14 - Learning L2 Reading Strategies Through Cooperative English Reading Activities

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Abstract
This study examines the effectiveness of teaching reading strategies through Cooperative English Reading Activity (CERA) (Salvacion & Ohba, 2023) to Japanese learners who have received approximately seven years of English instruction. CERA consists of two distinct phases: the Preparation Phase and the Activity Phase. In the Preparation Phase, 24 participants received explicit instruction in nine reading strategies and the use of graphic organizers. During the Activity Phase, participants engaged in cooperative text reading and summary writing, as well as discussion of the texts and the reading strategies employed. Participants were required to create portfolios to document their individual thinking processes. The results showed that CERA contributes to learners' acquisition of reading strategies. It also suggests the possibility that learners can change their reading processes deeper through CERA and achieve deeper comprehension.

Keywords: Reading strategies, Cooperative English Reading Activities (CERA), Reading comprehension, Higher-level processes, Metacognitive awareness

1. Introduction

The purpose of this study is to define learners' engagement in English reading comprehension through discussions incorporating the fundamental components of cooperative learning (Johnson, Johnson & Holubec, 2009) as "Cooperative English Reading Activities (CERA)" and clarify its impact on learners' use of reading strategies. Grabe (2009, p. 19) points out that difficulties learners face during classroom reading activities may stem not from a lack of reading ability, but from "a lack of awareness of the real goal for that reading task." This suggests that English reading instruction must cultivate abilities and elements that support the reading process. One such element is learners' use of reading strategies.

This study discusses reading processes, the role of reading strategies, and the theoretical background underpinning their instruction. It then identifies issues in prior reading strategy instruction, proposes Cooperative English Reading Activities (CERA), and examines its effects on Japanese high school students.

2. Theoretical Background

2.1 Reading Processes

Khalifa and Weir (2009) present a model of reading that clearly refers to not only the processing of textual information leading to comprehension but also to the reader's prior knowledge and metacognition that influence it (Figure 1).

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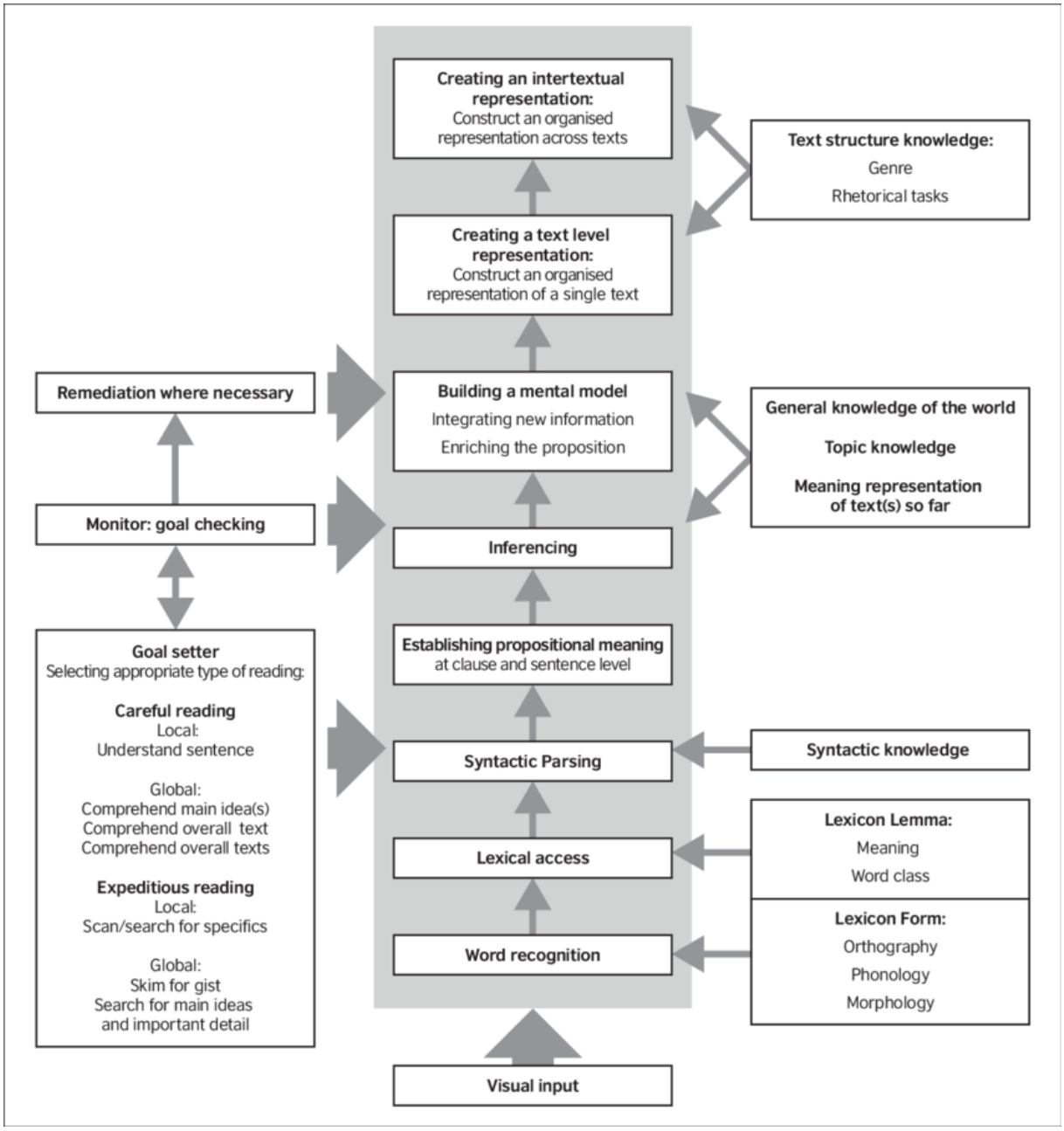
Figure 1. A model of reading (cited from Khalifa & Weir, 2009, p. 43)



