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The Impact of Metacognitive Strategies on College Students' Reading Comprehension

أثر الاستراتيجيات ما وراء المعرفية على الفهم القرائي لدى طلبة الكلية

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الملخص

تهدف هذه الدراسة إلى استكشاف كيفية تأثير توظيف الاستراتيجيات ما وراء المعرفية في تحسين مستوى الفهم القرائي لدى طلبة المرحلة الجامعية. يُعد الفهم القرائي مهارة جوهرية في المسيرة الأكاديمية، إذ تمكّن الطالب من استيعاب النصوص المكتوبة وتحليلها بشكل فعّال. إلا أن كثيرًا من الطلاب يعانون من صعوبات في استيعاب المواد الدراسية، ويعود ذلك غالبًا إلى ضعف الوعي باستراتيجيات القراءة المناسبة.

تسهم الاستراتيجيات ما وراء المعرفية في مساعدة المتعلمين على تنظيم عملياتهم الذهنية من خلال التخطيط المُسبق للقراءة، ومراقبة مدى الفهم أثناء القراءة، وتقييم مستوى الاستيعاب بعد الانتهاء من المهمة القرائية. وتعزز هذه الاستراتيجيات وعي الطالب بأساليب تعلمه، وتُمكنه من تحديد مواطن الضعف في الفهم ومعالجتها بشكل ذاتي.

الكلمات المفتاحية: الاستراتيجيات ما وراء المعرفية، الفهم القرائي، الاستراتيجيات المعرفية، القراءة الاستراتيجية، تعلم اللغة الإنجليزية، التعلّم المنظم ذاتيًا.

تسلط الدراسة الضوء على أهمية الوعي ما وراء المعرفي في تطوير قدرات الطلاب القرائية وتحفيز الـتعلّم الذاتي. وتشير النتائج إلى أن الطلاب الذين يوظفون هذه الاستراتيجيات بفعالية يحققون مستويات أعلـى فـي الفهـم القرائي ويظهرون تفاعلاً أعمق مع النصوص. وعليه، توصي الدراسة بضـرورة دمـج التوجيـه المبنـي علـى الاستراتيجيات ضمن مناهج تدريس اللغة الإنجليزية؛ بهدف تحسين الفهم القرائي لـدى الطـلاب وتعزيـز أدائهـم الأكاديمي بشكل عام.

Keywrds:

Metacognitive Strategies, Reading Comprehension, Cognitive Strategies, Strategic Reading, English Language Learning, Self-Regulated Learning.

Abstract

This study investigates the effect of metacognitive strategies on enhancing reading comprehension among university students. Reading comprehension is a fundamental academic skill that enables learners to effectively interpret and engage with written content. Nonetheless, many students encounter difficulties in grasping academic texts due to insufficient awareness of appropriate reading techniques.

Metacognitive strategies assist learners in regulating their cognitive processes through pre-reading planning, real-time monitoring of comprehension during reading, and post-reading evaluation of understanding. These strategies encourage students to become more conscious of their learning mechanisms and empower them to detect and resolve comprehension challenges independently.

The study underscores the role of metacognitive awareness in fostering reading proficiency and promoting autonomous learning. Findings reveal that students who actively employ metacognitive strategies demonstrate superior comprehension levels and exhibit deeper interaction with texts. Consequently, the study advocates for the integration of strategy-based instruction into English language curricula to bolster students' reading comprehension and overall academic achievement.

Introduction

Numerous recent local and international reports have addressed the growing concern about declining reading skills among students. Many societies are experiencing a drop in reading rates, raising questions about learners' ability to effectively understand and absorb information (Niemann, 2016; Iyengar, 2007). Addressing this issue is crucial, as strong reading comprehension is fundamental to success in education and lifelong learning.

Metacognitive strategies, derived from metacognitive theory, provide valuable tools for improving reading skills. Flavell (1979) introduced the concept of metacognition to refer to an individual's awareness of and ability to control their mental processes. Therefore, metacognitive strategies encompass a range of techniques that help individuals plan, monitor, and evaluate their mental activities (Schunk, Pintrich, & Meece, 2008).

Students who effectively adopt these strategies become better prepared to tackle challenging tasks and solve problems. They also develop the ability to choose appropriate methods for different situations and to adjust their approach based on continuous self–monitoring (Santrock, 2011).

In the field of reading, the use of metacognitive strategies helps students actively engage with texts, monitor their comprehension, and recall important information more effectively (Snow, 2002; Block, 2004). By fostering self–awareness and strategic thinking, the benefits of these methods extend beyond simply increasing understanding; they also develop self–directed learning skills, which are essential for academic success.

