

# The Relationship between the Experience of Chunked Reading and Reading Comprehension

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## Abstract

This study investigated whether there is a relationship between the experience of using chunked reading and reading comprehension without chunking. This study's participants comprised 61 high school students. Whereas 37 of the participants have had prior experience of chunked reading (i.e., experienced group), 24 of them have not had the experience (i.e., inexperienced group). A significant difference in reading comprehension without chunking was observed between the experienced and inexperienced groups. A significant correlation between reading comprehension and main verb recognition was also observed. The results imply that (1) chunked reading enhances ESL/EFL learners' tentative comprehension, but a more stable improvement of reading comprehension in normal reading can be achieved only after a long-term training of chunking, and (2) reading with chunking marks might help learners identify the main verb in a sentence, which in turn, contributes to higher reading comprehension.

**Keywords:** chunking, slash reading, ESL/EFL reading, reading comprehension

## Introduction

### Background

Many methods and strategies have been proposed to create scaffolds for ESL/EFL learners to help with their reading comprehension. Chunked reading is one of the strategies that have been widely used by ESL/EFL teachers. Chunking refers to parsing texts into chunks or processing units, such as words, clauses, phrases, or sentences (Tanaka, 2014). Many studies have been conducted to investigate the effectiveness of chunked reading on reading skills improvement. However, in real life situations, putting chunking marks (in many cases, slashes) in texts is not always possible. Therefore, the final goal for ESL/EFL learners should be the ability to read fluently without inserting chunking marks. This metaphorically means that chunked reading is like the “training wheels of a bicycle,” which are used to help a young child

ride a bicycle well with the hope that someday he/she will be able to ride without the support of the training wheels. The current study aims to investigate whether learners who have been instructed to put chunking marks while reading can also read well without those marks in comparison with learners who have never been instructed to do so.

### **Effects of Chunking**

Many studies have been conducted to investigate the effects of chunking on reading proficiency. Although researchers have generally agreed that chunking has desirable effects on reading speed (Fleisher, Jenkins, & Pany, 1978; Komaba et al., 1992; Tan & Nicholson, 1997), whether it also enhances reading comprehension is still a subject of controversy. An example of a study that reported the positive effects of chunking is Ohtagaki and Ohmori (1991). In their study, high school students who were instructed to read by chunks obtained a higher score in a reading comprehension test than those who were instructed in the traditional grammar translation method. Tanaka (2014) examined the effects of chunked reading on reading proficiency and revealed that accelerated chunked reading was effective especially on EFL readers with higher proficiency. Hijikata (2005), Yamashita and Ichikawa (2010), and Ozono (2016) also reported that proficient learners rather than novice learners benefit more from chunked reading.

Kadota (1982) and Yokomitsu and Ozono (2009), on the other hand, insisted that chunked reading is more effective on the reading comprehension of learners at relatively lower proficiency. Although we should not disregard the other studies, such as Fleisher et al. (1978) and Oyama (2003), which had failed to detect significant differences in the results before and after the instruction of chunked reading, it can be surmised that chunked reading has some positive effects on reading comprehension under certain circumstances.

### **Research Questions**

There are two questions which will elucidate more in-depth insight into the effectiveness of chunked reading. The first question is, “Does the experience of reading chunked passages have a long term effect?” In most of the studies mentioned above, the results were based on experiments where the participants were asked to read chunk-cued texts on paper, or the texts were displayed on a computer screen in chunk-by-chunk style, and then their reading comprehension was measured. In fact, all these processes were implemented within a few hours at

longest. Therefore, it is unclear whether the effects of chunked reading would be extended to a longer time.

The second question is, “Does the effect of chunked reading remain even if the chunking cues have been removed? In experimental situations, the participants’ reading comprehension is measured based on the texts with chunking cues. In real life situations, however, there is almost no occasion where we read texts that have chunking cues. Therefore, it is important to know whether the experience of using chunking cues for a certain time still has positive effects even after the cues were removed.

The purpose of this study is to provide answers to the following two research questions mentioned above:

- 1) Does the experience of reading chunked passages have a long-term effect?
- 2) Does the effect of chunked reading remain even if chunking cues have been removed?

## **Method**

### **Participants**

The participants in the study comprised 61 third year high school students in Japan.

### **Materials**

Three tests were used: a reading comprehension test (RC test), a reading comprehension test with chunking cues (RC test with chunking cues), and a main verb recognition test (MVR test). The RC test consisted of a passage of approximately 150 words followed by five true/false questions. The RC test with chunking cues consisted of a passage with slashes of approximately 150 words followed by five true/false questions. The following rules suggested by Takayama (2000) were adopted as a way of putting slashes in the passage: (1) before and after a prepositional phrase, (2) before a *that* clause, an interrogative clause, and a *whether* clause, (3) before a relative pronoun and a relative adverb, (4) before a *to* infinitive, (5) before a conjunction, (6) before a long object and complement, and (7) after a long subject which consists of a gerund or interrogative clause. The MVR test consisted of 10 questions followed by an example question. The participants were required to put a main verb back to its original position in each sentence (See appendix A, B and C.).

