

METACOGNITIVE AWARENESS AND STRATEGIES IN DEVELOPING READING COMPREHENSION IN A FOREIGN LANGUAGE

Elena Ciprianová 

Constantine the Philosopher University in Nitra, Slovakia

Denisa Čujdíková

Constantine the Philosopher University in Nitra, Slovakia

Abstract

Metacognition is vital in foreign language teaching because it allows the reader to consciously manage, evaluate and control their cognitive processes. Metacognitive awareness and the use of metacognitive strategies are closely related to effective reading comprehension and represent key aspects of successful reading. By being aware of their own ways of thinking and learning and by applying metacognitive knowledge to reading activities, students can truly learn and become strategic readers. This article explores metacognitive awareness and the application of metacognitive strategies in relation to reading comprehension, and aims to support and enhance this essential skill by proposing an intervention program. The main goal of the study was to verify the effects of the intervention program concerning the processes of both extensive and intensive reading plus strategy use. The data from an experiment conducted with 100 secondary school EFL learners at B1 level showed an overall improvement in reading comprehension performance within the experimental group. The intervention program had a considerable impact (statistically significant) on improving the performance of students in extensive reading. In intensive reading, no significant improvement was noted in students after completing the intervention. Based on the study's outcomes, we further conclude that students have increased awareness of their metacognitive strategies related to planning, monitoring, and self-evaluation. The students' statements indicate their active use of various strategies when working with texts. Our research findings point to several pedagogical implications, particularly the need for the continuous development of metacognitive strategies for improving reading comprehension and reading literacy. We suggest using the intervention program, self-reflective unfinished sentences, and flashcards as possible tools to raise learners' metacognitive awareness during reading comprehension.

Received: 17 November 2024

Revised: 27 February 2025

Accepted: 30 April 2025

Published: 15 July 2025

Copyright: © 2025 by the author. Licensee *JoLIE*, "1 Decembrie 1918" University of Alba Iulia, Romania. This article is an open access article distributed under the terms and conditions of the

[Creative Commons Attribution \(CC BY\) license](#)

Keywords: Metacognitive awareness; Strategies; Reading comprehension; Types of reading; Intervention program.

1 Introduction

Metacognition has received considerable attention in language learning research, especially in reading, because it shows how learners plan, monitor, and evaluate their reading process (Fauzi & Ashadi, 2019).

Metacognitive awareness is crucial for reading comprehension because it distinguishes between skilled and unskilled readers. According to Noushad (2008), metacognitive awareness refers to being aware of one's own progress in learning or problem-solving. This awareness is related to what should happen, what has happened, and what to do in the learning or problem-solving process. In other words, metacognitive awareness helps students to be more active and conscious readers by choosing the most appropriate reading strategies to improve their comprehension (Fauzi & Ashadi, 2019). Metacognitive readers are therefore equipped not only with the knowledge of strategies but also with the ability to apply knowledge to different types of texts, and to organise strategies in the thinking process (Anderson, 2012).

The results of international PISA measurements (OECD, 2010; OECD, 2019) have repeatedly shown that metacognition has an impact on reading success and is also related to learning success.

Depending on the purpose of reading, the reader can choose from a variety of reading strategies that will be most effective in a given situation. As stated by Thuy (2022), English language proficiency is influenced by many factors, but one of the most important is the ability to use strategies in reading comprehension. In fact, reading strategies have a positive impact on reading comprehension because they help students read effectively (Brown, 2001; Oxford, 1990).

2 Literature Review

Reading strategies are intentional procedures that control and modify the reader's efforts to decode a text, understand words, and create meaning from the text (Yang, 2004). Oxford (2013) defines reading strategies as learnable, dynamic ideas and behaviours that learners consciously choose and use in specific situations to improve the self-regulated, autonomous development of their reading in a foreign language, effective task processing, and long-term language proficiency.

Metacognition in the reading process helps better understanding, supports independence, and improves information retention, since a reader who actively thinks about what he or she is reading processes and retains information better.

In teaching reading, we have distinguished two types of reading, extensive and intensive reading (Grabe & Stoller, 2011; Nuttal, 2005). Both approaches contribute to improving reading in various aspects. The goal of extensive reading is “pleasure, information and general understanding” (Bamford & Day, 2004). Intensive reading is defined by Grellet (1981, p. 4) as “reading shorter texts, to extract specific information. This is more an accuracy activity involving reading for detail”. It is the detailed understanding of a text, focusing on accuracy rather than

fluency by emphasising detailed analysis of vocabulary and grammar (Sahibzada et al., 2024). Teachers should combine both approaches. As Anderson (2008) adds, extensive reading gives students opportunities to practice the reading skills acquired during intensive reading instruction, and can also lead to increased motivation to read.

Although there are many definitions of reading strategies in the literature, similar features can be found in their characteristics: 1) they are intentional, conscious plans, techniques, and skills; 2) they aim to improve reading comprehension; 3. they are valuable for understanding how readers manage their interaction with text and how these strategies affect reading comprehension (Thuy, 2021). According to Gebhard (2009, as cited in Par, 2020), successful readers usually apply certain reading strategies when reading a text, such as skipping unknown words, predicting the meaning, guessing the meaning of unknown words from the context, avoiding constant translation, using prior knowledge, drawing conclusions, reading favourite genres or topics, analysing pictures and illustrations, and re-reading. These reading strategies are useful for the effective comprehension of the texts they read.

