

USING METACOGNITIVE STRATEGIES TO IMPROVE READING COMPREHENSION IN MIDDLE SCHOOL STUDENTS

Anca Mariana Dragostin Bratu¹, Víctor Andrés Korniejczuk²

Abstract

Despite the easy accessibility of information and its widespread availability, there is a growing concern about the rise of functional illiteracy in various regions across the globe. This issue extends beyond just the realm of education and impacts the society at large, as individuals who struggle to grasp information and lack the skills to effectively choose and process it face direct consequences on their current well-being and future opportunities. To enhance reading comprehension levels among both children and adults, a multitude of research studies have been carried out. These investigations have highlighted that the implementation of metacognitive strategies, which are recognized and utilized by students and educators alike, has the potential to enhance reading comprehension abilities in individuals, whether they are dealing with their native language or a foreign one, irrespective of their age. The findings suggest that by incorporating such strategies into teaching practices and learning approaches, significant improvements can be made in the overall literacy levels of populations, thereby addressing the issue of functional illiteracy in a comprehensive manner. In this paper, we develop a comprehensive theoretical framework to analyze the factors influencing reading comprehension, as well as the relationship with metacognitive strategies.

Keywords

Reading comprehension, metacognition, metacognitive strategies

¹Anca Mariana Dragostin Bratu, PhD in Education Student, Montemorelos University, Mexico, ancadragostin@yahoo.com; ²Víctor Andrés Korniejczuk, PhD, Montemorelos University, Mexico, vkorniej@um.edu.mx.

INTRODUCTION

Functional illiteracy refers to the incapacity to grasp intricate texts despite having received sufficient education, possessing age-appropriate linguistic skills, basic reading abilities, and a certain level of IQ (Vágvölgyi et al., 2016) or to individuals who possess some familiarity with text but lack the skills to fully comprehend meanings, especially in the context of digital skills (Mohammed et al., 2023). The realm of reading comprehension is shaped by a multitude of factors, some of which are extraneous in nature. These external factors include the quality of teachers, the educational resources, the educational backgrounds of students and their parents, as well as various aspects related to the texts themselves (Agbo et al., 2019). Moreover, the involvement of parents in fostering home literacy, highlighted by Dong et al. (2020), along with individual or group reading habits, access to the internet, and the amount of time dedicated to reading, are also influential factors (Locher & Pfof, 2019; Mitra, 2019).

On the other hand, intrinsic factors, such as executive functions, play a role in reading fluency and comprehension, as well as the awareness of metacognitive strategies (Bagci & Unveren, 2020; Chang, 2020; Kieffer & Christodoulou, 2020; Özenç & Dikici, 2016). Employing comprehension strategies and metacognitive strategies can significantly enhance the ability to discern the main idea in expository paragraphs (Stevens, 1988). However, solely relying on metacognitive strategies without the simultaneous use of cognitive strategies does not facilitate effective learning (Glogger et al., 2012).

The utilization of metacognitive strategies has been shown to impact students' academic performance positively (Pokay & Blumenfeld, 1990). Noteworthy is the significant improvement in attention performance resulting from targeted attention remediation instruction, which combines process-specific approaches and metacognitive strategies (Galbiati et al.,

2009). Scholars have delved into the question of whether metacognition in early childhood should be made explicit, conscious, or implicit. The significance of parental and teacher support, as well as the role of play in nurturing metacognitive development during early childhood, has been underscored by Whitebread and Neale (2020). Given the substantial scope of the functional illiteracy issue, the focus of this study is to explore strategies to address it by enhancing reading comprehension skills.

