



Investigating Reading Comprehension Strategies among English Language Learners in Middle Schools: A Systematic Review

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Abstract. Literacy levels among middle school students can be a significant indicator of academic success and college readiness in a knowledge-based society, while the reading performance of ESL adolescents is well below the average due to language proficiency, background knowledge of the reading texts, and selection of reading strategies. However, reading is a multidimensional task, and research on secondary school reading performance over the past decades is limited. A brief overview of the nature of reading comprehension is presented within multiple theoretical frameworks, and the application of cognitive and metacognitive strategies varies given the characteristics of native speakers and non-native speakers are emphasized. The paper analyzes possible factors influencing ESL students' reading comprehension according to reading comprehension frameworks and provides multiple pedagogical suggestions for educators to close the academic achievement gap among middle school students. Struggling ESL students should take advantage of their unique bilingual strategies and practice cognitive and metacognitive strategies in the reading process.

Keywords: Reading comprehension, Reading strategies, Instructions, English as a Second Language (ESL)

1 Introduction

Research over the past decades provided significant clues on the reading performances among students in the United States. According to the Program for International Student Assessment (PISA) literacy test report, though U.S. average reading literacy score ranked 13 among 77 education systems in 2018, there was a huge score gap between the top and bottom performers with a score gap of 282 points. The reading performance varies by ethnicity, compared to White and Asian students, Black and Hispanic students have lower scores ^[1]. Moreover, the Nation's report card indicated that the reading average score declines consistently from 2019 to 2022, and thirty percent of grade 8 students performed well below the National Assessment of Education Progress (NAEP) basic compared to 2019 ^[2]. As a transitional period, the reading development of middle school students is a reflection on elementary learning and also paves the foundation for

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S. Yacob et al. (eds.), *Proceedings of the 2023 7th International Seminar on Education, Management and Social Sciences (ISEMSS 2023)*, Advances in Social Science, Education and Humanities Research 779,

https://doi.org/10.2991/978-2-38476-126-5_21

college readiness. However, a large proportion of reading comprehension studies mainly focus on early childhood and college preparation among high school students, while secondary school students' reading performances are also below average, adolescents, in middle school in particular, can be highly emotional and sensitive, which may deserve extra attention on teaching instructions. It is an urgent need for middle school students to learn strategic reading in their curriculum for future college readiness and adjust to the knowledge-based society, including highlighting the key points of the text, distinguishing facts and views, and fostering advanced literacy learning behaviors [3]. As an imperative role in the classroom, teachers' instructions can largely influence ESL students' learning habits and selections on reading strategies. As a result, the role of rigorous training in ESL teachers' preparations should be emphasized.

Reading skills refer to the basic abilities to understand, interpret, and analyze the text. These skills involve reading fluency, decoding, reading comprehension, and lexical memory. On the other hand, reading strategies are more about the techniques or methods to process the passage with higher efficiency, which include previewing, questioning, summarizing, inferring, and monitoring. Both reading skills and reading strategies contribute to literacy success. The positive effects of reading strategies on academic performance and knowledge development have been identified through research in the past decades. Read without reading strategies can be easily disrupted and the central ideas will be hard to extract. More importantly, the types of reading strategies that are applied in reading should also be emphasized. However, learning and practicing reading strategies based on different reading texts in classroom settings is time-consuming and the overall effects cannot be shown in short term. Therefore, ESL students' reading comprehension levels evaluation, text categories, and language proficiency should be taken into consideration before teaching reading strategies.

Given the dearth of studies on ELLs whose mother tongue is not Spanish, the complexity of reading comprehension, the key function of reading comprehension in achieving academic success, and the different cultural and social backgrounds of ESL students, it is of great importance to deepening investigation on reading strategies for ESL students. The paper aims to propose practical instructions on reading strategies for ESL students from the perspective of educators.