In this model, the core processes of reading are shown in the central column, while processing occurs utilizing the reader's prior knowledge presented in the right column. Textual information is processed in sequence at the word level, phrase level, and then sentence level, where the reader accesses their prior vocabulary and syntactic knowledge to retrieve necessary information and understand meaning at the sentence level. Grabe (2008) described these processes as lower-level processes. Following this, through inference, the reader comprehends what pronouns and demonstratives refer to and interprets based on their general knowledge, thus constructing mental representations in the form of images. As the final stage of comprehension, the reader understands the text at the paragraph level. They consider questions such as what the writer intends to convey throughout the text, what information is necessary to achieve the reading purpose, and what the main points of the text are, while also taking into account their prior knowledge about the structure of the text and its connections with other texts. These processes are higher-level processes, which good readers can use frequently.

The particular focus of this study is on the metacognitive activities shown in the left column of Figure 1. These activities are those that manage the core processes. Before reading, the reader confirms their goals and chooses appropriate reading strategies. During the execution of the core processes, they monitor their reading and assess their progress. If any problems arise, they provide remediation to overcome them. These corrective measures are what are referred to as reading strategies.

2.2 Reading Strategies and Reading Strategies Instruction

Reading strategies refer to the means that readers consciously use during reading, distinguishing them from reading skills, which are used unconsciously (Paris, Wasik, & Turner, 1991). Regardless of their proficiency, when readers face problems that hinder the reading process, they engage in consciously searching for strategies to overcome these challenges. Readers cannot utilize reading strategies they are not aware of (Barnett, 1988).

Mokhtari and Sheorey (2002) developed the Survey of Reading Strategies (SORS), a questionnaire concerning 30 reading strategies used in second language reading, allowing readers to objectively analyze their own reading strategies. The 30 reading strategies included in SORS are classified into three subcategories:

(a) Global Reading Strategies (GLOB): Strategies related to overall comprehension, such as "overviewing the text" and "connecting to prior knowledge."

(b) Problem-Solving Strategies (PROB): Specific strategies used when problems arise during the core reading process, such as "reading difficult parts slowly" and "guessing unknown words."

(c) Support Strategies (SUP): Strategies that assist the reader's understanding of the text, such as "taking notes" and "translating the text into the native language."

There is a correlation between readers' proficiency levels and their use of reading strategies, with more proficient readers tending to utilize GLOB strategies more frequently (Iwai, 2011).