Research on metacognition has revealed that less proficient learners cannot distinguish the purpose of reading and tend to focus on reading word by word (DiVesta, Hayward & Orlando, 1979). Harris et al. (1988, as cited in Thamraksa, 2005) added that less proficient readers often read passages without knowing that they have misunderstood them. Also, less proficient readers cannot adjust their reading speed to suit the purpose of reading (Smith, 1967). Less proficient readers cannot flexibly use different strategies to solve a problem when they encounter one (Garner, 1980). Additionally, as Langer (1981) notes, weaker readers lack metacognitive skills.

Metacognitive learning strategies help the student analyse, acquire, use, and remember the necessary information (Heldová, Kašiarová & Tomengová, 2011). By practicing and applying metacognitive strategies, students become good readers who can work with text. That is why it is important for students to be familiar with different strategies, to be able to try them out, and to find those that best suit them. Readers have different types of strategies available to them (cognitive, metacognitive, social, affective), but metacognitive strategies have been found to be particularly effective in understanding text content (Williams & Atkins, 2009). Many studies (Zhang & Seepho, 2013; Ahmadi et al., 2013; Mytcowicz, Goss & Steinberg, 2014; Tavakoli, 2014) illustrate the positive impact of using metacognitive strategies in the reading process. Students who reflect on their learning strategies are better prepared to make informed decisions about what can support their learning. Zhang and Seepho (2013) argue that metacognitive strategies in reading include readers' awareness of whether or not they can understand what they are reading, their ability to judge the difficulty of the task, and their knowledge of when and how to use a specific reading strategy according to the difficulty of the text, the situation, and their own cognitive abilities (Baker & Brown, 1984). Simply put, metacognitive strategies in reading are strategies designed to increase readers' knowledge of awareness and

control, to improve their reading comprehension, and to evaluate whether their attempt at comprehension can be considered successful.

Many researchers have created various taxonomies of metacognitive reading strategies (Oxford, 1990; 2013; O’Malley & Chamot, 1990; Mokhtari & Sheorey, 2002). Below we present several different classifications of metacognitive strategies. El-Koumy (2004) categorises metacognitive strategies into three groups: “planning” in which readers read a text with a specific goal and focus, “monitoring” in which students regulate the reading process and use appropriate strategies, and “evaluation” in which readers check whether they have achieved the goal and change strategies if necessary. The issue of learning strategies has also been addressed by Oxford (1990). She distinguishes between direct strategies, including memory, cognitive strategies, and compensatory strategies, and indirect strategies, including metacognitive, affective, and social strategies. As one of the indirect strategies, Oxford also lists metacognitive strategies, which she defines as strategies that allow students to control their own cognition and guide the learning process. Another and more recent division of Oxford (2013) in the S2R (Strategic Self-Regulation) model summarises strategies of three main interacting dimensions: cognitive, affective, and sociocultural-interactive and metastrategies. The author states that metastrategies strongly influence all dimensions and are at the same time part of them. Metastrategies include metacognitive, metaaffective, and meta-sociocultural-interactive strategies. Metacognitive strategies help students control their use of cognitive strategies, while metaaffective strategies make it easier for readers to control their use of affective strategies. Meta-sociocultural-interactive strategies allow students to control their use of sociocultural-interactive strategies. Oxford (2013) further explains that metastrategies help students know whether and how to use a given strategy and also help determine whether the strategy is working or has worked as planned.

Many authors are convinced that metacognition positively contributes to the effective learning of an individual (Bransford, Brown, & Cocking, 2000; Nietfeld & Shraw, 2002; Thiede, Anderson & Therriault, 2003). Students who know metacognitive strategies and can use them appropriately are more independent in learning and work more effectively with text while achieving better results in measuring reading comprehension performance (Paris & Flukes, 2005).

Based on what has been discussed above, this study aims to investigate metacognitive awareness and the use of metacognitive strategies in connection with reading comprehension, through a purposefully designed intervention program.

3 Research Methodology

3.1 Goals of the study

Currently, the demand for the development of reading comprehension is rapidly increasing. However, students face enormous problems in reading comprehension,

whether in their mother tongue or in the foreign language they are learning. At the same time, the results of PISA 2022 show a significant decline in reading comprehension in almost all participating countries. The conclusion of the results is that all countries should take additional measures to increase the level of reading competence, since reading is fundamental for every student (EURead, 2023).

For foreign language learners to become competent and effective readers, they need to develop their reading metacognitive strategies. Numerous studies (Zhang & Seepho, 2013; Ahmadi, Ismail & Abdullah, 2013; Mytcowicz, Goss & Steinberg, 2014; Tavakoli, 2014) have illustrated the positive relationship between the use of metacognitive strategies in the reading process. Since reading comprehension is a combination of several factors, the development of reading comprehension requires stimulation at the cognitive, metacognitive, affective, and social levels, which requires intervention. Extensive research examining the relationship between reading comprehension and intervention (Gayo et al. 2014; Khatri, 2018; Wu et al., 2021; Chinpakdee & Gu, 2021; Valizadeh, 2021; Li et al. 2022) has demonstrated the significant impact of intervention on reading comprehension. Given the key role of reading strategies in text comprehension, we consider intervention to be an effective tool to support students in their active and conscious use. We assume that intervention can help students increase their awareness of their reading strategies, thereby increasing their active participation in the reading process. The main objective of this study is to determine the dynamics of reading comprehension skills after completing the intervention program and to verify its effectiveness. Considering what has been said, we formulated the following research questions:

1. Did students show improvement in their reading comprehension after completing the intervention program?
2. Did students show improvement in their reading skills (intensive, extensive) after completing the intervention program?
3. Did students show improvement in extensive reading comprehension in connection with metacognitive strategies?
4. How did students work with metacognitive strategies in reading and to what extent do they use them consciously?