A brief overview of the nature of reading comprehension will be presented within multiple theoretical frameworks in the first part of the article, and the differences between native speakers and non-native speakers will be highlighted in the application of cognitive and metacognitive methods. The paper will analyze possible factors influencing ESL students' reading comprehension according to reading comprehension frameworks and provide multiple pedagogical suggestions for educators to close the academic achievement gap among middle school students. Furthermore, the paper will also investigate how middle school ESL students can take advantage of their unique bilingual strategies and reduce some language barriers in reading comprehension.

2 Literature Review

2.1 The Nature of Reading Comprehension

The nature of reading comprehension is multifaceted, so the research on reading strategies should be based on theoretical frameworks of reading. The theoretical framework of research is centered on the Simple View of Reading (SVR) and recommendations for college students are divided into two types of reading strategies instructions: the cognitive strategies and metacognitive strategies. Reading is the interaction among the text, readers, and context. The Four Resources Model comprehensively demonstrated the relationship between the main components of reading activities. In this model, Freebody and Luke posited that readers take four different roles including the code breaker, meaning-maker, text-user, and text critic during the reading process ^[4].

The SVR proposed that reading consists of only two components, decoding and linguistic comprehension ^[5]. That is decoding and linguistic comprehension are of equal significance, and cannot be replaced by one another. Weakness in one of the two components may lead to impoverished reading outcome, which means that decoding and linguistic comprehension are interconnected to students' literacy levels. Although SVR divided reading comprehension into two interdependent processes, it did not admit that reading is a simple process.

2.2 Cognitive and Metacognitive Reading Strategies

The complexity of reading comprehension is derived from various factors, so the selection of reading strategies should consider from many aspects. The reading strategies can be divided into two types, cognitive reading strategies, and metacognitive reading strategies. Readers who have higher reading outcomes tend to use more reading strategies effectively and maximize reading outcomes, while less proficient students may avoid using them, since decoding words and sentences occupied most of attention.

Oxford described cognitive reading strategies as reading behaviors such as taking note, tapping prior knowledge, asking questions, predicting text, reflecting, and relating according to context clues, whereas metacognitive reading strategies involves self-reflection and thinking about reading and learning ^[6]. Monolingual students and bilingual students may vary in their selections of reading strategies in terms of the differences in culture, language proficiency, and background knowledge of the specific text.

3 Factors Influencing ESL Reading Comprehension

Many factors contribute to reading comprehension among middle school students, including language proficiency, background knowledge of the reading texts, and selection of reading strategies.

3.1 Language Abilities and Language Processing Abilities

Kintsch's discourse-processing theory emphasized language's significance in reading comprehension, indicating that the blocks of text meaning build on word meanings, grammar, sentences, and paragraphs [7]. Admittedly, the meaning of the same word may vary from text to text, or the readers memorize one meaning among multiple meanings of the word, so it may lead to different understandings of a sentence or a paragraph, resulting in the overall misconstructions of the text meanings. Additionally, the reading proficiency greatly influences students' selections of proper reading strategies. Students with poor reading proficiency may spend more time processing the reading content and may find it difficult to apply or recognize reading strategies, while proficient language learners are more likely to match the reading strategies according to the reading text. Effective readers rely on a sense of awareness and control of cognitive activities when they are reading, but readers with poor reading proficiency may attribute more focus on language decoding instead of using strategies.

3.2 Unmatched Reading Strategies

The complexity of reading sources, little ESL teacher preparation, and the indirect assessment of reading strategies account for unmatched reading instructions in real educational settings. Firstly, given that reading outcomes are hard to be evaluated and the efficiency of reading strategies can only be detected indirectly, it may be challenging for the teacher to determine whether their instructions are acquired by students. Due to a shortage of teacher preparation programs for ESL teachers, some of the ESL teachers are native English speakers, so they may not apply the reading pedagogies that work for ESL students. Considering the multi-dimension and complexity of reading comprehension, reading strategies that cannot fully match the reading contexts or spending little time practicing the strategies will equally lead to low reading performance. Therefore, providing useful reading instructions should consider all the possible factors influencing reading outcomes.

