COGNITIVE LANGUAGE LEARNING STRATEGIES AND ENHANCING READING COMPREHENSION AMONG MALAYSIAN PRIMARY ESL LEARNERS

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Article Info:

Abstract:

Reading comprehension remains a persistent challenge for many Malaysian primary ESL learners, despite its central role in the CEFR-aligned English curriculum and its assessment through the End of Academic Session Test (UASA) examination. This study investigated the use of Cognitive Language Learning Strategies (CLLS) among Year 6 ESL pupils and examined the relationship between these strategies and pupils' reading comprehension performance. A quantitative correlational design was employed, involving 60 Year 6 Malaysian learners selected through simple random sampling from a national primary school in Perak. Data were collected using an adapted version of Oxford's (1990) Strategy Inventory for Language Learning (SILL), focusing on 15 cognitive strategy items, and samples' UASA English reading comprehension scores (Parts 1–4). Descriptive analyses revealed that learners used CLLS at a moderate to high frequency, favouring strategies such as using pictures and titles, guessing new word meanings, and translating into their first language. In contrast, higher-order strategies, including summarising, questioning, and grouping ideas, were less frequently applied. Pearson correlation analysis revealed a moderate, significant positive relationship between overall CLLS use and reading comprehension achievement ($r = 0.46$, $p = 0.001$). These findings suggest that the active use of cognitive strategies contributes to better reading outcomes and highlight the importance of explicit strategy instruction in ESL classrooms. The study provides pedagogical implications for curriculum development, teacher training,

and learner strategy awareness in Malaysia's CEFR-aligned educational system.

Introduction

Reading comprehension plays an important role in second language (L2) learning and academic achievement. In Malaysia, reading serves both as a means of language acquisition and a tool for cognitive development, which is necessary for learning performance (Bolhan & Ismail, 2024; Hassan et al., 2021). This is because reading encompasses the process of decoding and comprehending text meaningfully (Napigkit & Rodriguez, 2017). Considered as a receptive skill embedded in the Standards-Based English Language Curriculum (SBELC) (Ministry of Education, 2015), reading has its own content standards and learning standards for English in both primary and secondary curricula ("Standards-Based Curriculum and Assessment Document," 2015).

The SBELC was later revised in 2016 to align with the Common European Framework of Reference (CEFR) for Languages for benchmarking purposes (Mohamad Uri & Abd Aziz, 2018; Sidhu et al., 2018). According to Read (2019), CEFR is widely regarded as a framework to define levels of proficiency for assessment purposes. It is well-known for its six-level descriptors, which provide the users with expected performance across different levels, known as the CEFR 'can do' statements for listening, speaking, reading and writing (Alih et al., 2021, p. 297). The Ministry of Education (2015) also justified the implementation of CEFR in the Malaysian education system, explaining the need for an international standard framework, benchmarking, alignment, and calibration. Its implementation in the four language skills enhances learners' language skills since it allows them to discover valuable strategies and to advance from basic to independent categories, as well as put their newfound knowledge to good use (Wok Zaki & Darmi, 2021). This is because CEFR specifies what learners can do in each language skill. Therefore, the Malaysian CEFR-aligned curricula outline expectations for

reading abilities among primary ESL learners, including being able to find specific information in simple everyday material as well as to understand short and simple personal letters (Wok Zaki & Darmi, 2021). It is hoped that the revised English language curriculum is expected to improve the quality of good English speakers among young learners (Mohamad Uri & Abd Aziz, 2020). It also equips these learners to meet the international language demands as well as produce quality students who are versatile in regard to the English language (Nii & Yunus, 2022). However, despite curricular reforms, reading comprehension remains a persistent challenge for upper primary ESL learners in Malaysia (Anadan Nair et al., 2025; Chua & Sulaiman, 2021). Many learners struggle to understand English texts due to limited vocabulary range, inability to connect prior knowledge to the reading text, and lack of interest and motivation to read English reading materials (Chua & Sulaiman, 2021; Kiew & Shah, 2020), besides other factors such as lack of content knowledge, demotivation and lack of reading strategies.