Building on the research questions, we tested these hypotheses:

H1: We assume that students will demonstrate better performance in reading comprehension after completing the intervention program compared to the control group that did not complete the intervention program.

H2: We assume that after completing the intervention program, a higher level of comprehension will be achieved in extensive reading compared to the control group that did not complete the intervention program.

H3: We assume that after completing the intervention program, a higher level of comprehension will be achieved in intensive reading compared to the control group that did not complete the intervention program.

3.2 Research design

To answer the above hypotheses and research questions, we employed a mixed-method research approach, combining both quantitative and qualitative methods to demonstrate greater accuracy (Maxwell & Loomis 2003). The data was obtained through an experiment, reading comprehension test, students' and teacher's reflections, and a reading strategies questionnaire administered to the students (Oxford et al., 2004). As the main methodological tool, we used the textbook Reading Comprehension Intervention Program for the English Language (Gadušová et al., 2020). The textbook includes 10 intervention units that were utilised during the experiment.

3.3 Intervention programme

Table 1 below provides an overview of the predictors, topics and texts. Each intervention unit develops one to two interconnected predictors through activities and procedures that intentionally enhance a given cognitive process. The program ranks cognitive processes from lower to higher, as follows: attention, concentration, memory, perception, cognitive structuring, inferential thinking, imagination, fantasy, divergent thinking, tolerance of ambiguity, critical thinking, and self-reflection.

Table 1 An overview of the intervention program (Adapted by the authors)

Focus (predictors)	Topic	Text
<i>Testing (pre-test)</i>		
1.	Attention and concentration	Website History Million dollar homepage
2.	Attention, concentration, and memory processes	English-speaking countries The Loch Ness Monster – behind the myth
3.	Perception and language resources	Occupation email communication – I want to be an actor
4.	Perception, cognitive structuring, and language resources	History of time zones non-fictional – A brief history of time.
5.	Perception, cognitive structuring, and language resources	Home user text (interview) – Living above the shop.
6.	Inferential thinking	Culture and art factual text – The history of rap
7.	Inferential thinking	Science and technology at the service of humanity academic text – Samsung Galaxy A51 Manual (User guide).

8.	Divergent thinking and Social relations tolerance of ambiguity	literary text – The girl I followed.
9.	Divergent thinking and Environment tolerance of ambiguity	poem – There was once a whole world in the scarecrow.
10.	Critical thinking, reflection, and self-reflection	Otherness literary text – Curious Incident of a dog in the night-time.

Testing (post-test)

Final lesson: Reflection on the texts read

3.4 Sample and data analysis

A total of 100 grammar school students in Nitra, Slovakia, who study English as a first foreign language at level B1 according to the CEFR, participated in the study. The average age of the students was 17-18 years. The research sample consisted of 5 classes of third-year students, where the classes were divided into an experimental (59 students) and a control group (41 students). In the experimental group, an experimental intervention was implemented through the Reading Comprehension Intervention Program, while in the control group, the intervention was not implemented. Since it was not possible to ensure random selection, we carried out a quasi-experiment. Both groups took a pre-test before the experiment to determine their reading proficiency. Then, the experimental group completed an intervention program to support reading comprehension, while the control group learned to read in a traditional way. After completing the experiment, a post-test followed with the aim of assessing whether the intervention program resulted in improved reading comprehension in English. Subsequently, the effects of the intervention program were verified by descriptive statistics and inferential tests. To verify the normality of the score distribution, we used the Shapiro-Wilk test and the D'Agostino-Pearson test, based on which we decided to use the non-parametric Mann-Whitney test for two independent groups. The test was supplemented by the Wilcoxon test, which compares two measurements of the same group (pretest, post-test). The results were then processed and evaluated applying statistical methods in Excel. The written reflections of the students and the teacher were interpreted through qualitative content analysis based on Oxford's (2013) division of strategies.

4 Results and Interpretation

4.1 Progress in students' reading comprehension

The results of the self-reflections of both the students and the teacher indicate the progress of the students in reading comprehension after completing the intervention program. The intervention had a positive impact on the acquisition and development

of various reading strategies (skimming and scanning, inferring the meaning of unknown words from the context, searching for keywords, translation, adjusting reading speed, metacognitive planning, monitoring and evaluating one's own learning, sociocultural-interactive and affective strategies for monitoring one's own motivation, self-encouragement and self-reflection of feelings). Some of these strategies were also identified by students in the questionnaires as "highly used" strategies, such as avoiding translation into the native language, which, according to several authors (Grabe & Stoller, 2011; Oxford et al., 2004), supports fluent reading and global understanding of the text. The other most frequently used strategies are related to understanding the meaning of words and phrases in the text by guessing from the context, activating prior knowledge, and repeated reading. Deducing the meaning of words from the context instead of using a dictionary indicates more active involvement of students in creating the meaning of words and supports reading speed, which is typical of successful readers (Nuttall, 2005). Students very often used the strategy "I continue reading even though I have difficulties", which, according to Oxford, belongs to affective strategies (2013) and is related to the self-regulation of motivation and perseverance.

