource availability (Razak et al., 2018), indicating that successful implementation requires context-sensitive design.

Despite these studies, most prior research focuses on digital multimedia platforms, secondary-level learners, or non-Malaysian contexts. Limited studies have examined a tangible low-technology multimodal tools that works in the rural Malaysian primary school context, where cultural relevance and instructional practicality are critical. Additionally, few studies employ mixed-method quasi-experimental designs which combine statistical performance analysis with qualitative exploration of learner perceptions. The present study extends existing scholarship by addressing these gaps within a rural Malaysian ESL context.

2. Method

This study investigates the effectiveness of the Circle Book as a multimodal learning tool for improving reading comprehension among rural Year 4 ESL pupils. The independent variable was the Circle Book intervention, and the primary dependent variable was pupils' reading comprehension performance measured through pre-test and post-test scores. Qualitative data were collected to contextualize learner perceptions and classroom engagement. The integration of quantitative and qualitative data enables a more holistic understanding of the impact of the Circle Book on reading comprehension and classroom learning experiences.

2.1 Participant (Subject) Characteristics

The participants for this study are Year 4 upper primary school pupils from a rural school in the state of Perak. The total population consists of 32 pupils, evenly split between 16 male and 16 female pupils. Some pupils were identified by the teacher as low-proficiency learners based on previous assessments. Most pupils have limited English exposure outside of the school and minimal access to English reading materials at home. Besides, two experienced English teachers and the Head of English Panel of the school with more than 10 years of teaching experience combined also participated in the interview and provided insight while setting the pre-test-post-test questions.

2.2 Sampling Procedures

A purposive sampling method is used to select this group. In this research, Upper Primary Year 4 pupils are selected to participate in the research with consent from the school administration and written parental consent. Next, the pupils selected to participate in this research were carefully selected to avoid exploitation and unfair exclusion. (Torlone, 2023). All of the research participants are generally weak in English language proficiency where some are participants of Remedial Instruction group in the classroom. These pupils do not have access to English language reading materials at home nor they receive proper guidance in English language from adults or peers in their surrounding environment. Besides, there is a lack of a community library in the village, which means pupils are less likely to read or study English language books and materials outside of the school system. Hence, these pupils are ideal to evaluate the potential impact of Circle Book as an intervention to improve reading comprehension.

2.2.1 Measures and Covariates

In this study, the primary outcome variable is the reading comprehension performance of pupils during the post test. Each test comprised of five multiple-choice questions (two marks each) and five fill in the blank's items. The total score of the test is 20 marks. The construction of test items followed a table of specifications (ToS) to ensure that all the difficulty levels and reading skills are covered. The items constructed included understanding main ideas of simple texts, understanding specific information of simple longer texts, and guessing the meaning of unfamiliar words from clues provided by title, topic and other known words.

Content validity was established by aligning the reading comprehension tests with the CEFR Year 4 curriculum using a table of specifications based on curriculum standards set by the Ministry of Education Malaysia. The test items were reviewed by two senior English teachers and the Head of the English Panel to ensure relevance and accuracy. Minor revisions were made based on feedback to ensure linguistic appropriateness prior to admission. Besides, construct validity was addressed by designing reading comprehension tests and semi-structured interviews to accurately measure pupils' comprehension skills and engagement with the Circle Book intervention (Johnson & Christensen, 2020). Data triangulation was employed by integrating test scores, interview data, and reflective journals,

allowing convergence of evidence and strengthening the credibility of the findings (George, 2023). To ensure reliability, the pre-test and post-test were constructed at the same difficulty level and procedure. The same table of specifications and rubrics was used to maintain consistency in question types and cognitive demand (Silverman, 2021) and to ensure procedural uniformity. All participants were assessed under the same testing conditions to minimise the influence of external factors (Middleton, 2022). However, a formal reliability analysis such as Cronbach's alpha analysis was not conducted due to the limited number of test items, as it may produce unstable estimates. For qualitative data, reliability was enhanced through triangulation and collaborative analysis of interview transcripts and reflective journals.

2.2.2 Research Design

This study employs a quasi-experimental design with a pre-test and post-test approach to investigate the effectiveness of the Circle Book as a multimodal learning tool for improving reading comprehension. The research utilizes a mixed-methods approach to provide a comprehensive understanding of the result. Quantitatively, in a pretest post-test design, the dependent variable is measured once before the treatment is implemented and once after it is implemented. Qualitatively, data are collected through semi-structured teacher interviews, reflective journals, and classroom observation logs. The logs will be used to explore pupils' engagement, and teachers' perceptions of the multimodal tool's effectiveness. The integration of quantitative and qualitative data enables a more holistic understanding of the impact of the Circle Book on reading comprehension and classroom learning experiences.