While there are studies indicating that cognitive language learning strategies (CLLS) (such as summarising, inferring, predicting, and translating, cognitive reading strategies) are significantly related to students' reading comprehension (Vettori et al., 2024; Wahyono, 2019; Zhao, 2024), these strategies are often underutilised to assess reading performance among Malaysian upper primary learners (Soon et al., 2022). One reason is learners' limited vocabulary that restricts their engaging in comprehension processes (Chua & Sulaiman, 2021). In addition, many learners lack metacognitive awareness, where they are not explicitly taught when and how to apply these strategies (Mohd Salim et al., 2025). Metacognitive awareness is essential as it enables learners' planning, monitoring, and regulating effective learning as well as leads to better academic performance, problem-solving and knowledge transfer (Jaleel & Premachandran, 2016; Sawhney & Bansal, 2015). The lack of learners' metacognitive awareness may lead to their struggle at applying learning strategies effectively, reducing their academic success and adaptability (Lee, 2024).

Others approached the study of language learning strategies (LLS) from the descriptive lens, focusing on frequency of using these strategies without testing the effectiveness of explicit classroom interventions that train learners in applying cognitive strategies (Ismail et al., 2016; Palani et al., 2022; Rojalai et al., 2021). Despite these contributions, there is a noticeable gap in research focusing specifically on how Malaysian primary ESL learners use CLLS during reading tasks, as well as how these strategies relate to performance on the English paper for the End of Academic Session Test (UASA). As noted in Teo and Sathappan (2025), UASA is introduced by the Ministry of Education to evaluate ESL learners' communicative competence, particularly in constructing extended messages based on real-world stimuli. It replaces the Primary School Achievement Test (UPSR) to strengthen school-based assessment (Franchis & Mohamad, 2023).

Understanding how primary ESL learners use cognitive language learning strategies can help teachers to foster early language autonomy, improve reading comprehension, and enhance overall English achievement (Jirin et al., 2023; Khamis et al., 2024; Soon et al., 2022).

To address this gap, this study investigates two research questions, which are: (a) What cognitive language learning strategies are used by Upper Primary ESL learners to enhance reading comprehension? and (b) Is there a significant correlation between the use of Cognitive Language Learning Strategies (CLLS) and reading comprehension achievement among the Upper Primary ESL learners, based on UASA English results?

Literature Review

Cognitive Learning Theory

Cognitive Learning Theory (CLT) concentrates on the internal mental processes of learning, such as memory, perception and thinking, rather than observable behaviours (Anderson, 2020). Unlike behaviorist theories that emphasize observable behaviors, CLT focuses on learners' acquisition, process, and store of knowledge. It assumes that learning occurs through the active meaning making where new information is integrated into pre-existing mental frameworks known as schemas (Piaget, 1973). The existence of schemas assists students to relate new information to previous experiences, predict information, and fill gaps in knowledge understanding (Anderson, 2020; Piaget, 1973).

In reading, Schema Theory explains how learners use background knowledge to process and interpret texts. For ESL learners, comprehension involves the decoding of linguistic input, the activation of relevant prior knowledge, and the reorganization of information in meaning-making (William. Grabe, 2012; Rumelhart, 2017). Studies have shown that learners who are actively engaging their cognitive processes, such as prediction, inferencing, and self-monitoring, demonstrate more successful reading comprehension performance (Al-Zyout & Al-Jamal, 2023; Rodríguez Sua, 2021; Wendaferew & Damtew, 2023).