In the students' self-reflections, we also noted several positive reactions to the intervention program (the activities, topics, entire intervention units). Similarly, the teacher perceived that students were motivated, interested, engaged in activities, or more focused during the intervention program. Our findings are in line with a systematic review of research by Sur and Ateş (2022) who claim that increasing motivation, a positive attitude towards reading, and self-confidence significantly affect students' reading skills and contribute to better text comprehension.

The results of reading comprehension tests indicate that the performance of students in the experimental group in reading comprehension was statistically significant (Wilcoxon test, $p < 0.05$), although it was not statistically significant compared to the control group (Mann-Whitney U test, $p > 0.05$). This result implies the effectiveness of the intervention program and shows a general tendency for students' reading comprehension to increase after completing the program. A triple consistency from the results of the questionnaire, students' and teacher's self-reflections reveals that students not only express, but also actively use some reading strategies in the reading process. This consistency, supplemented by the quantitative data, suggests that the intervention program had a positive impact on the development of students' reading strategies, a shift towards their conscious use, and also demonstrated higher student performance in the reading comprehension test.

4.2 Progress in students' intensive and extensive reading comprehension

From the questionnaire findings, we can conclude that students prefer strategies related to extensive reading (e.g. guessing meaning, activating prior knowledge, avoiding translation into the native language, and continuing to read despite difficulties), over strategies typical of intensive reading (text analysis and detailed reading). We assume that this may be related to the difficulty of or expertise required

for intensive reading texts, or detailed text analysis, which requires higher cognitive involvement of the reader. Our findings are in agreement with Veenman, Wilhelm and Beishuizen (2004) and Afflerbach et al. (2008), who consider intensive reading to be more demanding, as it requires the reader to process the text more thoroughly, to be more focused, and to have a higher cognitive load to develop a deeper understanding of the text. In the students' self-reflections, we noted the use and improvement in reading strategies related to both intensive and extensive reading. However, many strategies overlap in their use of both types of reading depending on the goal. The students also reported improvements in reading strategies related to extensive reading, including faster reading, improved concentration during reading, and vocabulary development. Concerning intensive reading, students declared improvements in strategies such as scanning, searching for specific information, searching for keywords, drawing conclusions, rereading, focusing attention on key parts of the text, and using inferential and critical thinking.

The results of the reading comprehension test showed a statistically significant increase in the level of extensive reading comprehension, which indicates the significant impact of the intervention program on improving students' extensive reading. In contrast, we did not observe considerable progress in students' intensive reading after completing the intervention program. Our finding is consistent with Bell's (2001) research who found higher scores in extensive reading comprehension than in intensive reading, but differs from the results of other researchers Insuasty Cárdenas (2020) and Hidayat (2023) who recorded an improvement in reading comprehension of intensive reading.

To conclude, we can state the beneficial effect of the intervention program on the development and improvement of intensive, but especially extensive reading. Similarly to Maipoka and Soontornwipast (2021) we also emphasise the need for the development of both types of reading (intensive and extensive), as they have a positive impact on improving reading comprehension skills.

4.3 Progress in extensive reading comprehension linked to metacognitive strategies

The questionnaire survey and the students' self-reflections indicate knowledge and practical use of metacognitive strategies, which also support extensive reading. Our findings align with Halim et al. (2020) who state that metacognitive strategies influence students' performance in reading comprehension. Higher metacognitive awareness of students leads to better strategy selection in further reading, which also affects extensive reading. The connection of metacognitive strategies in extensive reading has an impact on the development of students' language competences (e.g. vocabulary development), overall progress in comprehension, and students' attitude towards reading. In this way, students become more effective and independent readers. What we found supports the claim that the combination of cognitive reading strategies, metacognitive awareness, and the flexible nature of extensive reading has a significant impact on improving reading skills (Murtadho, Ismail & Kholisin,

2024). Based on the data from the questionnaires and self-reflections, we can infer the improvement of extensive reading in connection with metacognitive strategies, which was also confirmed by the statistically significant results of reading comprehension tests aimed at extensive reading.

4.4 The use and the frequency of application of metacognitive strategies in reading

Using the Reading Strategies Questionnaire by Oxford et al. (2004), we investigated the answer to the last research question - how did students work with metacognitive strategies in reading, and to what extent do they use them consciously? Table 2 shows the frequency of use of individual strategies overall and by type of strategy. When determining the frequency, we followed the Oxford (1990) classification: (average score of 2.4 and less as “low” /strategy is rarely used/, 2.5–3.4 as “medium” /strategy is sometimes used/ and 3.5–5.0 as “high” /strategy is often or always used/).

Table 2 Frequency of use of strategies

	Mean	Level
All strategies	2,64	medium level
Metacognitive strategies	3,16	medium level
Cognitive strategies	2,90	medium level
Supporting strategies	2,02	low level

The overall use of strategies in working with text indicates a medium level, but one just above the low level ($M=2.64$). Similar findings are reported in research by Hoang (2016) and Khellab et al. (2022). We also assessed the average frequencies of students using individual categories of strategies. The results showed the use of almost all categories at the medium level (except for supporting strategies) and also showed a clear preference for metacognitive strategies ($M=3.16$). According to Kan, Noordin and Ismail's (2024) systematic review of research, cognitive strategies (problem-solving) are considered to be the most frequently used.

Among the five most frequently used strategies reported by students in the questionnaire were the following three: I change reading speed depending on the difficulty of a text, If I'm having trouble, I go back to previous sentences, and I link the content with what I already know, during which the students use metacognitive processes of monitoring and regulation.