## Procedure

Prior to the tests, the participants answered a questionnaire that asked whether they had learned chunked reading in or out of school in the past, and whether they were using chunked reading as a reading strategy. Based on their answers to the questions, participants were labeled either as experienced or inexperienced. More specifically, if a participant had never been instructed in chunked reading, and he/she had not used this method as a reading strategy, the participant was labeled as inexperienced. As a result, 37 out of 61 students were assigned as experienced, and the remaining 24 students were assigned as inexperienced in the respective groups.

After the questionnaire was collected, the participants were required to take the three tests mentioned above. The tests were then collected and the number of correct answers in each test was counted, ranging from 0 to 5 in both the RC Test and the RC Test with chunk cues, and from 0 to 10 in the MVR Test.

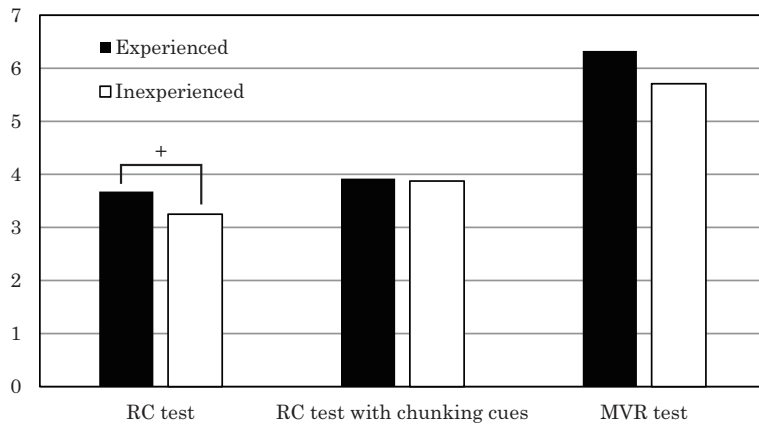
## Results

A t-test for independent groups revealed that for the RC test, the mean of the experienced group ( $M = 3.68$ ,  $SD = .92$ ) was significantly higher than the mean of the inexperienced group ( $M = 3.25$ ,  $SD = 1.03$ ) at the  $\alpha$  level of .10. A t-test for independent groups revealed that for the RC test with chunk cues, the mean of the experienced group ( $M = 3.92$ ,  $SD = .68$ ) was not significantly higher than the mean of the inexperienced group ( $M = 3.88$ ,  $SD = .90$ ). A t-test for independent groups revealed that for the MVR test, the mean of the experienced group ( $M = 6.32$ ,  $SD = 2.03$ ) was not significantly higher than the mean of the inexperienced group ( $M = 5.71$ ,  $SD = 2.22$ ). Tables 1 and Figure 1 illustrate these results.

**Table 1.** *Mean Scores on the RC Test, the RC Test with Chunking Cues, and the MVR Test*

	Experienced	Inexperienced	<i>t</i> values ( <i>df</i> )
RC test	3.68 (0.91)	3.25 (1.03)	1.69+ (59)
RC test with chunking cues	3.92 (0.68)	3.88 (0.90)	.22 (59)
MVR test	6.32 (2.03)	5.71 (2.22)	1.12 (59)

+ $p < 0.1$



**Figure 1.** Comparison of the mean scores on the RC test, the RC test with chunking cues, and the MVR test.

**Table 2.** Correlation Coefficients Among the RC Test, RC Test with Chunking Cues, and MVR Test Scores

	RC test	RC test with chunking cues	MVR test
RC test	1		
RC test with chunking cues	.02	1	
MVR test	.43**	.12	1

Note.  $N = 61$

\*\* $p < .01$

A correlation analysis detected a significant medium correlation between the RC test and the MVR scores ( $r = .43$ ,  $p < .01$ ). No significant correlations were found among the other combinations of the scores (Table 2).

## Discussion

The results show that the experienced group performed better on the RC test than did the inexperienced group, whereas such differences were not observed on either the RC test with chunking cues or the MVR test. This implies that when the ESL/EFL learners read with the help of chunking cues, their experience of using chunked reading does not produce much difference in reading comprehension. On the contrary, when they read *without* the help of chunking cues, their experience of chunked reading *does* make a difference in reading comprehension.

In other words, if they have been trained with chunked reading as a strategy, they are likely to get the meanings of passages more easily in normal reading than those who have not. This gives an implication to the research questions that the chunked reading strategy enhances ESL/EFL learners' tentative comprehension, but a more stable improvement of reading comprehension in normal reading can be achieved only after a long-term training of chunking.