In the Malaysian ESL context, CLT provides a strong theoretical lens for understanding how learners engage with English reading tasks. Since young learners are in the developmental stage for both cognitive and linguistic abilities, their comprehension depends largely on the ability to internalize input through active cognitive engagement (Ali & Razali, 2019). Therefore, CLT underlines the importance of promoting CLLS to help learners not only understand texts but also develop independent learning habits that can transfer to other contexts (Anderson, 2020). Cognitive Language Learning Strategies

By definition, LLS are learners' deliberate actions taken to make their learning more effective and independent (Oxford, 2017), which can be seen as a set of assisting techniques to bolster language learning (Sani & Ismail, 2021). Oxford (2017) classified LLS into two categories: (1) direct strategies that involve mental manipulation of linguistic input and (2) indirect strategies that make learning possible through planning, motivation and interaction. According to Oxford (2017) direct strategies include memory strategies, cognitive strategies and compensation strategies whereas indirect strategies include metacognitive strategies, affective strategies and social strategies. Among these strategies, CLLS are considered to be important since these strategies enable learners to manipulate, analyze, and transform linguistic input for the purpose of constructing meaning (Ali & Razali, 2019; Sukying, 2021). According to Raqqad et al. (2019), cognitive strategies include those that specifically influence and improve the learning of incoming information. Some of the common cognitive strategies include summarising, predicting, inferencing, translating, note-taking, and reorganizing information (Al-Zyout & Al-Jamal, 2023; Oxford, 2017). These strategies help learners to process input actively, make mental connections to existing knowledge, and enhance their comprehension and retention of new information.

Empirical research has relentlessly indicated that CLLS have a positive impact on reading comprehension. Al-Zyout and Al-Jamal (2023), for instance, found that using the POSSE strategies, which comprises predicting, organizing, searching, summarizing, and evaluating,

will significantly increase reading comprehension of EFL learners by encouraging structured mental engagement. Similarly, Wong and Kahar (2025) found that guided reading instruction, which incorporates prediction, summarization, and self-monitoring strategies, enhance Malaysian primary learners' reading accuracy and comprehension. These findings align with those of Ali and Razali (2019), who noted that explicit instruction of cognitive strategies helps to empower young ESL learners at comprehending English texts more effectively, which is reflected in better comprehension outcomes.

However, Malaysian research on CLLS has often been descriptive rather than experimental. Most mainly focused on frequency counts of strategy use rather than evaluating intervention research. Palani et al. (2022) and Darus et al. (2024), for example, examined the types and frequency of strategies employed by learners but failed to assess the impacts of these strategies on academic achievement. It is crucial to determine whether explicit instruction in learning strategies can lead to measurable improvements in learners' language proficiency and comprehension (Mokhtari & Sheorey, 2002; Nosratinia & Mohammadi, 2017; Oxford, 2017). Wong and Abdul Aziz (2023) pointed out that while strategy-based instruction can improve comprehension, there are few empirical studies at Malaysian primary level that investigated the influence of cognitive strategy use on comprehension performance. Moreover, the use of CLLS is still not optimally practiced by Malaysian students since they do not get proper strategy instruction, lack proper teacher training, and continue to rely on memorisation by rote or translation method (Ali & Razali, 2019; Sukying, 2021). These findings reflect the need for a systematic and explicit cognitive strategy instruction at Malaysian primary school level to help learners understand and develop the cognitive abilities for successful reading.

While there are studies on assessing learning strategies, another interesting direction is developing learners' reading autonomy. Cognitive strategy instruction (CSI) is an instructional approach that explicitly teaches learners how to use specific mental strategies to enhance comprehension, problem-solving, and self-regulated learning (Paris et al., 1991). It involves modeling, guided practice, and gradual release of responsibility, enabling students to internalize and independently apply strategies such as predicting, questioning, summarizing, clarifying, and visualizing when reading texts (Pressley et al., 1992). Through CSI, students are taught not only what to think but also how to think, promoting metacognitive awareness and active engagement with reading materials (Dole et al., 1996).