The high level of use of the metacognitive strategy of adapting reading to the difficulty of the text can be viewed positively, as it indicates a conscious approach of students to reading. Similarly, in self-reflections, students reported adjusting their own reading speed (they sped up or slowed down). Such awareness indicates that students monitor and evaluate their own reading process while using metacognition. This finding is also supported by Oxford et al. (2004) who report that changing reading speed is a more frequently used strategy by effective readers.

The strategy of rereading difficult parts is one of the metacognitive strategies (according to Oxford, 2013), during which the student uses metacognitive

monitoring and regulation processes. In connection with the findings from the questionnaire, students reported in their reflections that they consider this strategy effective in case they face any difficulties while reading the text. Similarly, Oxford et al. (2004) report that effective readers are more aware of the need to review difficult parts of the text. It also indicates that students have higher language competence, which allows them to spend more time going through difficult parts of the text. The strategy of rereading the text is also supported by Mokhtari and Reichard (2002) who consider it one of the strategies that helps readers with comprehension problems.

The third highly used metacognitive strategy included activating prior knowledge, which is a typical strategy of skilled readers. Grabe and Stoller (2011) also report that successful readers can use their prior knowledge in the reading process. The students' self-reflections revealed that a familiar topic contributed to better student comprehension. The high rate of use of this strategy is also observed by Hoang (2016). However, in students' self-reflections, the use of this strategy occurred only rarely, which indicates a certain discrepancy compared to the questionnaire findings, where students report a high frequency of using this strategy. We can assume that this is an implicitly used strategy, students use it but are neither aware of nor able to name it.

In students' reflections, we noted statements related to difficulties in understanding due to an unfamiliar topic, which may be related to missing prior knowledge. We found that increased focus on the text and the process of working with it enhanced students' understanding of the text. Oxford (2013) considers attention regulation as one of the possible metacognitive strategies for monitoring one's own reading process. As an example, the students read the questions first and then read the text. The participants recognised which strategy is needed for a better understanding of the text, which indicates metacognitive planning and monitoring of their own reading process, both key components of metacognition.

The students also used metacognitive assessment strategies during the reading process when they encountered something they did not understand and began to actively address it by changing their strategy. In addition, through self-reflection, the students learned to evaluate and express what they had achieved and in what they had made progress, identify strengths and weaknesses, what caused them problems, what they understood and what they did not understand when reading the text, and what they would do differently when reading again. From the students' statements, it is evident that they did not have sufficient vocabulary; therefore, they perceive the need to grow in this area. They also stated the need to acquire and learn new strategies that would help them while working with the text. Although students did not use terms such as "metacognition or metacognitive strategies" in their reflections, the descriptions of their behaviour indicate that they use these strategies implicitly. In other words, students may not be able to name the strategies, but they can practically apply them.

The analysis of students' self-reflections showed some superficial or incomplete, short or repeated answers, pointing to poorly developed self-assessment

skills. This finding may also be related to low metacognitive awareness, insufficient self-regulation, implicit use of strategies, or limited thinking about their own reading. Our claims are supported by Siegesmund (2017) who maintains that the use of self-assessment to increase students' metacognition has a positive impact on their learning and self-regulation. Self-regulated students can effectively assess their knowledge and find gaps in their understanding, evaluate the effectiveness of their learning strategies, and make changes to increase their effectiveness in further learning.

Regarding our findings, Maasum and Maarof (2012) also state the importance of acquiring not only a collection of strategies but also metacognitive awareness during the reading process. They should be aware of their goals, monitor and control their reading process, evaluate the use of strategies, and change or adjust them if necessary.

To sum up, the participants have metacognitive awareness, and to some extent, they use different metacognitive strategies.

6 Conclusions and Pedagogical Implications

The results of our research show that the intervention program effectively improved reading comprehension performance within the experimental group. The results of the questionnaire and self-reflections indicate that the students not only express but also actively use reading strategies in the reading process. The intervention program had a statistically significant effect on improving the students' extensive reading. By linking metacognitive strategies with extensive reading, the students developed their language competencies (e.g. vocabulary development), their overall progress in comprehension, and their attitudes toward reading. The improvement in extensive reading is evidence that the deliberate and targeted development of reading strategies and skills also significantly affects the comprehension of extensive reading.

It is important to note that the students showed almost no improvement in intensive reading following the intervention program. This finding may be related to the difficulty or expertise of the intensive reading texts or the detailed analysis of the text, which requires the higher cognitive involvement of students, or a lower level of the use of strategies that help students understand intensive texts.

Based on the analysis, we further concluded that the students have increased awareness of their own metacognitive strategies related to planning, monitoring, and evaluation and that they use them to some extent. Although the students did not explicitly name these strategies in their self-reflections ("metacognitive strategies"), they were able to demonstrate their practical application. The statements largely agree with the findings of the questionnaire which showed a higher level of use of metacognitive strategies. The students were able to evaluate their own successes and problems in understanding the text despite the fact that the quality of their statements varied in scope or depth. We believe that the use of self-reflections after the intervention units increased students' awareness of their own self-evaluation, as well

as their use of various strategies. Therefore, we consider the use of self-evaluation to be an effective tool for increasing students' metacognition, which subsequently has an impact on their learning and self-regulation.