Chapter One

1.1 Concept of Reading Strategies (RS)

The concept of "reading strategies" gained prominence in the 1970s, where it was used to refer to "the mental aspects of information processing" (Afflerbach et al., 2008a, p. 365). More broadly, reading strategies are defined as the means by which readers decode phrases or texts, understand words, and construct meaning (Rycik & Irvin, 2005). They can be described as strategies primarily aimed at understanding the content being read (Sheorey & Mokhtari, 2008).

Garner (1987) describes a reading strategy as an action (or set of actions) undertaken to construct meaning. Similarly, Pritchard (1990, p. 275) defines it as "an intentional act undertaken voluntarily by the reader to enhance their understanding of the text they are reading." More precisely, these strategies reveal how the reader perceives the task, the textual cues they focus on, how they construct meaning, and what they do when they encounter difficulty understanding (Block, 1986, p. 465). Therefore, strategies are an indicator of the mental resources a reader uses for comprehension (Langer, 1982).

Pressley (2002) divided the process of text comprehension into three main stages, each associated with a set of strategies: pre-reading, during-reading, and post-reading. Pre-reading strategies include setting a goal,

planning, skimming, guessing, and activating prior knowledge. During–reading, the reader uses strategies such as rereading, taking notes, and guessing word meanings. After finishing reading, the reader resorts to strategies such as mental or written summarization and discussing the text with others.

Reading strategies, in general, are conscious and goal–oriented efforts (Afflerbach et al., 2008a). Furthermore, these strategies evolve as the reader progresses and gains experience (Afflerbach & Cho, 2009). Consequently, the amount of mental focus required varies; they may become almost automatic and operate on the periphery of conscious awareness if the text is easy or the reader is proficient in using them (Afflerbach & Cho, 2009, pp. 69–70). Conversely, some strategies may be mentally demanding and require the reader's full concentration, especially when used for the first time (Afflerbach & Cho, 2009, pp. 70).

It is important to note that the concept of reading strategies is significant, but this does not necessarily imply a positive outcome. Not all actions taken by a reader are beneficial or successful. Successful reading requires the reader to be strategic.

1.2 Cognitive Strategy (CS)

The close relationship between cognitive strategies and metacognitive strategies presents a significant challenge when trying to distinguish them as independent concepts. Veenman et al. (2006) suggest that metacognition is

fundamentally knowledge–based, implying that metacognitive strategies, in turn, depend on cognitive strategies. They describe metacognition as a high–level entity that oversees and operates as an integral part of the cognitive system (Veenman et al., 2006, p. 5). Accordingly, metacognitive strategies can be considered high–level tools that control and manage the application of cognitive strategies.

Cognitive strategies have been defined as "the deliberate steps taken by readers when faced with problems and difficulties in comprehension" (Sheorey & Mokhtari, 2001, p. 431). These strategies are used to "achieve cognitive development" (Flavell, 1979, p. 909). For example, a reader might highlight certain parts of a text, reread sentences, or even the entire text to improve comprehension, or slow down their reading speed when they encounter difficulties understanding.

Besides describing cognitive strategies as observable steps or activities, they have also been examined from the perspective of the mental processes they underpin. Oxford (2011, p. 44) uses the term "cognitive processing" to refer to these. These strategies interact through three phases: the declarative phase, the associative phase, and the procedural phase. The declarative phase is defined as "conscious, effort–intensive, unusual, and non–automatic" (Chou, 2013, p. 176), and it serves as a starting point for learners to use strategies that help them observe and process new information. In the

associative phase, learners apply strategies to assimilate new information within a specific learning task. Finally, at the procedural knowledge stage, these strategies used to practice acquired information become automatic, bypassing the learners' conscious control. They can be used with greater ease and become unconscious habitual behavior (Chou, 2013; Oxford, 2011).

Bimmel et al. (2001, p. 511) categorized the strategies readers employ into three main groups. The first group includes strategies that utilize prior linguistic and nonlinguistic knowledge, such as guessing, inferring, analogy, and elaboration. The second group includes strategies that utilize high-informational elements of the text, such as skimming, searching for key elements, taking notes, asking questions, and summarizing (ibid.).

1.3 Metacognitive strategies (MS)

Metacognitive strategies are generally understood to consist of three basic steps: planning, monitoring, and evaluating the learning or reading process. However, researchers differ on which activities fall under these strategies. For example, Sheorey and Mokhtari (2001: 431) defined metacognitive strategies as "methods of pre-planning and follow-up comprehension." This definition remains within the general scope. However, some of the ten activities they included in this definition are considered cognitive strategies by other researchers. Activities such as using text features (MET6), contextual clues (MET7), typographical aids (MET8), and predicting or

estimating text meaning (MET9), which are related to inference, were classified as cognitive strategies by Phakiti (2003a, 2003b).