The problem of functional illiteracy extends beyond the confines of educational institutions; it permeates society at large, as individuals who struggle to comprehend information face challenges that impact their quality of life and prospects for the future. The evolving landscape of communication, characterized by increased online reading, underscores the necessity of developing multimodal literacy among students (Lim & Tan, 2018). Consequently, it is not appropriate to argue about the type of textual support (either print or electronic), since reading can be effectively performed through various presentation formats (Margolin et al., 2013). Students recognize the significance of reading for their academic success and acknowledge the essential role of the Internet in accessing timely information and knowledge. While most students indicate a preference for internet browsing over reading, some believe that internet use fosters laziness in reading (Eden & Ofre, 2010). Various initiatives have investigated the efficacy of intensive reading programs in enhancing reading comprehension (Insuasty Cárdenas, 2020; Kim et al., 2021). The outcomes suggest that employing reading comprehension strategies enhances students' understanding by addressing pre-existing challenges. It is our contention that mere increments in reading time are insufficient; rather, augmenting reading durations should be coupled with the application of metacognitive strategies, as advocated by previous studies for enhancing reading proficiency.

REVIEW OF LITERATURE

Reading comprehension

Reading comprehension was defined by Gough and Tunmer (1986) as the *simple view of reading*. The authors proposed a model asserting that reading is the product of decoding and comprehension, implying that the inability to understand texts stems from either decoding issues, comprehension issues, or both. A more recent definition, in line with current models, is that given by Mullis and Martin (2019):

Reading literacy is the ability to understand and use those written language forms required by society and/or valued by the individual. Readers can construct meaning from texts in a variety of forms. They read to learn, to participate in communities of readers in school and everyday life, and for enjoyment. (p. 6)

Researchers have noted a significant relationship between reading comprehension and the types of sentences present in texts. There exists a distinction between sentences utilized in spoken language, which tend to be simpler, and those found in written texts, which tend to be more intricate in nature. The process of comprehending sentences rooted in oral language is usually swifter compared to grasping challenging sentences encountered exclusively in written text (Sorenson Duncan et al., 2021). It has been found that contextual oral reading serves as the most robust predictor of comprehension across various formats, with indications that it is more affected by semantics rather than syntax (Eason et al., 2013).

There are considerable impacts of syntactic knowledge and syntactic awareness on reading comprehension among adolescents. The comprehension of sentence structure by children of school age is directly and indirectly influenced by four pertinent cognitive mechanisms (Brimo et al., 2017; Tong et al., 2014).

Gillam et al. (2019) introduce an effective intervention program crafted to enhance the strategic organization of information (sentence syntax) in manners that enhance language comprehension. They propose that the most important features of cognitive processing in children with or without language disorders can be condensed into four cognitive elements: fluid reasoning, controlled attention, complex working memory, and language knowledge stored in long-term memory. Sometimes understanding reading is hindered by inconsistencies at the level of words or phrases. Zargar et al. (2020) monitored the time spent viewing the text by tracking eye movements and observed the phenomenon of self-regulation of understanding after noticing the inconsistencies.

Children exhibiting low reading comprehension tend to maintain this characteristic over time, despite possessing fluent reading abilities (Nation et al., 2010). Additionally, word meaning knowledge (Perfetti & Stafura, 2014) and vocabulary (Clemens et al., 2019; Verhoeven & van Leeuwe, 2008) are pivotal components influencing text comprehension. Kim et al. (2021) carried out a fascinating intervention linking reading comprehension with enhanced knowledge in the realm of science, gauged through vocabulary depth, listening comprehension, and argumentative writing. This concept of *content literacy* plays a role in facilitating reading comprehension.

A study (Ter Beek et al., 2019) created a digital learning platform to aid seventh-grade students in history classes with understanding expository texts, using hints with reading strategies for the experimental group only. Despite no significant differences in comprehension levels post-intervention, students in the experimental group utilizing hints showed notably higher posttest performance, especially students with below-average reading skills. Good readers, both boys and girls, tend to utilize various reading strategies, especially global strategies, more than poor readers, with boys' reading achievement strongly linked to global strategy use while girls' achievement

showed no correlation to strategy use (Lindholm & Tengberg, 2019).