Regarding the methods of teaching reading strategies and their effects, Ikeda and Takeuchi (2006) instructed Japanese university students in eight highly versatile reading strategies over eight weeks. As a result, it was shown that more proficient learners used a greater number of reading strategies than less proficient learners, effectively combining multiple strategies and evaluating their effectiveness while understanding the significance of reading strategy use. However, they suggest that for less proficient learners to acquire reading strategies, it is beneficial to have one-directional instruction from teachers and to learn from the reading strategies used by more proficient learners. This aligns with Grabe's assertion that peer support is effective in learning reading strategies (Grabe, 2009).

A representative example of strategy instruction using dialogue among peers is Collaborative Strategic Reading (CSR), developed by Klingner and Vaughn (2000). In CSR, learners work together in diverse small groups to understand text content while using four reading strategies. The strategies used by learners are:

(a) Preview: Predicting the text before reading.
(b) Click and Clunk: Understanding difficult vocabulary and concepts.
(c) Get the Gist: Summarizing the content of each paragraph.
(d) Wrap-up: Summarizing after reading and creating test questions.

Learners engage in text reading in small groups. As a result of CSR instruction, active use of reading strategies was reported within each small group, and pre- and post-test results confirmed effectiveness, particularly in terms of vocabulary acquisition. However, changes in individual learners' use of reading strategies were not reported. Furthermore, CSR only presents four reading strategies, making it difficult for learners to combine multiple strategies or acquire new ones. Consequently, this poses a challenge, as individual learners cannot effectively utilize their existing reading strategies, nor can opportunities for learners to actively acquire reading strategies be ensured.

To overcome the challenges presented by these two prior studies, it is necessary to set up reading activities that allow learners to utilize their existing reading strategies while cooperatively learning new strategies and their applications from peers.

2.3 Cooperative Learning

Johnson, Johnson, and Holubec (2009, p. 6) define cooperative learning as "the instructional use of small groups so that students work together to maximize their own and each other's learning." Students should recognize others as potential collaborators rather than as competitors, working together in the learning process. Cooperation is not only one method of learning but also one of the contents of learning (Jacobs, Power, & Low, 2002). Johnson, Johnson, and Holubec (2009) identify the following five basic components of cooperative learning: (1) Positive interdependence; (2) Individual accountability; (3) Face-to-face interaction; (4) Social skills training; (5) Group processing

This study proposes Cooperative English Reading Activities (CERA) as a form of reading activity that ensures these five basic components, allowing learners to read texts together with an awareness of learning from one another's use of reading strategies.

3. Cooperative English Reading Activities (CERA)

Based on the theoretical background of reading and cooperative learning, this study defines Cooperative English Reading Activities (CERA) as activities in which "learners form small groups in an environment that ensures the basic components of cooperative learning, set shared objectives for reading comprehension, understand texts written in English through dialogue, and acquire reading strategies in the process." However, reading the text together in groups is a means, not the end itself. The ultimate goal is for each learner to be able to read English independently by acquiring reading strategies through repeated engagement in the reading process with their peers. Therefore, while the texts to be read are in English, the dialogue during the activities can be conducted in either Japanese or English, allowing them to choose the language that facilitates the learning activities.

CERA consists of the following two phases:

(1) The Preparation Phase

First, learners receive explicit instruction about the reading processes and reading strategies, and practice using specific reading strategies with peers. Following this, learners experience the significance of cooperative learning methods in a practical manner. Specifically, training includes "attentive listening" to positively receive peers' opinions, "round-robin", which is discussions where members take turns sharing their views and experiencing various roles during discussions.

(2) The Activity Phase

This phase has two activities; Individual Reading and Cooperative Reading. At first, learners are received the same English text, and read it individually without using dictionaries (Individual Reading). Then they are divided into small groups of three or four, and discuss within the small group to complete the text summary. At the beginning of the discussion, roles, such as facilitator, timekeeper, questioner, and recorder, are assigned randomly, and the discussion proceeds with members fulfilling their roles (Cooperative Reading). Cooperative Reading consists of the following three types of activities:

(a) Sharing Reading Strategies: After reading the text aloud in the group using "round-robin," each learner reflects on their Individual Reading and shares it with the other members, learning from each other's reading strategies within the small group. Members listening to the discussions are encouraged to provide feedback while being aware of their assigned roles, participating actively in the dialogue rather than merely listening.

