

The Effect of Subtitling on the Learning Effectiveness of Second Language Acquisition

Zheyin Hu

Xi'an Jiaotong-Liverpool University, Suzhou, Jiangsu, China
zheyinhu22@student.xjtlu.edu

Abstract:

This paper examines current research on metacognitive reading strategies, aiming to provide valuable insights and inspiration for researchers and educators in reading comprehension. The paper begins by defining metacognitive strategies and categorizing them into various classifications, shedding light on their significance in the reading and learning process. It further explores the importance, influencing factors, and the process of utilizing metacognitive strategies in reading, emphasizing their role in promoting reading comprehension, second language reading, and attention monitoring. Additionally, the paper delves into the factors influencing applying metacognitive reading strategies, such as language proficiency, self-efficacy, and foreign language anxiety. It also outlines the planning, monitoring, and assessment processes involved in using metacognitive strategies during reading. Furthermore, the paper offers suggestions for the future development of metacognitive reading strategies. It proposes the integration of artificial intelligence (AI) with metacognitive reading strategies, highlighting the potential of AI in enhancing individual reading comprehension through technological means. The paper also advocates for focusing on individual differences and optimizing teaching strategies to cater to diverse learner needs. Additionally, it recommends exploring more effective cultivation and training methods for metacognitive reading strategies, with a specific emphasis on the application of AI in simulated learning and real-life situations.

Keywords: Subtitling; learning effectiveness; second language acquisition

1. Introduction

Metacognitive reading strategy refers to the ability of readers to monitor, regulate, and evaluate their reading behavior during the reading process. With the deepening of reading comprehension research, metacognitive reading strategies have received widespread attention as an important component of reading comprehension. Scholars have researched metacognitive reading strategies in the past decades, exploring their roles, influencing factors, and pedagogical applications in reading comprehension. The purpose of this paper is to review the current state of research on metacognitive reading strategies and to provide reference and inspiration for researchers in related fields. Firstly, this paper reviews metacognitive theory's concepts and connotations and then clarifies its important role in reading comprehension. Then, it will sort out the research results of scholars at home and abroad on metacognitive reading strategies. After that, the process of utilizing metacognitive reading strategies and the factors affecting the development of metacognitive reading strategies will be explored. The literature review of metacog-

nitive reading strategies is expected to provide a comprehensive understanding of the current research status in this field and provide theories for future research and teaching practice.

2. Definition and Classification of Metacognitive Strategies

2.1 Definition of the Metacognitive Strategies

Metacognitive strategies refer to an individual's ability to monitor, regulate, and control cognitive processes, including planning, monitoring, and evaluating cognitive tasks [1]. Meanwhile, Bouknify says that metacognitive strategy is a learning method used to manage, instruct, regulate, and guide learners [2]. Moreover, metacognitive strategy is a language learning strategy, and the Oxford Strategies Inventory for Language Learning (SILL) includes metacognitive strategies as a category of second language learning strategies [2]. Metacognitive strategies are also one of Anderson's seven categories of language learning strategies [3].

2.2 Classification of Metacognitive Strategies

This paragraph categorizes and outlines metacognitive strategies to better understand their application in the reading and learning process.

First, Mohktari and Reichard proposed three metacognitive reading strategy classifications-global reading strategies, support reading strategies, and problem-solving strategies [4]. Global reading strategies aim at acquiring the overall concept of the text, while support reading strategies are ways of sustaining reading [5]. Secondly, Oxford summarized four basic metacognitive strategies: relating new information to old information, choosing thoughtful strategies and plans, and monitoring and evaluating thinking processes [5]. This suggests that learners control learning, plan and select strategies, monitor the learning process, correct errors, and change learning behaviors and strategies when necessary [6]. In 2004, Anderson suggested that metacognitive strategies include five basic components in the reading process: a) preparing and planning for effective reading, b) deciding when to use a particular reading strategy, c) knowing how to monitor the use of a reading strategy, d) learning how to coordinate various reading strategies, and e) evaluating the use of a reading strategy. Finally, Muhid et al. stated that nine subcategories of metacognitive strategies affect students' reading comprehension: advance organization, self-management, comprehension monitoring, production monitoring, self-assessment, self-evaluation, and self-reflection [7]. These subcategories further reveal the diversity and complexity of metacognitive strategies in reading comprehension. By categorizing and outlining metacognitive strategies, students can better understand their role in the reading and learning process, providing an important theoretical foundation for educational practice and cognitive psychology research.

3. The Importance, Factors, and Process of Metacognitive Strategies in Reading

3.1 The Importance of the Metacognitive

Firstly, metacognitive strategies are a key factor in promoting reading comprehension. Metacognitive theory suggests that during reading, students can recognize strategies related to reading based on their conditions, which include intellectual activities, actions, goals, and reading experiences [8]. Secondly, metacognitive strategies have a significant impact on second-language reading. For second language learners, metacognitive strategies can promote diversity in reading instruction and diversity in factors such as text genres that need to be considered for

English language learners' comprehension [9]. Third, metacognitive strategies help learners monitor their attention. Students can use the strategy of selective attention to focus on where important information appears, such as headings and topic sentences, which facilitates the completion of the reading task. As stated by Chamot, selective attention to specific aspects of language or contextual details will help perform the task [10]. Therefore, this paper argues that metacognitive strategies are key to improving reading comprehension. It is important in personal conditioning, second language reading efficiency, reading style formation, and attention monitoring.