The results of the correlation analysis showed that the learners who have high reading comprehension without the help of chunking cues tend to succeed in identifying the main verb in a sentence. On the other hand, how well they can understand passages with the help of chunking cues has no relations with the success of the main verb recognition in a sentence. This might lead to a possible explanation that (1) the ability to recognize the main verb contributes to reading comprehension, and (2) when chunking marks are provided, that relation disappears because those marks make it easier for learners with the poor ability to recognize the main verb. However, we should be careful to explain the cause and effect of this deduction since the results were obtained by a correlation analysis.

There are two implications for further research. First, when an experiment is conducted to ascertain the effects of chunked reading, its dependent variables, such as reading comprehension and reading speed, should be evaluated in a normal reading setting as well. We should not forget that in real reading situations, the use of any reading aids, such as chunking, is difficult and that our final goal is to enable ESL/EFL learners to read well without the help of "training wheels." Second, a longitudinal investigation should be conducted in order to reveal the process of how the use of chunked reading changes learners over time. Although the current study found an implication that the main verb of a sentence might be a mediating variable between chunked reading and development of reading comprehension, longitudinal in-depth studies are necessary.

## References

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**Appendix A: Reading Comprehension Test (RC Test)**

次の文章を読んで下の質問に答えてください。

Mike was a small boy, and he hated soap and water. Three or four times every day his mother said to him, "Mike, your hands are very dirty again. Go and wash them." But Mike never really washed them well. He only put his hands in the water for a few seconds and then took them out again.

Mike's uncle and aunt lived in another city. One day they came to stay with Mike's parents, and they brought their small son, Ted, with them. Ted was a year younger than Mike, and he didn't like soap and water, either.

The boys sat with their parents for a few minutes, but then they went outside. When there were alone, Mike looked at Ted's hands and then said proudly, "My hands are dirtier than yours!"

"Of course they are," Ted answered angrily. "You're a year older than I am."

次の中から文章の内容に一致するものには T, 一致しないものには F を下のかっこの中に記入してください。

1. Mike didn't wash his hands very well.
2. Mike had a cousin.
3. Both Mike and Ted didn't like soap and water.
4. Mike was younger than Ted by one year.
5. Ted was proud that his hands were dirtier than Mike's.

1. ( ) 2. ( ) 3. ( ) 4. ( ) 5. ( )

クラス      番号      氏名

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**Appendix B: Reading comprehension test with chunking cues (RC Test with chunking cues)**

次の文章を読んで下の質問に答えてください。

When Mary Smith was a student, / she always wanted to become a teacher, / because she liked children. // When she was twenty-one years old, / she began teaching / in a small school. // She was a good teacher, / and she laughed a lot / with the children / in her class. // They enjoyed her teaching. //

One day / one of the girls / in her class / said to her, / “Miss Smith, / why does a man’s hair become gray / before his mustache and beard do?” //

Mary laughed and answered, / “I don’t know, Helen. // *Why* does it become gray / before his mustache and beard do?” //

“I don’t know either, / Miss Smith, ” / answered Helen, / “but it happened to my father.” // The other children / in the class / laughed / when they heard this. //

Then one of the boys said, / “I know, Miss Smith! // Men’s hair becomes gray first / because it’s sixteen years older / than their mustaches and beards.” //

次の中から文章の内容に一致するものには T、一致しないものには F を下のかっこの中に記入してください。

1. When Mary Smith was a student, she wanted to become a teacher.
2. The children in Mary’s class did not like Mary very much.
3. One day one of the girls asked Mary why a man’s mustache and beard become gray after his hair does.
4. Mary did not tell the girl the answer when she was asked the question.
5. The boy believes that men’s hair becomes gray earlier because it is older than their mustaches and beards.

1. ( ) 2. ( ) 3. ( ) 4. ( ) 5. ( )

クラス      番号      氏名

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**Appendix C: Main verb recognition (MVR Test)**

次の各文には ( ) 内の語が抜けています。( ) 内の語を適切な場所に入れてください。

例 The man who is standing over there my brother. (is)

is

1. The pen I borrowed from my father very old. (was)
2. Watching TV all the time bad for our health. (is)
3. To learn foreign languages interesting. (is)
4. The computer made by the company very expensive. (is)
5. The most exciting thing to go to another country to meet many kinds of people. (is)
6. The book whose cover is purple my sister's. (was)
7. The pictures that were drawn by the famous artist my brother's friend's. (are)
8. School kids I know a lot of time every day playing video games at homes. (spend)
9. The girls that are singing and dancing my friends. (are)
10. Before I go back home, I always with my friends in the classroom. (talk)

クラス      番号      氏名 \_\_\_\_\_