(b) Completing the Summary Through Dialogue: The group shares parts they found difficult to understand in their Individual Readings, thereby deepening their comprehension and summarize the text they've read.

(c) Reflection: The group reflects on the discussion held and considers what they can do to improve the next Cooperative Reading session. The teacher refrains from intervening in the dialogue until the learners have reflected on their discussion. If necessary, the teacher can provide simple advice after the learners have completed their reflections.

The expected outcomes of CERA can be specifically summarized in two points. The first is the acquisition of second language reading strategies. In a small group, learners can share parts of the text they found difficult to understand and learn from their peers how to overcome those challenges,

thus gaining new reading strategies and way to apply them. Additionally, learners who explain their strategies also engage in metacognitive training by making explicit the reading skills they previously used unconsciously, which prepares them for more complex English texts. The second point is that as a result of the acquisition of reading strategies, the overall accuracy of the reading process improves, leading to the development of reading comprehension skills. To validate these two anticipated outcomes, research questions were established, and instruction using CERA was implemented.

4. Research Questions

Building on the theoretical framework of reading strategies and cooperative learning, this study aims to investigate the effects of **Cooperative English Reading Activities (CERA)** on learners' reading comprehension and strategy awareness. Specifically, the research addresses the following questions: (1) What changes occur in learners' awareness of reading strategies with the implementation of CERA? And (2) How does the level of reading comprehension change for readers with the implementation of CERA?

5. Methodology

5.1 Research Period and Participants

The implementation period was from April to September, 2024. However, there was no implementation in August due to summer vacation. The sessions were conducted almost once a week, totaling 10 sessions. The Preparation Phase consisted of 7 sessions until June 12, followed by 3 sessions during the Activity Phase. 24 female students in their third year of high school participated, all of whom had approximately seven years of English learning experience. Among them, 23 were native Japanese speakers and 1 was a native Chinese speaker. The analysis focused on the 23 participants who attended both the first and the 10th sessions.

5.2 Method

During the Preparation Phase, the participants were given a text in advance and asked to engage in 20-minute Individual Reading. The Preparation Phase began with four sessions, which provided instructions on reading strategies based on Grabe (2009). In the sessions, it was especially emphasized that using discourse markers and graphic organizers would deepen reading comprehension. Following this, three sessions were conducted to learn cooperative learning techniques through experiences.

When the Activity Phase started, each session started with 20-minute Individual Reading, followed by 20-minute Cooperative Reading. During Cooperative Reading, participants sat facing each other to engage in face-to-face interaction.

Before every session, participants received worksheets with the text printed on them. They used black pens to note their reading processes during Individual Reading. During Cooperative Reading, they used red pens to note what they learned from peers on the worksheets. The worksheets from the 10 sessions were saved as portfolios, allowing participants to reflect on their previous use of reading strategies at any time. While the groups for Cooperative Reading remained the same, the roles were randomly assigned, ensuring that no participant consistently fulfilled the same role.

5.3 Data Collection

Before and the implementation of CERA, SORS (Mokhtari & Sheorey, 2002) was administered to investigate participants' awareness of reading strategies. Additionally, among the portfolios, the Individual Reading records from the first and 10th sessions were analyzed to count the reading strategies used by each participant during Individual Reading.

6. Results

6.1 SORS

A paired *t*-test was conducted on the results of the two SORS assessments. Out of the 30 reading strategies, 8 showed changes before and after the implementation of CERA. The results of the paired *t*-test are shown in Table 1.

Table 1. Results of SORS assessments (n=23)