3.2 Factors Influencing the Application of Reading Metacognitive Strategies

Several factors influence the application of metacognitive reading strategies. First, language proficiency is an important factor. Research has shown that higher proficiency students are more likely to use metacognitive strategies while reading than lower proficiency students, and they know how to adjust their reading rate [11]. Proficiency in the target language can help learners better understand and apply reading strategies. Second, self-efficacy also plays an important role in applying metacognitive reading strategies. Self-efficacy is a belief in one's ability to perform a task successfully, and learners with higher self-efficacy have higher endurance and persistence in learning [12]. In reading, self-efficacy is the confidence that students possess to read successfully. Additionally, self-efficacy is a key factor in improving reading comprehension; the two correlate positively [13]. Finally, foreign language anxiety is also an important factor influencing the application of metacognitive reading strategies. Foreign language anxiety affects students' use of metacognitive reading strategies. Research has shown that foreign language anxiety reduces the frequency and effectiveness of students' metacognitive strategies, thus reducing their reading comprehension [14].

3.3 The Process of Using Reading Metacognitive Strategies

Good readers can make full use of metacognitive strategies to plan and organize the reading process, monitor their reading progress, and evaluate their thought

3.3.1 Planning process

Firstly, setting reading objectives involves defining the purpose and intention of reading, such as to obtain specific information or to gain an in-depth understanding of the subject matter. Furthermore, choosing appropriate reading strategies is crucial, including strategies like fast skimming or detailed reading based on the nature of the reading materials and one's reading objectives. Addition-

ally, breaking down the reading task into small steps can greatly help organize the reading process and control the reading progress. Lastly, setting up a reading schedule and plan is essential to ensure enough time is allocated to complete the reading task effectively.

3.3.2 Monitor the process

Three methods need to be monitored. Firstly, attention control: Maintain concentration and focus on the reading material to avoid distractions.

Secondly, awareness of reading difficulties: Promptly identify any difficulties or comprehension barriers that students encounter in the reading process. Thirdly, adjustment of reading strategies: Adjust reading strategies, such as slowing down the reading speed, rereading the content, etc., when appropriate according to the reading process.

3.3.3 Assessment procedure

To begin with, evaluate your reading process regularly to determine your degree of comprehension and the efficacy of your reading strategies. This is known as self-assessment. Second, make sure learners have comprehended all learners have read, and then take the necessary action to clear up any misconceptions or misinterpretations that may have occurred. Finally, try to probe more to see how well learners comprehend the material and stimulate further in-depth thought and knowledge.

3.3.4 . Summarise and reflect

Summarise what learners have learned and review the reading process to identify errors and room for improvement after reading.

Through good planning, monitoring, and assessment, readers can improve their metacognitive reading skills, comprehend reading materials more effectively, enhance reading effectiveness, and improve their reading performance.

4. Suggestions for the Future of Metacognitive Reading Strategies

4.1 Combining Artificial Intelligence with Metacognitive Reading Strategies

With the continuous development of technology, people can explore virtual reality, artificial intelligence, and other technological means to develop and train metacognitive reading strategies to improve individual reading comprehension. This technological method can bring new possibilities to reading teaching, enabling learners to understand and use metacognitive reading strategies more intuitively. AI can assist in metacognitive reflection as an analog to human intelligence. Computational Modelling of Human Cognition is an AI approach to help children re-

flect on their thinking and learning, and the approach can be used as a metacognitive tool. With the help of AI, they can discover metacognitive knowledge just like cognitive scientists. For example, self-directed learners can examine different learning strategies to improve specific conditions of their learning process [15].

4.2 Focus on the Individual Differences

Future research could focus more on the effects of individual differences on metacognitive reading strategies. Age, gender, and cultural background may affect the formation and use of metacognitive reading strategies. Age may influence how individuals cognitively process a reading task; e.g., young people may be more inclined to pursue fast reading, whereas older adults may focus more on deeper comprehension. Gender differences may lead to different reading strategy preferences, e.g., males may be more inclined to read word-by-word, whereas females may be better at grasping the whole. In addition, cultural backgrounds may shape individual reading habits and strategy choices, e.g., some cultures may emphasize attention to detail, while others may focus more on overall mastery.

4.2.1 Age

The effect of age on reading strategies is an area that deserves further study. As individuals grow older, their cognitive abilities, reading experiences, and reading purposes change. Younger people may focus more on the speed and breadth of information acquisition, while older people may focus more on comprehension and application of information. Therefore, different metacognitive reading strategies must be designed for different age groups to meet their reading needs and developmental characteristics.