2.2.3 Experimental Manipulations or Interventions

The intervention, the Circle Book is a multimodal tool designed to engage pupils by integrating textual and visual elements. In this study, the Circle Book is used as an intervention tool to enhance pupils' reading comprehension. The design of Circle Book is aligned with multimodal learning principles. It incorporates images, diagrams and words to support the learning process and help learners better understand the content of the study and retention of knowledge. This design aims to scaffold comprehension by providing contextual cues that assist pupils in interpreting unfamiliar vocabulary and identifying key ideas in the text.

The intervention was conducted over a six-week instructional period during regular English lessons from March 2025 to April 2025. One instructional session was carried out for 60 minutes each week by the same English teacher to maintain instructional consistency. Each lesson consists of a three phase from set induction (pre-reading), presentation (while-reading) and practice (post-reading) activities. During the set induction stage, the teacher shows pictures and introduce key vocabulary using flashcards or images. In the presentation stage, pupils read the selected text passages while referring to the corresponding images and vocabulary cues in the Circle Book with guidance from the teacher. The teacher guided pupils through the reading process by asking comprehension questions and prompting them to infer meaning from the Circle Book. During the practice stage, pupils' complete comprehension exercises, which normally include multiple-choice and fill-in-the-blank questions while

referring to the reading passages. Pupils were allowed to refer to the Circle Book while completing these activities in order to reinforce vocabulary understanding and promote critical thinking.

All pupils received the same instructional exposure and no control group was included in the study.

3. Results

The findings gathered from both quantitative and qualitative data collection methods collected through pre-tests, post-tests, interviews, and journals. The aim is to explore the effectiveness of using Circle Book as a multimodal tool in enhancing reading comprehension skills among Year 4 ESL pupils in a rural Malaysian school. Quantitative analysis explores the changes in pupils reading comprehension scores before and after the Circle Book intervention, while qualitative data from interviews and observation provide additional insights into pupils' engagement and learning experiences.

3.1 Recruitment

This study includes 32 Year 4 pupils from a rural national primary school in Perak, Malaysia. All 32 pupils who participated in the study and all data collection took place during the regular English classes between March 2025 to April 2025 with parent consent. The researcher obtained parental consent and school approval before the study was conducted and all the pupils involved in the study participated as part of their regular classroom learning activity. All 32 participants completed the test with no attrition.

3.2 Baseline Data

Baseline results indicate that pupils initially demonstrated low to moderate reading comprehension proficiency, consistent with teacher observations at the beginning of the study. This limited proficiency explains the observed improvements in engagement, vocabulary understanding, and comprehension following the intervention, as pupils benefited from additional visual scaffolding and structured support provided by the Circle Book. These baseline conditions provided a suitable context for examining the potential impact of the Circle Book intervention on reading comprehension development.

3.3 Effects of Circle Book on Reading Comprehension

Table 1. Pre-test and post-test reading comprehension scores

Condition	Mean (SD)	95% CI	
		LL	UL
Pre-test	7.22 (4.04)	5.76	8.68
Post-test	10.88 (4.77)	9.16	12.60

The quantitative data were analyzed using descriptive statistics and a paired-sample t-test to determine the differences in pupils' reading comprehension before and after the Circle Book intervention. As shown in Table 1, the mean reading comprehension score increased from 7.22 (SD = 4.04) in the pre-test to 10.88 (SD = 4.77) in the post-test. This indicates that the intervention not only improved scores statistically, but also suggests meaningful gains in pupils' comprehension ability following the multimodal scaffolding provided by the Circle Book. The 95% confidence intervals indicate that the average post-test performance was substantially higher than the baseline reading comprehension level. The increase in mean score between pre-test and post-test (3.66 points) indicates an improvement in pupils' reading comprehension levels following the use of Circle Book after the six-week intervention. The results of the paired-sample t-test also reveal a significant improvement in reading comprehension performances $t(31) = 14.96$, $p < .001$. This indicates that the observed improvement is unlikely to have occurred by chance and can be attributed to the intervention.

To evaluate the magnitude of the effect, Cohen's d was calculated for the paired samples. The effect size was large at $d = 2.65$. The findings demonstrate that the Circle Book intervention has a positive impact on pupils' reading comprehension performance, particularly in supporting vocabulary understanding and meaning construction during reading. Overall, these findings suggest that the Circle Book intervention was effective in enhancing pupils' reading comprehension through structured multimodal support.