		pre		post		
Categories	**Strategies**	***M***	***SD***	***M***	***SD***	***t*-value**
GLOB	1. Having a purpose when reading	3.65	1.15	4.17	1.06	2.31*
SUP	2. Taking notes while reading	3.39	1.70	4.04	1.13	2.81*
GLOB	3. Thinking about prior understanding the text	3.22	1.72	4.13	0.94	3.43**
GLOB	4. Taking an overall view before reading	3.52	2.17	3.91	1.26	1.52
SUP	5. Reading aloud when the text becomes hard	2.78	1.91	3.35	2.06	1.84*
GLOB	6. Thinking if the text fits the reading purpose	3.13	1.85	3.43	1.17	1.02
PROB	7. Reading slowly and carefully	4.52	0.53	4.43	0.35	0.49
GLOB	8. Reviewing the text first	3.22	1.91	3.61	2.70	1.99*
PROB	9. Trying to get back on track	3.78	1.36	4.04	1.50	0.75
SUP	10. Underlining or circling information	4.56	0.35	4.65	0.24	0.81
PROB	11. Adjusting reading speed	3.22	1.81	3.70	1.77	1.53
GLOB	12. Deciding whether to read closely or not	3.00	2.18	3.26	1.75	0.95
SUP	13. Using reference materials	4.26	0.93	3.91	1.26	1.40
PROB	14. Paying closer attention when text gets hard	3.70	2.13	4.39	0.89	1.97*
GLOB	15. Using tables, figures, and pictures in text	3.96	1.77	3.83	1.51	0.50
PROB	16. Stopping sometimes and think about the text	3.61	1.34	3.87	0.75	0.88
GLOB	17. Using context clues for understanding	3.87	0.85	4.17	0.70	1.37
SUP	18. Paraphrasing while reading	3.22	1.63	3.17	2.06	0.12
PROB	19. Trying to picture or visualize information	4.09	0.63	2.87	1.39	4.04**
GLOB	20. Using typographical features	4.09	0.63	4.39	0.98	1.19
GLOB	21. Analyzing and evaluating the information	1.91	1.26	2.52	1.62	2.37*
SUP	22. Going back and forth in the text	4.30	1.04	4.43	0.35	0.59
GLOB	23. Checking prior understanding	3.48	1.53	3.83	1.06	1.25
GLOB	24. Trying to guess the content of the text	4.48	0.62	4.30	0.95	1.00
PROB	25. Re-reading the text when the text gets hard	4.78	0.18	4.74	0.20	0.44
SUP	26. Asking themselves questions	2.83	2.97	2.70	2.40	0.35
GLOB	27. Checking if the guesses are right or not	3.74	1.66	3.78	1.72	0.14
PROB	28. Guessing the meaning of unknown words	4.17	1.33	4.39	0.43	1.10
SUP	29. Translating	4.30	0.95	4.35	0.60	0.22
SUP	30. Thinking in both English and mother tongue	3.61	1.61	3.96	1.50	1.00

*p<.05, **p<.005

The usage of 8 strategies out of 30 significantly changed. Among them, 4 strategies were categorized as GROB, 2 as PROB, and 2 as SUP. In GROB category, Strategy 1 "I have a purpose in mind when I read" significantly increased from the pre (M=3.65, SD=1.15) to the post (M=4.17, SD=1.06) (t(22)=2.31, p=.015). Likewise, Strategy 3 "I think about what I know to help me understand what I read" significantly increased from the pre (M=3.22, SD=1.72) to the post (M=4.13, SD=0.94) (t(22)=3.43, p=.001), Strategy 8 "I review the text first by noting its characteristics like length and organization" significantly increased from the pre (M=3.22, SD=1.91) to the post (M=3.61, SD=2.70) (t(22)=1.99, p=.029), and Strategy 21 "I critically analyze and evaluate the information presented in the text" significantly increased from the pre (M=1.92, SD=1.26) to the post (M=2.52, SD=1.62) (t(22)=2.37, p=.013).

In PROB category, Strategy 14 "When the text becomes difficult, I pay closer attention to what I am reading" significantly increased from the pre (M=3.70, SD=2.13) to the post (M=4.39, SD=0.89) (t(22)=1.97, p=.031). However, Strategy 19 "I try to picture or visualize information to help remember what I read" significantly decreased from the pre (M=4.09, SD=0.63) to the post (M=2.87, SD=1.39) (t(22)=4.04, p=.0002).

In SUP category, Strategy 2 "I take notes while reading to help me understand what I read" significantly increased from the pre (M=3.39, SD=1.70) to the post (M=4.04, SD=1.13) (t(22)=2.81,

p=.005), and Strategy 5 "When text becomes difficult, I read aloud to help me understand What I read" significantly increased from the pre (M=2.78, SD=1.91) to the post (M=3.35, SD=2.06) (t(22)=1.84, p=.040).