A study (Tobia & Bonifacci, 2020) examined the strategies used in primary school children for reading comprehension, focusing on memory or look-back strategies. Results show older children use look-back for expository texts, while poor oral comprehenders are more accurate using the look-back strategy. The study suggests personalized intervention strategies for improved reading comprehension.

Metacognitive strategies

Comprehension strategies and metacognitive strategies have the potential to significantly enhance individuals' capacity to identify the main idea within expository paragraphs (Stevens, 1988), but the utilization of metacognitive strategies in isolation, without the simultaneous integration of cognitive strategies, does not foster an environment conducive to effective learning outcomes (Glogger et al., 2012). The impact of employing metacognitive strategies on students' academic performance has been underscored in early studies (Pokay & Blumenfeld, 1990). Furthermore, the implementation of specific attention remediation instruction, which combines a targeted process approach with metacognitive strategies, leads to a noteworthy enhancement in attention performance among individuals (Galbiati et al., 2009).

Ongoing investigations have delved into the question of whether metacognition in early childhood should be made explicit, conscious, or remain implicit in nature. Noteworthy attention has also been directed towards the decisive roles played by parents, teachers, and the element of play in fostering metacognitive development during early childhood (Whitebread & Neale, 2020). In contrast to previous research suggesting that young children may not possess the ability to employ metacognitive regulation strategies, recent studies

have revealed that children are indeed capable of articulating such strategies. The complexity of children's responses to challenges related to negative emotions and their normative reactions in specific emotional contexts has been brought to light by the work of Davis et al. (2010).

The relationship between metacognitive strategies and reading comprehension

Despite the extensive research conducted on metacognitive strategies, there remains a scarcity of studies linking them to reading comprehension. It has been found that students' metacognitive awareness of reading and their autonomous reading motivation exhibit the most robust correlations with reading comprehension (Wu et al., 2019). Individuals who participated in an experimental group where educators implemented a metacognitive strategy displayed higher levels of comprehension and competence compared to those not exposed to such a reading strategy (Jabun & Srabani, 2022). The association between metacognition and reading comprehension underscores the recommendation by authors to incorporate metacognitive strategies into foreign language classes. The positive impact of metacognitive reading comprehension skills on acquiring a second language have been emphasized in several studies (Ahmadi et al., 2013; Ceylan & Harputlu, 2015). Despite previous findings suggesting that instruction can enhance metacognition, Meloth (1990) found no definitive link between instruction, metacognition, and reading performance.

An experiment investigated Reading Metacognitive Strategy Awareness (RMSA) among 25 university students in Iran using a questionnaire, think-aloud protocol, and a Computerized RMSA System (Reshadi-Gajan et al., 2020). The study also explored its pedagogical implications. The results showed a positive effect of the Computerized RMSA System on reading comprehension.

In a study of the developmental paths of reading comprehension and declarative metacognitive knowledge among secondary school students spanning from grade 5 to 8, Edossa et al. (2019) found improvements in both areas, with initial verbal cognitive skills having a notable influence on comprehension and subsequent advancements. The utilization of strategies has a significant effect on reading comprehension and declarative metacognition. Metacognitive strategies play a pivotal role in improving reading comprehension abilities. In addition, the awareness of metacognition contributes to the enhancement of learners' self-efficacy (Bouknify, 2023). Other findings indicated that the use of metacognitive strategies in the intervention had a positive impact on students' reading comprehension skills (Bonganciso & Bonganciso, 2022; Ruvalcabar-Estrada et al., 2021).