Reading Comprehension

Reading comprehension is a procedure that requires readers to extract and construct synchronously while interacting with the written text completely (Hashmi, 2024). According to Rajasagaran and Ismail (2022), it is a complex process which may delay mastering reading skills among language learners. This complexity arises because reading is not a single skill but a combination of multiple cognitive, linguistic, and metacognitive processes that operate simultaneously (Perfetti & Stafura, 2014). Grabe (2012) defines reading comprehension as decoding, meaning construction, and interpretation of written text. According to Snow (2002), reading comprehension involves multiple levels of processing, such as literal, inferential, and evaluative. Active utilization of cognitive strategies is required at every level of processing. For ESL learners, reading comprehension is also influenced by linguistic proficiency, vocabulary knowledge and strategy use (Kiew & Shah, 2020).

Research consistently shows that the use of strategies supports ESL learners' reading comprehension development. Kiu and Yamat (2020) found that proficient primary ESL readers in rural Sarawak employed strategies like inferencing and summarising more frequently than weaker readers, while poor readers relied more on surface-level or memory-based strategies. Wong and Abdul Aziz (2023) found that the explicit strategy instruction via a scaffolding approach helps less skilled Year 3 readers in a rural primary school to develop their metacognitive awareness of employing and monitoring their use of reading strategies with the text read and eventually improves their reading comprehension. Another study by Mohamed et al. (2006) reveals that good readers have higher awareness and use of metacognitive reading strategies in which these strategies are linked to better comprehension and meaningful engagement with texts.

Yet, many studies remain descriptive rather than experimental. For example, Semtin and Maniam (2015) studied reading strategy use among Form 4 secondary students and found that many strategies are 'sometimes' used, suggesting low awareness or irregular use, but did not measure how strategies predict comprehension performance. Similarly, Dawi and Hashim (2022) examined preferred learning strategies among Malaysian primary ESL learners and found that many learners rely on translation or dictionary lookup when they do not understand a text, rather than using prediction or inference. While informative, this study did not test how such a choice of strategies affects their reading achievement.

Methodology

Research Design

This study employs a quantitative, correlational study design in exploring the frequency and nature of CLLS used by Upper Primary ESL students. It further determines the relationship between CLLS and reading comprehension achievement in the UASA English test. A correlational design is preferable as it allows the researcher to measure the variables and determine the relationship and the degree of strength without altering them (Creswell & Creswell, 2023). The design aligns with the aim of the research to determine the relationship between the use of CLLS by learners and their achievement on standardized tests of reading comprehension.

Samplings

This study employs 60 Year 6 ESL learners from a Malaysian national primary school in Perak. According to Roscoe (1975), a sample size greater than 30 and less than 500 is suitable for most behavioural studies. The school is chosen as it represents Malaysian suburban public schools that implement the CEFR-aligned English language curriculum. According to Abu Shah et al. (1994), sub-urban schools are the schools which are located in a major town or township on the periphery of an urban area, outside the core urban municipality, but still within a town or residential area with reasonable infrastructure and public facilities; typically with school facilities comparable to urban schools, but serving a population whose socio-economic status may be lower or more mixed than central urban zones. The school offers a diverse population of ESL learners with mixed proficiency levels, which aligns with the goals of this study to examine cognitive language learning strategies among upper primary learners in a mainstream setting. Additionally, the school has a sufficient number of Year 6 learners to allow

for adequate sampling, and its administration granted permission and support for the study to be conducted.

Simple random sampling is employed to select participants because it ensures that every student in the target population has an equal chance of being included (Oxford, 1990). In this study, all Year 6 learners in the school formed the sampling frame, making it a census. First, an official list of Year 6 students was obtained from the school administration. Each pupil on the list was assigned a unique numerical identifier. A computer-generated randomisation tool was used to randomly select 60 numbers from the list, responding to the pupils who would participate in the study.

Data Collection Instruments

Two main instruments are used to collect data in this study.