Self-regulated learners can effectively assess their knowledge, find gaps in it, evaluate the effectiveness of their learning strategies, and make changes to increase their effectiveness in further learning. Our research shows the impact of reading strategies on improving reading comprehension in English. Reading strategies help learners read effectively and are also a tool that they can use when they have problems with reading comprehension. On the basis of the presented findings, we propose the following implications for classroom practice:

1. In language classes, teachers should devote time to the development of metacognitive strategies that allow learners to plan, monitor, and evaluate their reading processes. Metacognitive strategies facilitate reading comprehension and are crucial for the long-term improvement of reading literacy.
2. We encourage teachers to use self-reflective questions or unfinished sentences as part of lessons focused on developing reading comprehension. When creating self-reflective sentences, we were inspired by academic literature (Jones, Conradi, Amendum, 2016; Greenleaf et al., 2023; The Modern Classrooms Project, 2022) and our own teaching experience. These self-reflective sentences serve to promote metacognition and students' greater awareness of their reading comprehension process. Students' self-reflections also provide a resource for the teacher to gain an overview of students' understanding and application of individual strategies, which can make further teaching more effective.
3. Self-reflective cards could be also useful in the teaching process, as a possible tool to support metacognitive awareness during reading comprehension. These questions help students monitor and regulate their thinking in the reading process. They are divided into three parts: questions before reading (planning), questions during reading (monitoring), and questions after reading (evaluation). The main goal of the questions is to support metacognitive thinking in students at each stage of reading.
4. Other ways to introduce metacognitive strategies to students is by directly explaining what metacognitive strategies are and by showing them how to use them in practice, for example through modelling — the teacher thinks aloud while reading and shows how to check comprehension.
5. Teachers should consider including a variety of texts (both intensive and extensive) and activities. By linking metacognitive strategies to different types of texts, students learn to use different reading strategies flexibly.
6. Teachers should actively support the development of strategic and metacognitive awareness in students, especially in the context of reading comprehension. It is important to guide students to be aware of which reading strategies they use, why they choose them, and what impact they have on their understanding of the text. One effective tool to support this reflection is the reading diary, in which students record the strategies used, their effectiveness, and their own reading experiences. The systematic development of metacognitive awareness leads students to greater autonomy, responsibility, and effectiveness in learning.

In conclusion, metacognitive awareness plays an important role in foreign language instruction. The ability to employ appropriate strategies empowers learners to become more independent and self-regulated readers. Knowing how to choose and apply metacognitive strategies in diverse situations helps students develop better reading competence. This study has also provided evidence that the activities incorporated in the intervention program can positively influence reading proficiency. The intervention offers students opportunities to engage with a wide range of texts and practice different reading strategies, both of which promote their cognitive and metacognitive processes in foreign language acquisition. Thus, the program can become a valuable resource for many teachers looking to foster reading comprehension and literacy in their students.

References

Ahmadi, R. A., Ismail, H. N., & Abdullah, M. K. (2013). The importance of metacognitive reading strategy awareness in reading comprehension. *English Language Teaching*, 6(10), 235–249. <https://doi.org/10.5539/elt.v6n10p235>

Afflerbach, P., Pearson, P. D., & Paris, S. G. (2008). Clarifying differences between reading skills and reading strategies. *The Reading Teacher*, 61(5), 364–373. <https://doi.org/10.1598/RT.61.5.1>

Anderson, N. J. (2008). *Practical English language teaching: Reading*. McGraw–Hill.

Anderson, N. J. (2012). Metacognition: Awareness of language learning. In S. Mercer, S. Ryan, & M. Williams (Eds.), *Psychology for language learning* (pp. 169–187). Palgrave Macmillan. https://doi.org/10.1057/9781137032829_12

Baker, L., & Brown, A. L. (1984). Metacognitive skills and reading. In P. D. Pearson, R. Barr, M. L. Kamil, & P. Mosenthal (Eds.), *Handbook of reading research* (pp. 353–394). Longman.

Bamford, J., & Day, R. R. (2004). *Extensive reading activities for teaching language*. Cambridge University Press.

Bell, T. (2001). Extensive reading: Speed and comprehension. *The Reading Matrix: An International Online Journal*, 1(1), 1–13. Retrieved September 5, 2024, from <https://www.readingmatrix.com/articles/bell/article.pdf>

Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school*. National Academy Press. <https://doi.org/10.17226/9853>

Brown, H. D. (2001). *Teaching by principles: An interactive approach to language pedagogy* (2nd ed.). Addison Wesley Longman.

Chinpakdee, M., & Gu, P. Y. (2021). The impact of explicit strategy instruction on EFL secondary school learners' reading. *Language Teaching Research*, 28(1), 296–319. <https://doi.org/10.1177/1362168821994157>

Divesta, F. J., Hayward, K. G., & Orlando, V. P. (1979). Developmental trends in monitoring text for comprehension. *Child Development*, 50, 97–105. <https://doi.org/10.1111/J.1467-8624.1979.TB02984.X>

El-Koumy, A. S. A. K. (2004). Metacognition and reading comprehension: Current trends in theory and research. *ERIC Document No.* ED490569. <https://dx.doi.org/10.2139/ssrn.2364871>

EURead. (2023). PISA 2022: a call for action by EURead. Retrieved November 27, 2024, from <https://euread.com/pisa-2022-a-call-for-action-by-euread/>

Fauzi, Ch., & Ashadi, A. (2019). An analysis on reading strategies based on metacognitive awareness and gender. *Lingua Pedagogia: Journal of English Teaching Studies*, 1(1), 1–16. <https://doi.org/10.21831/lingped.v1i1.23912>

Gadušová, Z. a kol. (2020). *Intervenčný program čítania s porozumením pre anglický jazyk B1*. Verbum.