In a study comparing the behaviors of a high-achieving reader and a low-achieving reader utilizing metacognitive strategies in a foreign language, it was found that the high achiever is more global in terms of reading comprehension strategies, while the low achiever tends to focus on details (Jincheng & Rahmat, 2022). The pressing need to enhance students' capacity to comprehend written material, thereby reducing the prevalence of functional illiteracy, is becoming a growing concern in academic and policy circles. Educators globally are confronted with a genuine and escalating issue across all educational levels: students are increasingly struggling to grasp intricate texts, engage with complex concepts, and apply acquired knowledge in real-world scenarios. Functional illiteracy, characterized by the inability to comprehend complex texts despite possessing adequate schooling, age, language skills, basic reading proficiency, and IQ (Vágvölgyi et al., 2016), seems to have reached epidemic proportions in North America. International comparative studies initiated by the OECD in the 1990s revealed that a significant portion of Europeans fall under the category of functional illiterates, even

after completing primary education. In Romania, the 2018 PISA assessments indicated that 39% of examined students are functionally illiterate (Ministry of Education and Research, 2019).

Alarminglly, despite the identification of certain contributing factors such as fragmented online reading, information overload, reliance on gadgets and the internet, and overcrowded school curricula, functional illiteracy persists, posing challenges for educators while researchers and government bodies seek solutions (Liu & Gu, 2020). The integration of digital texts into educational programs only offers a partial remedy to this issue. Students, accustomed to multitasking and navigating between various online links, may encounter difficulties in approaching complex texts at the university level (Bauerlein, 2011).

Oprea (2019) brings to light the significance of spelling and punctuation, factors that influence the specific mechanism of human writing, as a strategy to address the issue of functional illiteracy in Romania, providing individuals and societal factions with an additional opportunity for educational advancement. In contrast, the utilization of text messaging does not exhibit a substantial correlation with literacy levels; conversely, conventional reading practices have displayed more favorable associations with literacy proficiency compared to all other examined methodologies (Zebroff & Kaufman, 2017).

As members of society, it is imperative for us to delineate our present identities and envision our future aspirations. The key findings from international literacy assessments (PIACC) and information gathered from ISTAT reading surveys underscore the link between illiteracy rates and cultural norms (Eleuteri, 2020). Hence, it becomes crucial to seek effective remedies that can assist students in acquiring functional literacy skills, alongside conducting thorough research to ascertain methods for enhancing reading comprehension abilities.

Moreover, an increasing body of research validates the significance of metacognition within the realm of education. Metacognition pertains to higher-order cognitive processes that involve active regulation of learning-related mechanisms. This encompasses tasks like strategic planning, monitoring comprehension, and self-assessment, all of which play a pivotal role in fostering academic success (Kuhn, 2022). Investigations have been carried out on memory retention, problem-solving capabilities, reading proficiency, and comprehension skills, with results emphasizing the importance of enhancing metacognitive instruction and its correlation with academic accomplishments and students' competencies across diverse disciplines (Da Rosa et al., 2020). Metacognitive pedagogy entails the application of metacognitive strategies during both instructional delivery and learning activities (Cruz-Abad et al. (2023).

A study was conducted to explore teachers' perspectives on using the Metacognitive Reading Strategy Usage Scale to enhance reading comprehension for children with learning disabilities. Teachers play a decisive role in teaching metacognitive reading strategies, as their knowledge directly impacts students' reading comprehension success (Laçin & Çetin, 2022). Furthermore, the development and assessment of metacognitive strategies have shown significant improvements in reading comprehension among elementary school students, emphasizing the importance of these strategies for students at early academic stages (Franco Roca et al., 2024).

CONCLUSIONS

In conclusion, reading comprehension competence has been studied in correlation with various variables, and the studies indicate that metacognitive strategies, used by both students and teachers, could represent a solution to functional illiteracy. However, there is still a need for longitudinal studies to

observe when the ability to comprehend reading begins to decline, which children possess in the early stages of schooling. Additionally, there is a need for studies to demonstrate which strategies would be most effective in enhancing reading comprehension, as well as which types of texts might be more suitable for this ever-evolving, highly digital generation that is no longer drawn to traditional reading methods. We recommend conducting studies with an experimental design to observe the effects of interventions using specific metacognitive strategies on reading comprehension and to measure their impact on reading performance, depending on the children's age. Additionally, it would be interesting to observe how much time is needed for the intervention to be effective.

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