Questionnaire

First, a questionnaire which adapts Oxford's (1990) Strategy Inventory for Language Learning (SILL) is used which is one of the most widely used and empirically validated instruments for measuring language learning strategies across diverse educational contexts. It is a preferred tool among researchers, known for its structured and theoretically grounded framework that captures six major strategy categories to examine LLS used by students (Sani & Ismail, 2021). The original SILL contains multiple categories with a broad range of items. Since this study focuses specifically on CLLS, the adapted questionnaire only focuses on cognitive strategies, which consist of 15 items from SILL. The items are also related to reading processes such as predicting, inferencing, summarizing, and translating. Table 1 lists the items in the questionnaire.

Table 1: Questionnaire Items

No.	Items
1	I try to guess the meaning of new words.
2	I connect the story to what I already know.
3	I try to remember important words.
4	I take notes or underline while reading.
5	I use pictures or titles to understand.
6	I translate into my first language.
7	I reread parts to understand better.
8	I predict what will happen next.
9	I think about the main idea.
10	I summarise in my own words.
11	I read aloud to understand better.
12	I use words I've already learned.
13	I group similar ideas together.
14	I ask questions while reading.
15	I use sentences around a word to find meaning.

The instrument employs a 5-point Likert scale to demonstrate the extent to which respondents support or oppose the items depending on their knowledge and understanding of CLLS. The description is shown in Table 2.

Table 2: Likert-Scale Description for Each Item.

Description	Assisting description	Code
Never or almost never true	0-20%	1
Usually not true	21-40%	2
Somewhat true	41-60%	3
Usually, true	61-80%	4
Always or almost always true	81-100%	5

In this questionnaire, the researcher supplements assisting descriptions with percentages to help respondents differentiate the frequency. This assisted learners in choosing their preferences.

Reading Comprehension Achievement

Learners' reading comprehension achievement is measured using their scores from Parts 1 to 4 in the UASA English paper. These parts assess learners' ability to comprehend and interpret various text types, including short dialogues, informational passages, and functional texts. Parts 1 to 4 specifically target reading comprehension subskills such as identifying main ideas, making inferences, understanding vocabulary in context, and interpreting meaning. The design and content of these sections follow the CEFR-aligned English Language Curriculum, as outlined in the Ministry of Education's official guideline document, Guide to Management and Administration of the End of Academic Session Test 2024/2025 (Board of Examination, 2024). The UASA English results were collected from school records with administrative approval and used solely for research purposes.

Data Collection

Before collecting the data, permission is obtained from the school administration, and informed consents are obtained from parents or guardians. Verbal consent is also retrieved from the learners, indicating voluntary participation. Data is collected in two stages. First, the distribution of questionnaires was administered during regular school hours, lasting approximately 20 minutes. The participants' UASA English results (Parts 1–4) from school records were then retrieved with permission. These results represent the learners' reading comprehension achievement. Data is coded anonymously to ensure confidentiality and data protection throughout the research process.

Data Analysis

The data collected from the questionnaire and UASA English results are analysed using the Statistical Package for the Social Sciences (SPSS) version 30. Descriptive statistics, including mean scores, frequencies, and standard deviations, are computed to determine the overall patterns in learners' use of cognitive strategies. This helps identify the type of strategies used and their general frequency of application during reading tasks.

To examine the relationship between the use of cognitive strategies and reading comprehension achievement, the Pearson correlation coefficient is employed. This method is appropriate for assessing the degree of association between two continuous variables (Creswell & Creswell, 2023). A significance level of $p < .05$ was adopted to determine whether the observed correlation is statistically significant. The findings from the correlation analysis help establish the relationship between the use of cognitive strategies and learners' reading comprehension performance, thereby addressing the research question 2.

Findings And Discussion

This section summarises the findings of the pilot study that answers the research questions.

Types Of CLLS Used by Year 6 ESL Learners To Enhance Reading Comprehension

To answer Research Question 1 (What cognitive language learning strategies are used by Upper Primary ESL learners to enhance reading comprehension)', descriptive statistics are used to determine the types and frequency of CLLS employed by primary Year 6 ESL learners. The results are presented in Table 3.