Garner, R. (1980). Monitoring of understanding: An investigation of good and poor readers' awareness of induced miscomprehension of text. *Journal of Reading Behavior*, 12(1), 55–63. <https://doi.org/10.1080/10862968009547352>

Gayo, E., Deaño, M., Conde, Á., Ribeiro, I., Cadime, I., & Alfonso, S. (2014). Effect of an intervention program on the reading comprehension processes and strategies in 5th and 6th grade students. *Psicothema*, 26(4), 464–470. <https://doi.org/10.7334/psicothema2014.42>

Grabe, W., & Stoller, F. L. (2011). *Teaching and researching reading* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315833743>

Greenleaf, C., Schoenbach, R., Friedrich, L., Murphy, L., & Hogan, N. (2023). *Reading for understanding: How reading apprenticeship improves disciplinary learning in secondary and college classrooms* (3rd ed.). Jossey-Bass.

Grellet, F. (1981). *Developing reading skills*. Cambridge University Press.

Halim, N., Arif, M. M., & Supramaniam, K. (2020). Enhancing reading comprehension through metacognitive reading strategies and peer tutoring among Year 7 students at a home school centre. *Asian Journal of University Education*, 16(1), 22–31. <https://doi.org/10.24191/ajue.v16i1.8981>

Heldová, D., Kašiarová, N., & Tomengová, A. (2011). *Metakognitívne stratégie rozvíjajúce proces učenia sa žiakov. Metodická príručka*. MPC.

Hidayat, D. (2023). Improving students' reading comprehension through intensive reading for college students. *INOVISH Journal*, 8(1), 99–110. <https://doi.org/10.35314/inovish.v8i1.3253>

Hoang, N. M. (2016). *The relationship between reading strategy use and reading proficiency of Vietnamese students in the UK*. (Master's thesis). Retrieved from Northumbria University. Retrieved October 5, 2024, from https://www.teachingenglish.org.uk/sites/teacheng/files/dissertation_design_for_publication_2016_northumbria_university.pdf

Insuasty Cárdenas, A. (2020). Enhancing reading comprehension through an intensive reading approach. *HOW*, 27(1), 69–82. <https://doi.org/10.19183/how.27.1.518>

Jones, J. S., Conradi, K., & Amendum, S. J. (2016). Matching interventions to reading needs: A case for differentiation. *The Reading Teacher*, 70(3), 307–316. <https://doi.org/10.1002/trtr.1513>

Kan, T., Noordin, N., & Ismail, L. (2024). Implementation of metacognitive reading strategies to improve English reading ability: A systematic review. *International Journal of Learning, Teaching and Educational Research*, 23(7), 368–389. <https://doi.org/10.26803/ijlter.23.7.19>

Khatri, R. (2018). The efficacy of academic reading strategy instruction among adult English as an additional language students: A professional development opportunity through action research. *TESL Canada Journal*, 35(2), 78–103. <https://doi.org/10.18806/tesl.v35i2.1291>

Khellab, F., Demirel, Ö., & Mohammadzadeh, B. (2022). Effect of teaching metacognitive reading strategies on reading comprehension of engineering students. *SAGE Open*, 12(4), 1–19. <https://doi.org/10.1177/21582440221138069>

Langer, J. A. (1981). What research in reading reveals about the reading process. *ERIC Document ED 209 630*. Retrieved November 31, 2024, from <https://files.eric.ed.gov/fulltext/ED209630.pdf>

Li, H., Gan, Z., Leung, S. O., & An, Z. (2022). The impact of reading strategy instruction on reading comprehension, strategy use, motivation, and self-efficacy in Chinese university EFL students. *SAGE Open*, 12(1), 1–14. <https://doi.org/10.1177/21582440221086659>

Maasum, T. N. T., & Maarof, N. (2012). Empowering ESL readers with metacognitive reading strategies. *Procedia – Social and Behavioral Sciences*, 69, 1250–1258. <https://doi.org/10.1016/j.sbspro.2012.12.058>

Maipoka, S., & Soontornwipast, K. (2021). Effects of intensive and extensive reading instruction on Thai primary students' English reading ability. *LEARN Journal: Language Education and Acquisition Research Network*, 14(1), 146–175.

Maxwell, J. A., & Loomis, D. M. (2003). Mixed method design: An alternative approach. In A. Tashakkori, & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 241–272). SAGE Publications.

Mokhtari, K., & Reichard, C. A. (2002). Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology*, 94(2), 249–259. <https://doi.org/10.1037/0022-0663.94.2.249>

Mokhtari, K., & Sheorey, R. (2002). Measuring ESL students' awareness of reading strategies. *Journal of Developmental Education*, 25, 2–11.

Murtadho, N., Ismail, Z., & Kholisin. (2024). Understanding the stagnation: Attitude as a predictor of extensive reading skills without observable improvement despite metacognitive integration. *Journal of Ecohumanism*, 3(8), 9161–9170. <https://doi.org/10.62754/joe.v3i8.5533>

Mytcowicz, P., Goss, D., & Steinberg, B. (2014). Assessing metacognition as a learning outcome in a postsecondary strategic learning course. *Journal of Postsecondary Education and Disability*, 27(1), 51–62.