Phakiti (2003a, 2003b) considered metacognitive strategies to encompass the planning, monitoring, and evaluation of the learning process or the performance of a specific cognitive task. In Phakiti's model, planning is understood as a process involving visualization and analysis of task organization, including advance preparation, problem identification, goal setting or focus selection, self–management, and prioritization. Monitoring and evaluation, described as "checking or correcting reading based on specific criteria during or after reading," include re–evaluation, performance assessment, monitoring strategies, and problem follow–up and evaluation (p. 699).

There is a similarity between Oxford's (2011) conception of metacognitive strategies and Phakiti's (2003a, 2003b) conception. In Oxford's model, these strategies include focusing, planning, data collection, organization, coordination, follow–up, and evaluation of second language knowledge construction based on the two cognitive processes. However, “data collection,” which Oxford (2011) defined as a metacognitive activity, was not included in the ideas of Phakiti (2003a, 2003b) or Shori and Mukhtari (2001) regarding these strategies.

In this study, the working definition of cognitive and metacognitive strategies as presented by Phakiti (2003b, 2008) will be followed. However, these two types of strategies will be studied as "state strategies" rather than "trait strategies." This means that the study will focus on how participants organize their cognitive and metacognitive strategies while performing reading tests, rather than examining the extent of participants' awareness of their strategic concepts in general. This choice stems from Phakiti's (2008) findings, which demonstrated the instability of the concept of "trait strategies" for both cognitive and metacognitive aspects, as it was previously assumed to be a fixed attribute.

The first chapter indicated that reading strategies are conscious mental processes aimed at creating meaning, and they become more sophisticated with increasing reader experience. These processes are divided into three main stages: pre–reading, reading itself, and post–reading. The chapter also showed how cognitive strategies, which represent the practical steps for understanding a text, are integrated with metacognitive strategies, which are responsible for planning, monitoring, and evaluating the reading process. Accordingly, this study will adopt Phakiti's definition of strategies, emphasizing their analysis as practical cases related to reading task performance rather than as fixed characteristics of individuals.

Chapter Two

2.1 Metacognitive Components in the Context of Reading (MCCR)

Metacognitive strategies in reading encompass methods aimed at enhancing the reader's comprehension, increasing their awareness and control over the reading process, and assessing their own understanding. Research has demonstrated the effectiveness of these strategies in improving reading ability. According to Wen (2003), as cited by Zhang and Sheepho (2013), students employ some of these strategies when they encounter comprehension challenges. Furthermore, adopting these strategies is essential for developing students' reading skills. Chamot and O'Malley (1990) categorized these strategies into three groups:

1. Planning Strategies

Planning strategies are used before reading begins. These methods help activate the reader's prior knowledge, thus preparing them to understand the text (Israel, 2007). The reader can also form an idea of the text's content by looking at the title, images, illustrations, main and subheadings, and the overall structure of the text (Almasi, 2003). Planning is a mental process aimed at achieving a specific goal in a logical order. This strategy includes four subcategories: pre-organization, structured planning, selective attention, and self-management.

2. Monitoring Strategies

Monitoring strategies are applied during reading. These strategies include: asking oneself questions, searching for important information, summarizing, using vocabulary knowledge, checking comprehension, and identifying important parts of the text (Israel, 2007; Pressley, 2002). Monitoring refers to a person's awareness of their reading performance and the level of comprehension achieved. Monitoring strategies consist of two main types: monitoring comprehension and monitoring production.

3. Evaluation Strategies

Evaluation strategies occur after finishing reading the text. These strategies reflect the final outcome of the reading process. Reflecting on what one has just read is an example of an evaluation strategy (Israel, 2007). There are three categories of assessment strategies: self–assessment, self–judgment of performance, and self–reflectiveness.

2.2 Metacognitive Reading Strategies (MRS)

- As mentioned previously, the concept of metacognition is generally considered to consist of two essential elements:
- Metacognitive knowledge: that is, knowledge related to perception and its associated mental processes.

- Perceptual organization: that is, the ability to plan, monitor, and regulate cognitive processes during learning (Schraw & Moshman, 1995; Harris et al., 2010).

Researchers emphasize that these two elements are distinct but not entirely separate (Schraw & Moshman, 1995; Griffith & Ruan, 2005). In this section, each element will be discussed in detail, with practical examples from the field of reading.

2.3 The Role of Metacognition in Developing Reading Skills

According to Fitrisia et al. (2015), skilled readers are characterized by their ability to recognize the text they are reading, understand the purpose of the reading, and choose appropriate strategies to comprehend and extract information from the text.

As Flavell (1979) noted, this process is considered part of the concept of metacognition. Fitrisia et al. (2015) suggest that metacognition plays a vital role in distinguishing between skilled and unskilled readers. Unskilled readers tend to focus solely on decoding words, rather than constructing the overall meaning of the text.