3.3 Bilingual Strategies

Strategies used by ESL students are translating from native languages to target languages and versus, which is in contrast to native speakers' monolingual strategies. As a consequence, the bilingual strategy was a unique characteristic for ESL students. There is a certain relationship between proficiency in the first language (L1) and second language (L2) learning. L1 can facilitate the L2 acquisition in multiple ways. For example, ESL students may use L1 to deepen comprehension when they cannot understand the English reading context, though little evidence showed that L2 can support L1 learning reversely.

However, bilingual strategies are often used by proficient bilingual students, whereas monolingual or less proficient bilingual students may not form such strategies. When students can master multiple languages, the reading strategies applied in one language can also be integrated into another language. In this way, bilingual strategies

provide ESL students enormous advantages to transferring reading strategies in different texts which monolingual without.

3.4 Prior Knowledge and Background Information

In addition to language proficiency, the main difference in comprehension levels between native English speakers and ESL students is also shown in the background knowledge and to what extent the knowledge is activated in the reading process. Both Weber and Entin came to the conclusion that prior knowledge and interest were related and worked together during reading [8,9]. To what extent the background information increase reading comprehension is under investigation. By contrast, according to Carrell, background knowledge plays a significant role among native speakers, but the level of background knowledge showed little influence on ESL students [10]. To what extent the prior knowledge and background information facilitate reading comprehension was under discussion, and it did not reach an agreement.

4 Pedagogical Suggestions and Implications

Language-diverse students require teachers to have a "nuanced understanding of the process of reading comprehension," since isolated one-shot instructional tactics may not be as effective in assisting ELLs in their reading comprehension efforts [11]. As teachers, the ability to evaluate both cognitive and metacognitive strategies in reading instructions and maximize students language learning capacities can contribute to better reading performances and boost learning outcome eventually. Possible implications and suggestions for educators to provide strategies-oriented reading instructions are as followed.

4.1 Cognitive Strategies

Reciprocal Teaching A teaching strategy called reciprocal teaching involves "guided practice in applying straightforward, practical methods to the problem of text comprehension [12]." Many studies' results indicated the positive effects of reciprocal teaching on reading comprehension. Four important components determine the efficiency of reciprocal teaching effects: question generation, summarization, clarification, and prediction.

In reciprocal teaching, the role of the teacher is a facilitator or mentor who provides consistent support and guidance when students need it, whereas students take the main thinking role to rephrase and practice the answers. During this process, students are given more autonomy and they can apply such strategy to the general types of reading texts when they read independently. Though the practices of reciprocal teaching may be time-consuming at the first stage, students can be grouped in pairs and finish the dialogue cooperatively after they stick to the thinking pattern. This process fosters

students' self-regulated awareness and they know what they do during independent reading.

Cross-subject Teaching The interdependency between reading comprehension and acquiring knowledge from the text can either foster reading understanding or hinder it [13,14]. The accuracy of background knowledge is a predictor of comprehension level. Accurate background knowledge can enhance reading understanding, while inaccurate knowledge may be disruptive and misleading. Similarly, Grenfell posed that language teaching integrated through the medium of curriculum subjects such as mathematics, science, and history can show how students develop their cognitive skills in these areas and the subject knowledge can also work as prior knowledge complement [15]. However, few reading programs provide extra intervention in knowledge building, since subject knowledge is an integral part of reading, thus tests that separated subject knowledge from reading context should be invalid and meaningless.

Vocabulary Intervention Gu and Johnson investigated the link between vocabulary tactics and results of language acquisition by comparing five different vocabulary learning methods among 850 sophomore non-English majors, including beliefs, metacognitive regulation, guessing strategies, dictionary strategies, note-taking strategies, rehearsal strategies, encoding strategies, and activation strategies [16]. The results indicated that metacognitive strategies such as self-initiation and selective attention positively enhanced vocabulary efficiency, while the visual repetition of new words influenced vocabulary size and general proficiency most negatively.