Nietfeld, J. L., & Schraw, G. (2002). The effect of knowledge and strategy training on monitoring accuracy. *The Journal of Educational Research*, 95(3), 131–142. <https://doi.org/10.1080/00220670209596583>

Noushad, P. P. (2008). Cognitions about cognitions: The theory of metacognition [Online submission]. Retrieved September 30, 2024, from <https://files.eric.ed.gov/fulltext/ED502151.pdf>

Nuttall, C. (2005). *Teaching reading skills in a foreign language*. Macmillan.

OECD. (2010). PISA 2009 results: What students know and can do: Student performance in reading, mathematics and science (Volume I). Paris: OECD Publishing. <https://doi.org/10.1787/9789264091450-en>

OECD. (2019). PISA 2018 results (Volume I): What students know and can do. Paris: OECD Publishing. <https://doi.org/10.1787/5f07c754-en>

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge University Press.

Oxford, R. (1990). *Language learning strategies: What every teacher should know*. Harper Collins.

Oxford, R. L. (2013). *Teaching and researching: Language learning strategies*. Routledge. <https://doi.org/10.4324/9781315838816>

Oxford, R., Cho, Y., Leung, S., & Kim, H. (2004). Effect of the presence and difficulty of task on strategy use: An exploratory study. *International Review of Applied Linguistics in Language Teaching*, 42(1), 1–47. <https://doi.org/10.1515/iral.2004.001>

Par, L. (2020). The relationship between reading strategies and reading achievement of the EFL students. *International Journal of Instruction*, 13(2), 223–238. <https://doi.org/10.29333/iji.2020.13216a>

Paris, S. G., & Flukes, J. (2005). Assessing Children's Metacognition About Strategic Reading. In S. E. Israel, C. C. Block, K. L. Bauserman, & K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning: Theory, assessment, instruction, and professional development* (pp. 121–139). Lawrence Erlbaum Associates.

Sahibzada, A., Haqyar, N., & Sahibzada, A. (2024). The effect of extensive and intensive reading strategies on EFL learners' vocabulary improvement. *International Journal of Current Science Research and Review*, 7(10), 7774–7782. <https://doi.org/10.47191/ijcsrr/V7-i10-32>

Siegesmund, A. (2017). Using self-assessment to develop metacognition and self-regulated learners. *FEMS Microbiology Letters*, 364(11), 1-4. <https://doi.org/10.1093/femsle/fnx096>

Smith, H. K. (1967). The response of good and poor readers when asked to read for different purposes. *Reading Research Quarterly*, 3(1), 53–83. <https://doi.org/10.2307/747204>

Sur, E., & Ateş, M. (2022). A systematic review regarding the impact of affective factors on reading success. *International Online Journal of Education and Teaching (IOJET)*, 9(4), 1480–1512.

Tavakoli, H. (2014). The effectiveness of metacognitive strategy awareness in reading comprehension: The case of Iranian university EFL students. *The Reading Matrix*, 14(2), 314–336.

Thamraksa, C. (2005). Metacognition: A key to success for EFL learners. *BU Academic Review*, 4(1), 95–99.

The Modern Classrooms Project. (2022). Metacognition prompts: How do we facilitate metacognition in a self-paced learning environment? Retrieved October 5, 2024, from <https://www.modernclassrooms.org/metacognition>.

Thiede, K. W., Anderson, M. C. M., & Therriault, D. J. (2003). Accuracy of metacognitive monitoring affects learning of texts. *Journal of Educational Psychology*, 95(1), 66–73. <https://doi.org/10.1037/0022-0663.95.1.66>

Thuy, N. T. B. (2021). Reading strategies used by students of different levels of English reading proficiency. *VNU Journal of Foreign Studies*, 37(4), 111–127. [10.25073/2525-2445/vnufs.4684](https://doi.org/10.25073/2525-2445/vnufs.4684)

Thuy, N. T. B. (2022). Reading strategy taxonomies: An overview. *VNU Journal of Foreign Studies*, 38(3), 175–193. [10.25073/2525-2445/vnufs.4852](https://doi.org/10.25073/2525-2445/vnufs.4852)

Valizadeh, M. (2021). The effect of reading strategies instruction on EFL learners' reading performances. *Shanlax International Journal of Education*, 9(1), 74–80. <https://doi.org/10.34293/education.v9iS1-May.4002>

Veenman, M. V. J., Wilhelm, P., & Beishuizen, J. J. (2004). The relation between intellectual and metacognitive skills from a developmental perspective. *Learning and Instruction*, 14(1), 89–109. <https://doi.org/10.1016/j.learninstruc.2003.10.004>

Williams, J. P., & Atkins, J. G. (2009). The role of metacognition in teaching reading comprehension to primary students. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Handbook of Metacognition in Education* (pp. 26–43). Routledge. <https://doi.org/10.4324/9780203876428>

Wu, L., Valcke, M., & Van Keer, H. (2021). Supporting struggling readers at secondary school: An intervention of reading strategy instruction. *Reading and Writing*, 34(8), 2175–2201. <https://doi.org/10.1007/s11145-021-10144-7>

Yang, L. L. (2004). The development of a validated perceived self-efficacy scale on English reading strategies. *Journal of Education & Psychology*, 27(2), 377–398.

Zhang, L., & Seepho, S. (2013). Metacognitive strategy use and academic reading achievement: Insights from a Chinese context. *Electronic Journal of Foreign Language Teaching*, 10(1), 54–69.