3.3.1 Statistics and Data Analysis

All participants who were initially assigned to the study were included in the final statistical analysis. As the intervention was conducted within a classroom and all pupils participated in the instructional activities and completed both the pre-test and post-test assessments, the analysis followed an intent-to-treat approach. No participants were excluded from the dataset and no missing values were recorded.

The use of the full dataset ensured that the results accurately reflected the overall learning outcomes of the participating classroom and minimised potential bias that might arise from excluding participants who did not complete the intervention.

3.3.2 Adverse Events

No adverse events or negative incidents were observed during the implementation of the Circle Book intervention. All instructional activities were conducted as part of regular classroom learning and there are minimal to no risk to participants. The pupils who participated in the reading activities and comprehension exercises did not experience any physical or psychological harm. No participants withdrew from the study and no classroom disruptions occurred from the use of the intervention.

3.4 Pupils Learning Experiences Using Circle Book

Qualitative data from classroom observations and semi-structured interviews were analysed to provide additional insights into pupils' learning experiences during the Circle Book intervention. Three major themes emerged from the data: enhanced engagement, vocabulary

support, and visual support for comprehension. The researcher anonymised the participants using coded identifiers, where pupils are labelled as P1 to P32 whereas teachers are labelled as T1 and T2. Example of labels include (P1, I, W1, 05032025) where I refers to the interview report, W1 refers to the week of intervention, and the numbers 05032025 refers to the date (day-month-year) of the classroom observation or interview. Classroom observations will be labelled as CO. Findings from observations and interviews were triangulated to provide a comprehensive understanding of pupils' experiences.

3.4.1 Increased Pupil Engagement

Observational records collected throughout the six-week intervention indicated increased pupil engagement during reading activities involving the Circle Book. Pupils appeared more attentive during guided reading sessions and demonstrated greater willingness to participate in classroom discussions compared to previous reading lessons conducted without the intervention. *They were more responsive to the teacher and actively engaged with the reading materials* (T1, CO, W4, 25032025). This observation was supported by interview data, where pupils expressed that the use of visuals made reading activities more enjoyable and interesting. One pupil (P7, I, W3, 19032025) stated, *"The pictures make the story more interesting, so I want to read."* Another pupil (P12) mentioned that reading with the Circle Book was *"more fun"* compared to using the textbook alone. This provides evidence that the multimodal features of the Circle Book enhanced pupils' engagement by making reading activities more interactive and stimulating.

3.4.2 Increased Vocabulary Comprehension

Observational data showed that pupils frequently relied on visual cues in the Circle Book to infer the meanings of unfamiliar words. During reading sessions, pupils were observed referring to images and diagrams when attempting to understand new vocabulary (T1, CO, W2, 13032025). This was further reinforced by interview findings. One pupil (P21, I, W5, 10042025) explained, *"When I don't know the word, I look at the picture and then I can understand."* Another pupil (P9) stated that the visuals helped them *"guess the meaning of words without asking the teacher."*

These results indicate that the Circle Book supported vocabulary acquisition by providing contextual visual cues, enabling pupils to construct meaning independently and reduce reliance on direct teacher explanation.

3.4.3 Enhanced Comprehension due to Visual Support

Classroom observations revealed that pupils were able to better understand the overall meaning of the text when visual illustrations were integrated with written content. *Pupils were more confident when answering comprehension questions and frequently referred to images when explaining their answers.* (T2, CO, W6, 08042025) The interview data further supported this finding as one pupil (P7, I, W3, 19032025) stated, *"The pictures help me understand the story because I can see what is happening."* Another pupil (P15) admitted that the visuals made it easier to follow the storyline and connect ideas within the text.

These findings suggest that visual elements in the Circle Book facilitated comprehension by providing concrete representations of textual information, thereby supporting pupils in interpreting meaning and making connections within the text.

3.5 Intervention Fidelity

Intervention fidelity was monitored throughout the study to ensure that the instructional procedures were implemented as intended. All six intervention sessions were delivered according to the planned instructional structure. Each session followed the three-stage instructional sequence consisting of pre-reading activities, guided reading with the Circle Book during the while-reading stage, and post-reading comprehension exercises.

Observation checklists and reflective teaching notes confirmed that the Circle Book was consistently used as the primary instructional tool during the intervention sessions. All pupils participated in the planned classroom activities, and no deviations from the intended instructional procedures were reported. The consistent implementation of the Circle Book across all sessions supports the validity of the observed improvements in pupil engagement, vocabulary understanding, and reading comprehension reported in Section 3.3.