Table 3: Frequency and Mean Scores of CLLS Use Among Year 6 ESL Learners

Item	Never (1)	Usually Not True (2)	Somewhat true (3)	Usually true (4)	Always (5)	Mean Score
1. I try to guess the meaning of new words.	3 % (2)	10 % (6)	25 % (15)	35 % (21)	27 % (16)	3.88
2. I connect the story to what I already know.	3 % (2)	18% (11)	32% (19)	30% (18)	17% (10)	3.60
3. I try to remember important words.	7% (4)	20% (12)	32% (19)	28% (17)	13% (8)	3.47
4. I take notes or underline while reading.	12% (7)	25% (15)	28% (17)	23% (14)	12% (7)	3.22
5. I use pictures or titles to understand.	5% (3)	7% (4)	20% (12)	40% (24)	28% (17)	4.05
6. I translate into my first language.	5 % (3)	12% (7)	25% (15)	38% (23)	20% (12)	3.79
7. I reread parts to understand better.	2% (1)	13% (8)	33% (20)	35% (21)	17% (10)	3.71

8. I predict what will happen next.	8% (5)	18% (11)	35% (21)	28% (17)	10% (6)	3.46
9. I think about the main idea.	5 % (3)	15% (9)	33% (20)	30% (18)	17% (10)	3.58
10. I summarise in my own words.	8% (5)	20% (12)	33% (20)	27% (16)	12% (7)	3.35
11. I read aloud to understand better.	13% (8)	28% (17)	27% (16)	22% (13)	10% (6)	3.09
12. I use words I've already learned.	3 % (2)	15% (9)	30% (18)	35% (21)	17% (10)	3.69
13. I group similar ideas together.	10% (6)	22% (13)	30% (18)	25% (15)	13% (8)	3.29
14. I ask questions while reading.	10% (6)	27% (16)	30% (18)	23% (14)	10% (6)	3.18
15. I use sentences around a word to find meaning.	3 % (2)	12% (7)	28% (17)	37% (22)	20% (12)	3.76

Findings reveal that the use of CLLS among primary Year 6 ESL learners is moderate to high, with mean scores ranging from 3.09 to 4.05 based on the 5-point Likert scale. The highest-rated item is Item 5 (I use pictures or titles to understand) with a median 4.05, followed by Item 1(I try to guess the meaning of new words) with a median of 3.88, and Item 6 (I translate into my first language) (M=3.79). The lowest-scored items include Item 14 (I ask questions while reading) (M=3.18) and Item 11 (I read aloud to understand better) (M=3.09). These findings suggest that primary ESL learners rely mainly on visual, contextual, and translation-based strategies to aid their comprehension processes when encountering English texts.

This pattern of reliance on compensatory and direct strategies aligns with Oxford's (1990) Strategy Inventory for Language Learning framework, where visual and translation techniques are identified as compensation strategies. These strategies enable learners to cope with gaps in linguistic knowledge, particularly when vocabulary or syntactic understanding is insufficient to derive meaning directly from the text. O'Malley and Chamot (1995) similarly emphasized that lower-proficiency learners tend to depend on direct cognitive strategies (such as repetition, imagery, and inferencing) since these strategies are more concrete and easier to apply as compared to abstract metacognitive strategies (such as planning or self-monitoring). The ability to monitor self-development may require another level of maturity and self-assessment, which is still lacking among primary learners. As such, these findings suggest that learners' strategic choices may be constrained by their proficiency level and exposure to the use of English, leading to their preferences for practical, surface-level strategies that yield immediate comprehension support.

In the Malaysian primary ESL contexts, Darus et al. (2024) and Soon et al. (2022) observed that primary ESL learners preferred visual, translation, and inferencing strategies over higher-order strategies such as summarising or predicting, mainly due to their limited vocabulary and linguistic exposure. These preferences are often attributed to learners limited lexical repertoire and restricted English input both in and outside the classroom. According to Grabe and Stoller (2013), the reliance on compensatory strategies is typical among readers at early stages of second language development, as they draw on whatever resources are most accessible—such as context clues, visuals, and L1 translation, to construct meaning and maintain comprehension flow.