4.2.2 Gender differences

The effect of gender on reading strategies is also a topic of great interest. Research has shown some differences in reading strategies between men and women. Girls and boys use different metacognitive strategies. Girls are more inclined to use memorization strategies, while boys use elaboration strategies more frequently [16]. Girls perform better in reading comprehension, reading speed, and reading strategies, while boys perform relatively poorly in reading comprehension and reading speed [16].

4.2.3 Cultural background

The effect of cultural background on reading strategies is also a complex and worthwhile area of research. Individuals from different cultures may have different cognitive preferences and strategy choices for reading tasks. Some cultures may emphasize attention to detail, while others

may focus more on grasping the whole. Therefore, an in-depth study of reading habits and strategy choices in different cultures is needed to provide a scientific basis and guidance for cross-cultural reading teaching.

4.3 Optimizing the Metacognitive Reading Strategies in Teaching

In addition, the optimization of teaching strategies is also an important direction for future research. It can further optimize the teaching strategies for metacognitive reading, explore more effective cultivation and training methods, and apply them to actual reading teaching. Teachers can conduct courses related to simulated learning in AI and encourage students to write articles related to reading metacognitive strategies in open AI, where students will consciously think about the relationship between metacognitive knowledge and their learning processes and summarise them. In addition, students are encouraged to apply the model in real-life situations; for example, a direct application of the forgetting model could be learning vocabulary in a new language. The teacher's role in the activity is that of a guide, and students explore on their own the contexts in which the model can be applied, ultimately improving their knowledge of metacognitive strategies in practice [15].

5. Conclusion

This study provides a broad overview of the research status of metacognitive reading methods, discusses the importance of metacognitive techniques for reading comprehension and the variables that affect their use, and provides suggestions for future research. At the same time, it is necessary to improve teaching techniques according to the characteristics of students and the characteristics of the times and optimize metacognitive reading strategies in teaching.

References

[1]Rivas S F, Saiz C, Ossa C. Metacognitive strategies and development of critical thinking in higher education. *Frontiers in Psychology*, 2022, 13: 913219.
 [2]Bouknify M. Importance of metacognitive strategies in enhancing reading comprehension skills. *Journal of Education in Black Sea Region*, 2023, 8(2): 41-51.
 [3]Çakıcı D. An overview of metacognitive strategies in reading comprehension skill. *The Journal of Academic Social Science Studies*, 2017, (57): 67-82.

[4]Mokhtari K, Reichard C A. Assessing students' metacognitive awareness of reading strategies. *Journal of educational psychology*, 2002, 94(2): 249.
 [5]Rahman K. Perceived use of metacognitive strategies by EFL undergraduates in academic reading. *VELES (Voices of English Language Education Society)*, 2020, 4(1): 44-52.
 [6]Ridley D S, Schutz P A, Glanz R S, et al. Self-regulated learning: The interactive influence of metacognitive awareness and goal-setting. *The Journal of Experimental Education*, 1992, 60(4): 293-306.
 [7]Muhid A, Amalia E R, Hilaliyah H, et al. The effect of metacognitive strategies implementation on students' reading comprehension achievement. *International Journal of Instruction*, 2020, 13(2): 847-862.
 [8]Sheikh I, Soomro K A, Hussain N. Metacognitive awareness of reading strategies, reading practices and academic attainments of university students. *Journal of Education and Educational Development*, 2019, 6(1): 126-137.
 [9]Mohseni F, Seifoori Z, Ahangari S. The impact of metacognitive strategy training and critical thinking awareness-raising on reading comprehension. *Cogent Education*, 2020, 7(1): 1720946.
 [10]Chamot A U. Language learning strategy instruction: Current issues and research. *Annual review of applied linguistics*, 2005, 25: 112-130.
 [11]Jeevaratnam J A, Stapa M. Exploring metacognitive reading strategies used by low and high proficiency form three ESL students. *Journal of Nusantara Studies (JONUS)*, 2022, 7(1): 335-365.
 [12]Graham S. Self-efficacy and language learning—what it is and isn't. *The Language Learning Journal*, 2022, 50(2): 186-207.
 [13]Oranpattanachai P. Relationship between the Reading Strategy, Reading Self-Efficacy, and Reading Comprehension of Thai EFL Students. *LEARN Journal: Language Education and Acquisition Research Network*, 2023, 16(1): 194-220.
 [14]Ghaith G M. Foreign language reading anxiety and metacognitive strategies in undergraduates' reading comprehension. *Issues in Educational Research*, 2020, 30(4): 1310-1328.
 [15]Ojeda-Ramirez S, Rismanchian S, Doroudi S. Learning about AI to learn about learning: Artificial intelligence as a tool for metacognitive reflection, 2023.
 [16]Acar-Erdol T, Akin-Arikan Ç. Gender gap in reading achievement: the mediating role of metacognitive strategies and reading-related attitudes. *Social Psychology of Education*, 2022, 25(2): 537-566.