4. Discussion

4.1 Interpretation of Findings

The findings from the quasi-experimental study indicate that implementation of Circle Book as a multimodal tool in the ESL classroom is effective in enhancing reading comprehension in the ESL classroom. The quantitative results indicated a significant improvement in pupils' reading comprehension scores following the six-week intervention. Qualitative findings also provide strong evidence that pupils perceive the Circle Book as an effective instructional tool in terms of enhancing engagement and improving vocabulary comprehension.

Pupils reported that the visuals in the Circle Book facilitated understanding of unknown vocabulary and help them to interpret the meaning of texts more effectively with the use of visual scaffolding. Classroom observations also suggested increased engagement and participation during reading activities. These findings align with previous research suggesting that reading comprehension is a complex process influenced by learners' ability to integrate linguistic knowledge with contextual and visual information (Smith et al., 2021). In addition, the results align with Paivio's Dual Coding Theory (1986), which suggests that information encoded through both verbal and visual systems enhances memory and understanding. Together, these theories provide a strong theoretical basis for explaining how the multimodal features of the Circle Book supported pupils' reading comprehension.

4.2 Enhanced Pupil Engagement Through Multimodal Input

The findings of this study can be interpreted through the lens of multimodal learning theories. The Circle Book integrates textual passages with visual illustrations and vocabulary prompts, allowing pupils to connect linguistic information with visual representations. Research has shown that multimodal instructional strategies can enhance learners' motivation and participation by making learning more interactive and accessible (Lim et al., 2021).

According to the Cognitive Theory of Multimedia Learning (Mayer, 2021), learning is enhanced when verbal and visual information are processed simultaneously through dual cognitive channels. This reduces monotony and enhances cognitive involvement. This is supported by Hanif and Wiedarti (2021), who found that multimodal texts provide authentic experiences that improve motivation and comprehension. Jamil and Aziz (2021) also indicate that multimodal texts increased pupils' engagement and supported vocabulary acquisition in ESL classrooms. The present findings are also consistent with Salamanti et al. (2023), whose experimental study reported significantly higher engagement and motivation among learners who were exposed to multimodal learning approaches. Similar to the current study, learners responded positively to instructional materials which integrated multiple modes of communication.

4.3 Enhanced Vocabulary Development Through Dual Coding

In addition, the results align with Dual Coding Theory (Paivio, 1986), which proposes that information encoded both verbally and visually is more easily retained. When learners encounter new vocabulary supported by visual representations, both systems are activated, leading to stronger encoding and easier retrieval. In the context of this study, providing visual cues alongside textual information likely reduced cognitive load and supported pupils' ability to construct meaning from the reading passages.

4.4 Visual Scaffolding and Enhanced Comprehension

Schema Theory also provides an explanation for the observed improvements. Visual elements may activate pupils' prior knowledge and provide contextual clues that facilitate comprehension of unfamiliar vocabulary and concepts (Smith et al., 2021). Similar findings were reported by Yawiloeng (2022), who found that learners perceived visual texts, images, and instructional scaffolding as important elements for reading comprehension and vocabulary development. Pupils also showed a higher level of motivation and increased reading comprehension abilities when visuals and text were integrated meaningfully through multimodal tools. This supports the Multimodality Theory (Jewitt, 2021) which suggests that learning is enriched through the use of multiple semiotic modes such as images, colours, layout, and written language. The intervention also aligns with Krashen's Input Hypothesis, as the Circle Book provided comprehensible input that was slightly above the pupils' current proficiency level to support language acquisition (Krashen, 1985). It created a learner-friendly environment which aligns with the culture and context of the learning. On the other hand, Lim et al. (2021) found that multimodal instructional strategies significantly improved comprehension and retention among primary school learners.

4.5 Comparison with Previous Studies

The present study extends these findings by focusing on a rural Malaysian classroom context, which has received limited attention in multimodal learning research. As many previous studies examined digital multimedia tools, the current findings suggest that low-technology multimodal resources such as the Circle Book can also produce meaningful improvements in reading comprehension.