Therefore, it becomes important to teach students how to consciously reflect on their mental processes and understand the cognitive strategies that contribute to developing their reading skills. This includes activating prior

knowledge, modeling effective reading strategies, and providing appropriate guidance to foster self–reflection during learning (Keeffe, 2017).

Furthermore, developing and utilizing metacognitive skills allows students to become more aware of the content of texts through reflection and critical thinking while reading (Kamil et al., 2016). Consequently, understanding and comprehending the text becomes easier, which supports improved reading comprehension skills. Similarly, Azevedo and Aleven (2013) argue that skilled readers use metacognitive skills to recognize that the goal of reading is not limited to decoding words, but extends to understanding the deeper meaning of the text. These readers can also monitor their reading and create causal links and inferences between sentences to answer comprehension questions efficiently (Azevedo & Aleven, 2013).

1.4 Distinctive Features of Metacognition and Cognition

Understanding metacognitive behavior in comparison to cognitive behavior has been a challenge for researchers in the metacognitive literature (e.g., Garner 1987). Clarifying this distinction is not easy, and attempting to separate the two concepts leads to problems in classifying strategies as cognitive or metacognitive (Brown 1987). In reading, for example, it is difficult to determine whether "textending the text" or "rereading" is a cognitive or metacognitive strategy.

However, this does not mean that scholars have not attempted to clarify the difference between the two concepts. They have recognized that distinguishing between what is "metacognitive" and what is cognitive is not straightforward (Brown et al. 1983). It is generally said that the main difference lies in a shift in focus (Tarricone 2011). Adding the prefix "meta" to any term, such as "knowledge" or "language," indicates a shift in focus toward "knowledge related to an individual's understanding of themselves, rather than the perceptions themselves" (Brown 1978: 79). Knowledge, on the other hand, refers to "the mental functioning of the human mind and is characterized by remembering, understanding, focusing, paying attention, and processing information" (Babbs & Moe 1983).

In other words, the fundamental difference between metacognition and knowledge lies in the fact that the former is considered "second-order perceptions: ideas about ideas, knowledge about knowledge, or reflections on actions" (Weinert 1987: 8). Flavell (1979) acknowledged that metacognitive knowledge (see section 3.2.4.1) may not differ fundamentally from cognitive knowledge. For him, the main criterion for distinguishing between the two concepts is how information is used. This aligns with the views of other thinkers who see metacognition as overseeing the achievement of a cognitive goal (such as self-assessment of text comprehension), while cognition helps individuals achieve a specific goal (such as text comprehension).

Accordingly, metacognitive strategies are defined as those that "involve reflecting on the learning process, planning it, monitoring comprehension or production as it occurs, and self–evaluating learning after completion of the linguistic activity." In contrast, cognitive strategies are defined as those "more directly related to individual learning tasks and requiring direct processing or transformation of learning materials" (O'Malley et al. 1985: 561). Simply put, learners use metacognitive strategies "to monitor cognitive progress," while they use cognitive strategies "to achieve cognitive progress" (Flavell 1981: 53, emphasis in the original text). This explains why metacognitive strategies transcend multiple fields of study (Schraw 1998), whereas cognitive strategies are "often confined to a specific field of study" (Phakiti 2003: 30).

Chapter 2 explores metacognitive reading strategies and how they can help students improve their comprehension of texts. The chapter outlines the components of these strategies, such as planning before reading, monitoring during reading, and evaluating afterward. It also explains how these strategies can be categorized into metacognitive and cognitive organization, emphasizing their interrelationship. The chapter highlights the importance of these strategies in distinguishing skilled readers from less skilled ones and helps students develop critical thinking and a deeper understanding of texts. Finally, it clarifies the difference between cognitive and metacognitive strategies, making reading a richer and more rewarding experience.

Conclusion

This study found that there is diversity in how students employ reading strategies. To meet the needs of all learners, it is recommended to implement exercises that take these individual differences into account. The results also showed that senior students performed better than first–year students, which may be attributed to the inclusion of reading strategy training in the curriculum. This highlights the importance of teaching reading and learning strategies continuously throughout university studies.

When studying metacognitive strategies according to Perfetti's model, they can be divided into two main categories. The first group includes strategies used to understand the content of a text, such as: problem awareness, text evaluation, rereading, focusing, problem identification, information retrieval, and paraphrasing. The second group focuses on text interpretation and includes two strategies: reasoning and elaboration. In addition, there are six other strategies considered transitional according to Soradigono's classification: meaning, knowledge evaluation, problem gap identification, hypothesis formulation, new knowledge acquisition, and verification.

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