6.2 Portfolios

The notes found in the portfolios of the 23 participants before the implementation of CERA consisted of a total of 12 types, amounting to 45 notes in total. In contrast, after the implementation of CERA, the portfolios of the 23 participants contained 20 types of notes, with a total usage of 53. Table 2 shows the results of organizing the types and calculating the usage frequency of the notes.

Table 2 Usage frequency of the notes in portfolios

Reading processes		Notes	Pre	post
Higher-level	Creating text model representation	Structural summarizing by paragraphs in Japanese	2	5
		Structural summarizing by paragraphs in English	-	3
		Structural summarizing in Japanese	-	2
		Making timelines	-	2
		Giving headlines to each paragraph in Japanese	-	1
	Building a mental model	Summarizing by paragraphs in English	-	4
		Summarizing by paragraphs in Japanese	3	2
		Summarizing in Japanese	3	1
	Inferencing	Taking notes about bridging inferences	-	1
Lower-level	Establishing prepositional meaning	Bullet points (in Japanese)	7	4
		Translation	3	1
	Syntactic parsing	Slashed reading	9	4
	Lexical access	Checking sentence structures	9	3
	Word recognition	Checking unknown words	2	4
		Translation English words into Japanese	2	1
Reading Strategies		Checking discourse markers	-	8
		Drawing underlines or circles in text	3	3
		Guessing meanings of unknown words	-	2
		Taking notes about questions while reading	-	1
		Drawing pictures	1	1
		Taking notes about words and phrases	1	-
Total			45	53

The left column shows reading processes in the model of reading (Grabe, 2009; Khalifa & Weir, 2009). Comparing the note occurrence rate before and after the implementation of CERA, one can see the overall note occurrence rate is higher after CERA's implementation. Looking at the breakdown, there are more notes related to lower processes before the implementation of CERA, while after the implementation of CERA, there are more notes related to higher processes. Additionally, the number of reading strategies used also shows a significant difference, with 5 occurrences across 3 types before the implementation of CERA, as compared to 15 occurrences across 6 types after the implementation CERA.

7. Discussion

In response to the research question (1) "What changes occur in learners' awareness of reading strategies with the implementation of CERA?", changes were observed in the reading strategies recognized by participants before and after the implementation of CERA. Notably, the proportion of GLOB strategies increased by 30.8%, which suggests an expected improvement in reading comprehension itself (Iwai, 2011).

It is believed that Strategy 1 and Strategy 3 have enhanced participants' ability to view their reading processes from a more reflective perspective. With Strategy 8, participants can grasp the

overall picture of the text before reading, and by using Strategy 21, they can approach the text as proactive readers. Becoming consciously able to use Strategy 14 allows them to control their concentration while comprehending the entire text. Interestingly, Strategy 19 decreased; this may be because participants became capable of leaving structured notes using graphic organizers without needing to draw pictures, which could be a faster processing method for 18-year-old females. The conscious use of Strategy 2 and Strategy 5 is believed to be a result of CERA. To create summaries through discussion in small groups, it becomes necessary to share their understanding with peers and to leave notes about the content comprehended. Furthermore, CERA requires verbal communication with peers, which includes repeatedly reading the text aloud. Therefore, it is thought that the very implementation of CERA will help in the acquisition of some reading strategies that specifically support reading comprehension.

In response to the research question (2) "How does the level of reading comprehension change for readers with the implementation of CERA?", significant differences were observed before and after the implementation of CERA. Before the implementation of CERA, many notes related to lower-level processes of the reading model were left, whereas after the implementation of CERA, notes related to higher-level processes of the reading model were also recorded. This suggests that participants were able to engage higher-level processes and achieve deeper comprehension while reading independently. Furthermore, the reading strategies used were greater in both number and variety after the implementation of CERA compared to before. Therefore, the implementation of CERA suggests that readers are capable of improving their reading comprehension.

8. Conclusion

This study has clarified that CERA contributes to learners' acquisition of reading strategies. It also suggests the possibility that learners can change their reading processes through CERA and achieve deeper comprehension. However, while the changes in learners before and after CERA are evident, the specific processes through which CERA contributed to these changes remain unclear. By analyzing the dialogues that participants engaged in during the group discussions, it may be possible to elucidate the processes through which learners grow as a result of CERA.

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