The effectiveness of the Circle Book intervention may be explained by several instructional mechanisms. First, the visual aids provided contextual support that helped pupils infer and guess the meaning of unfamiliar words. The structured layout of the Circle Book encouraged active interaction with the text and visuals, prompting pupils to link images and vocabulary cues with the reading passages. Recent studies suggested that multimodal literacy practices contribute to reading comprehension development by integrating various modes to aid pupils' understanding through the combination of text and visuals. (Carcamo, 2025) Finally, the three-stage instructional approach (pre-reading, while-reading, and post-reading activities) had contributed to improved comprehension by scaffolding pupils' reading processes. The set induction (pre-reading) stage activated prior knowledge, the presentation (while-reading stage) guided pupils through the text with visual support, and the practice stage (post-reading stage) helped reinforced comprehension through targeted exercises.

4.6 Limitations of the Study

Despite promising findings, several limitations should be acknowledged. First, the study was conducted with a small sample of pupils from a single rural classroom for only six weeks. As a result, the generalizability of the findings to other schools or educational contexts may be limited and a longer duration of the study may have produced a more robust and reliable result.

Second, the absence of a control group restricts the ability to make strong claims regarding the effectiveness of the intervention as the improvements in reading comprehension may also be influenced by other factors. Pupils' improvement might have been caused by the increased familiarity with test formats or classroom instruction during the study period.

Finally, the reading comprehension tests used in this study were researcher developed instruments. Although content validity was established through expert review, additional reliability testing would strengthen the measurement precision of the instruments.

4.7 Implications of the Study

Despite the limitations, the findings provide important implication for ESL instruction in the Malaysian rural contexts. Successful implementation of multimodal tools suggest that the tool can be used to provide practical support to improve reading comprehension among pupils with limited exposure to English outside the classroom. Salamanti et al. (2023) states that multimodal instructional approaches contribute to the development of more inclusive and engaging language learning environments by accommodating diverse learner needs and learning preferences. Teachers who are working in a resource constraint environment should be encouraged to adopt or develop low-cost multimodal tools like Circle Book and other similar tools to make reading lessons more interesting, productive, and encouraging. Hazaymeh and Khasawneh (2024) emphasised the importance of providing teachers with the skills and resources to integrate multimodal tools and methods into their daily teaching instruction. Multimodal tools like the Circle Book offers a low cost and easily implementable strategy to integrate visual scaffolding into reading instruction. Future research should expand this study to examine the effectiveness of similar multimodal tools across multiple

schools and include control-group comparisons to reinforce causal inference. With careful implementation and support, multimodal tools such as the *Circle Book* have the potential to transform English language teaching and promote literacy development among young learners especially in rural areas.

5. Conclusion

This study investigated the effectiveness of the Circle Book as a multimodal learning tool in improving reading comprehension among Year 4 ESL pupils in a rural Malaysian primary school. The findings from both quantitative and qualitative data indicate that the Circle Book had a positive impact on pupils' reading comprehension performance, engagement, and vocabulary understanding. The significant improvement in post-test scores demonstrates that integrating textual and visual elements through multimodal instruction can effectively support pupils in constructing meaning from reading texts. The qualitative findings further revealed that pupils perceived the Circle Book as engaging, interactive, and helpful in understanding unfamiliar vocabulary and textual content.

The findings support established theories related to multimodal learning and second language acquisition, including Mayer's Cognitive Theory of Multimedia Learning, Paivio's Dual Coding Theory, Schema Theory, and Krashen's Input Hypothesis. The integration of visuals, contextual vocabulary cues, and structured reading activities through multimodal tool provided scaffolding that reduced cognitive load and facilitated comprehension among pupils with limited English proficiency. The study therefore reinforces the importance of combining verbal and visual modes of instruction to support literacy development in ESL classrooms.

In addition, this study contributes to the existing body of literature by extending multimodal learning research into the rural Malaysian primary school context where low-cost and culturally appropriate instructional tools are important. Unlike many previous studies that focused on digital multimedia platforms, the present study demonstrates that tangible low-technology multimodal tools such as the Circle Book can also produce meaningful improvements in reading comprehension and learner engagement. Despite its contributions, the study has several limitations, including the small sample size, short intervention duration, and absence of a control group. These limitations restrict the generalisability of the findings and limit causal interpretation. Future research should therefore involve larger sample populations, longer intervention periods, and comparative experimental designs across multiple school settings. Further studies may also explore the effectiveness of other multimodal instructional tools in supporting different language skills among diverse learner groups.

Overall, the findings suggest that the Circle Book is an effective and practical multimodal instructional tool for enhancing reading comprehension among rural ESL learners. The study highlights the potential of multimodal and visually supported learning approaches in promoting meaningful literacy development, improving learner engagement, and supporting more inclusive English language teaching practices in Malaysian primary schools.

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