Furthermore, the learners' preference for using contextual and L1-based strategies aligns with Jiménez et al. (1996) and Kern (1994), who note that bilingual readers often activate their first language to scaffold meaning construction when reading in a second language. It is found that translation occurred most frequently when the learners came across unknown vocabulary (Jiménez et al., 1996). The current findings mirror this phenomenon, indicating that translation is a cognitive bridge for meaning making rather than a sign of linguistic deficiency. Ali and Razali (2019) and Wahyono (2019) similarly found that learners with developing proficiency actively use their L1 to aid comprehension and memory retention, demonstrating the strategic value of bilingual thinking in L2 reading. However, excessive dependence on L1 translation can impede long-term language development and fluency, as it restricts learners from processing meaning directly in the target language (Anderson, 2020; Sukying, 2021). Therefore, while L1 use may serve as an effective temporary scaffold, instructional intervention is essential to gradually shift learners toward direct L2 processing.

Interestingly, the low mean scores for strategies such as asking questions while reading and summarizing suggest a limited engagement with higher-order cognitive and metacognitive strategies. These strategies are essential for deeper comprehension, as they require learners to actively monitor understanding, infer author intent, and synthesize information across texts. These findings are in line with Pressley and Afflerbach (2012), who argue that proficient readers are characterized by their use of metacognitive strategies that promote self-regulation, including evaluating comprehension breakdowns and adjusting reading behaviors accordingly. The absence of such strategies among the Year 6 learners indicates a need for structured opportunities to develop metacognitive awareness in reading.

Mohd Salim et al. (2025) and Vettori et al. (2024) found that explicit instruction in metacognitive and cognitive strategies, such as predicting, questioning, and summarising, significantly enhances learners' reading comprehension and self-regulated learning behaviours. Similarly, Anderson (2020) asserted that explicit teaching of reading strategies helps learners transition from using isolated tactics to developing integrated, strategic reading routines that promote comprehension autonomy. This supports the findings of the study that primary Year 6 ESL learners demonstrated limited use of higher-order strategies. This also reflects there is a lack of metacognitive awareness and insufficient explicit strategy instruction.

Thus, these findings highlight the need for explicit cognitive strategy instruction (CSI) in Malaysian primary classrooms, where teachers actively model, guide, and reinforce the use of higher-order strategies such as predicting, inferring, and summarising.

Correlation Between the Use of CLLS And Reading Comprehension Achievement Among Year 6 ESL Learners, Based on UASA English Exam Results

Table 4: Descriptive Statistics of UASA English Examination (Parts 1–4)

Variable	N	Mean	SD	Minimum	Maximum
Reading Comprehension Achievement (UASA)	60	65.3	11.8	42	88

In addressing the research question on 'Is there a significant correlation between the use of CLLS and reading comprehension achievement among the Upper Primary ESL learners, based on the UASA English examination results', the results indicate a moderate average performance among the 60 participants. The range of scores (42–88) shows varying reading abilities, reflecting natural differences in language proficiency among learners.

Table 5: Correlation Between Overall CLLS Use and Reading Comprehension Achievement

Variable	N	r	Sig. (p)	Interpretation
CLLS Total Score & Reading Comprehension Achievement	60	0.46	0.001	Moderate Positive, Significant

The correlation analysis indicates a moderate but statistically significant positive relationship between overall CLLS use and reading comprehension achievement ($r = 0.46$, $p = 0.001$, $N = 60$). This suggests that a higher frequency of cognitive strategy use is associated with better reading comprehension performance (mean = 65.3, SD = 11.8).

This finding supports the theoretical view from CLT, which states that comprehension improves when learners actively process and integrate new information through mental operations (Anderson, 2020). These findings also align with empirical research showing that learners who use cognitive and metacognitive reading strategies demonstrate significantly better performance in reading comprehension (Hashmi, 2024; Jaiswal, 2018; Wahyono, 2019). Likewise, Al-Zyout and Al-Jamal (2023) and Wong and Kahar (2025) demonstrated that targeted cognitive strategy instruction significantly enhances learners' accuracy and comprehension, reinforcing the importance of fostering strategy awareness in early ESL education.