One of the traditional vocabulary instructions is a definitional approach of looking up the dictionary for the definition of the new words. Though the meaning is accurate, it may be hard for students to recognize the word meaning in another reading text. Another common instruction is the contextual approach the teacher will provide one or two sentences containing the new word and students infer the word's meaning based on its context. Vocabulary learning cannot learn without language context, while it may be less effective compared to other vocabulary teaching methods.

On the other hand, direct or explicit instruction becoming part of the teacher's teaching repertoire can greatly benefit struggling readers, because they are more likely to learn reading strategies after they have easy access to vocabulary learning. Explicit instruction is a systematic and reliable way to learn vocabulary by providing explanations of the new words, their definitions, and uses within multiple syntaxes.

Different from traditional English classrooms, ESL students are from various cultural backgrounds, so the vocabulary instructions should cater to their linguistically diverse classrooms. Effective vocabulary teaching strategies should build connections between the new information and the familiar information, which is properly shown in the semantic mapping strategy. Semantic mapping in vocabulary learning can help language learners to understand the relationship of the word meaning through a web-like structure. The limitation of semantic mapping is that it fits best for the words with a semantically close-knit group, while the words with loose definitions should use some other strategies.

Cognates can be another strategy used by proficient bilinguals, which is aligned to the study results that students who were able to recognize Spanish-English cognates showed improved performance on English multiple-choice tests in relation to their knowledge of Spanish vocabulary^[17]. For example, English and Spanish share a similar alphabet system, so Spanish students can refer to the Spanish meaning of the word in English text, but it is worth mentioning that cognates may not work if the two languages did not share a similar alphabet system.

4.2 Metacognitive Reading Strategies

Peer-led interaction takes an important role in reading activities. Compared to the traditional teacher-student interaction, peer interactions, involving peer tutoring, peer discussion, and cooperative activities, gives more autonomy and motivation for learners to digest the deeper meaning of the text.

According to Vygotsky's sociocultural theory, learning efficiency can be achieved when peer sharing and teamwork happen in conducive educational settings. ESL students should be grouped according to their mother tongues when delivering the teaching contents and key academic concepts^[18]. Peers can translate the abstract contents in L1, which is a direct and simple way to understand the content knowledge. Meanwhile, ESL students can gain a deeper understanding and develop social-emotional learning ability. Even though they are learning new English words or phrases, it did not sacrifice their comprehension levels. It is also a good way to maintain the confidence in their own culture and satisfy the needs for peer interaction as middle school adolescents.

5 Conclusion

In conclusion, teachers' choice of strategy-based instructions should be implemented after fully considering ESL students reading abilities to avoid situations in that reading strategies are too challenging for students to read when they are in low reading proficiency. As an essential part of the interactive classroom, the instructor should act as a facilitator by giving students more authority and promoting peer-led collaboration. It is undeniable that the efficiency of the cognitive and metacognitive reading strategies can be hard to discern, so teachers should write reading strategies reports, conduct action research, and provide in-depth monitoring of ESL students' reading performance. In the United States, the preparation and training for ESL teachers were not systematic and can not fully cater to the needs of ESL students from different educational backgrounds, resulting in the inconsistency between teaching techniques and students' learning demands.

Though ESL students may be influenced by their first language, unmatched reading strategies, and a lack of reading proficiency, they can improve reading achievement if they can take advantage of bilingual strategies and consolidate English language skills.

Given that the reading levels among middle school ESL students can be described as a critical crisis and the significance of reading strategies for students' future development, more studies and research should devote effort to reading strategies for ESL

students. Meanwhile, the teacher is an inseparable factor for students' learning development, so academic support and protocol guidance for ESL teachers also deserve more research attention in the future.

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