More recent evidence from Vettori et al. (2024) and Zhao (2024) underscores the importance of integrating both cognitive and higher-order reasoning skills in reading instruction. Their research highlights that strategy-aware readers are better able to monitor comprehension, make inferences, and connect textual information with background knowledge—skills that directly contribute to improved reading performance. These findings suggest that the positive correlation observed in this study reflects not only the functional benefit of strategy use but also the cognitive engagement underlying proficient reading.

Conclusion

This study examines the types and frequency of CLLS used by Year 6 ESL learners and their relationship with reading comprehension achievement in the UASA English examination. Overall, the findings address both research questions. Learners report moderate to high use of CLLS, particularly visual and translation-based strategies such as using pictures, guessing meanings, and translating into their first language. However, the limited use of higher-order strategies like questioning, summarising, and note-taking suggests continued reliance on basic rather than analytical reading strategies. The UASA results show a moderate level of reading achievement (M = 65.3, SD = 11.8), and a significant positive correlation between CLLS use and reading comprehension (r = 0.46, p = .001), indicating that frequent strategy use enhances comprehension performance. These findings provide empirical support that explicit cognitive strategy use improves reading outcomes, aligning with CLT and prior research (Hashmi, 2024; Vettori et al., 2024).

The findings suggest several implications for teaching and learning. Teachers should include cognitive strategy instruction in their reading lessons. Modelling strategies such as predicting, summarising, and using context clues can help learners understand texts more effectively (Anderson, 2020; Oxford, 2017) Integrating such strategies into the CEFR-aligned curriculum can help learners transit from surface-level processing to reflective, self-regulated reading. Teachers should also encourage the employment of active reading (including thinking about their reading, asking questions, and reflecting on their understanding). Teacher training programmes should prioritise professional development in strategy-based instruction, equipping educators with techniques for scaffolding learners' use of CLLS. As shown in Mohd Salim et al. (2025) and Wong and Abdul Aziz (2023), scaffolded strategy instruction can enhance metacognitive awareness and comprehension outcomes among young readers. Therefore, curriculum developers and policymakers can also embed strategy-based activities into CEFR-aligned textbooks and lessons to help learners practise using CLLS in real reading situations. Finally, teachers can use simple assessments that focus on how learners apply strategies during reading, not just on their final answers. This will help learners become more aware of their own learning and improve their comprehension skills.

This research forwards several recommendations at different levels. English language teachers should provide regular opportunities to use and practise different cognitive strategies during reading lessons. Activities such as group discussions, summarising exercises, and predicting story outcomes can make learning more interactive. Schools and education departments should also organise workshops or training sessions to help teachers apply strategy-based teaching methods effectively. For future research directions, similar studies can be carried out across a larger number of schools with larger sample sizes to enhance the validity, reliability, and generalizability of the findings. According to (Cohen et al., 2017), larger sample size gives greater reliability and enables more sophisticated statistics to be used. Researchers could also conduct experiments to test the impact of direct strategy instruction on reading performance. In addition, qualitative studies such as interviews or observations could provide deeper insights into how learners use strategies during reading.

Conflict of Interest Statement:	The authors declare that there is no conflict of interest regarding the publication of this paper. All authors have contributed to this work and approved the final version of the manuscript for submission to the International Journal of Education, Psychology and Counselling (IJEPC).
Ethics Statement:	This study was conducted in accordance with ethical research standards. Informed consent was obtained from all participants prior to data collection. Participation was voluntary, and respondents were assured of confidentiality and anonymity. The data collected were used solely for academic purposes.
Author Contribution Statement:	All authors contributed significantly to the development of this manuscript. All authors read and approved the final version of the manuscript prior to submission.

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