

## 論文

# The Effects of Phrase Reading and Reading Aloud Practice on Reading Skills

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## 要 旨

英文を速く正確に処理して読解力を育成するためには、戻り読みをせずに語順通りに理解していく必要がある。言語の情報処理過程においては、視覚入力された文字情報はまず語認識が行われ、続いて文法解析、命題形成の後に内容理解に進む。このとき入力情報の処理は、語単位ではなく、意味的・構造的にまとまりのあるフレーズを単位として行われることから、フレーズ単位で英文を語順通りに理解する力の育成を目的として、フレーズ・リーディングの指導を行った。またフレーズ・リーディングを習得することで文法解析を自動化することに役立つトレーニングとして、音読を指導に取り入れた。

これらの指導が情報処理過程に与える影響について、どのような違いがあるのかを明らかにするため、実験群はフレーズ・リーディングと音読の両方を行う群と、音読のみの群の二種類を設定し、さらに対照群を設けた。これらの群における指導の具体的なデータを分析し、各々の指導の効果を理論と実践の観点から考察した。

Keywords: phrase reading (フレーズ・リーディング), reading aloud (音読), chunking (チャンクキング), parsing (文法解析), information processing (言語の情報処理過程)

## 1. Introduction

In this research, I examine the hypothesis that phrase-reading, to understand English sentences through phrases, will effectively improve reading skills. I also aim to prove that reading aloud, with awareness of phrases, can facilitate the process of improving reading. With consideration of the results of a former empirical study, I prove the fact that teaching students by phrase-unit is an effective method of developing reading skills.

It has been clarified already to master chunking using reading aloud with awareness of chunks will help understanding of the content. But it has not been clarified how effective in developing reading skills it is to teach students to read and comprehend by phrase-units, and the associated reading aloud practices.

At the present, most schools offer explanatory classes such as grammar translation method with little reading aloud practice. This paper will introduce the result of research for eight months, how phrase reading which is the method of learning to read and comprehend English sentences by phrase-units, in word order, and also reading aloud as the training in acquiring phrase reading, have an impact on reading skills.

## 2. Research Rational

### 2.1. Problems Students have in Reading

Recently, it has been pointed out that the ability of students to read and comprehend English is decreasing. That the reading-score of TOEFL is low compared to several other countries is referred to as actual proof. The one of the causes of this would be the main teaching method shifted to the communicative approach that resulted in decreasing the time for reading in class activity, and diversification of the teaching methods of reading that used to over-emphasise the grammar translation method. So, we will look at where the students are struggling in the process of reading, and examine the effect of phrase-reading and reading aloud as methods of overcoming that problem.

In the process of reading comprehension, the students are struggling with three

points as follows.

The first point is that they do not have a large vocabulary. They read new text with frequent consultation of a dictionary, and they often say that they cannot understand the contents of the text because they do not know some words in the text. Furthermore, they do not know how to pronounce the words, either. They often do not understand phonetic symbols; as a result they still cannot pronounce some words even in the sentences that they prepared for a class.

The second point is that they understand the text word for word, but not as chunks of meanings. This is hard to tell by examining their translation into Japanese, but is confirmed by examining their reading aloud in disconnected phrases. And this can be assessed based on the theory of Noboru Oinoue in 1984 that reading aloud reflects how well the English sentence has been understood, and of Jenkins, et al. in 2003, that oral reading is used as an indicator of ability to read and comprehend in L1 study. From these viewpoints we may say that students understand the sentence word by word, not as chunks, because they read the sentence in disconnected phrases. The third point is that the students cannot appropriately connect chunks together. Judging from their translating chunks into Japanese, they might make grammatical and structural errors even if they understand the English sentence chunks correctly. They cannot appropriately connect the chunk they understand and the content they have already taken in, or they spend a lot of time working this out, therefore, they are having difficulty understanding the contents.

Summarizing above, there are three main problems:

- 1) Having a small vocabulary
- 2) Understanding English sentences word by word only
- 3) Unable to connect chunks with the content appropriately.

In this research, based on the linguistic information processing, I examine the effect of phrase-reading and oral reading to overcome these problems.

## 2.2. Previous Research

Inputted information is processed in the word recognition, parsing, proposition formation and comprehension components from the lower to higher levels. First, visual input is recognised as a word by a phonological loop of working memory.

Although competent readers can recognize words automatically, poor readers may use up the working memory resources by consciously decoding words in the episodic buffer and consequently can not proceed to further processing.

Phonological information representing meanings will be forwarded to be processed to parsing, proposition formation, and comprehension components. Generally, human linguistic information processing can be divided into three stages as decoding, storage and retrieval. Decoding means converting inputted information into a processable internal format, and it is known that decoding is processed per certain operational unit. This is called reading-units formation, chunking or phrasing. It is almost established that human spoken language is understood and produced for each perceptual/ productive sense unit. The sense unit is based on phrase and rhythm, and is not a word unit not only for native speakers of English but also for Japanese learners of English. This was proven by research which used and analysed the “pause” during speech, on Japanese learners of English. (Kono 2005, Suzuki 1999, Kadota 1986 etc)

On the other hand, there are also deep-rooted ideas in general that a word is an information-processing unit in reading where text is processed word for word, which is different to processing spoken English. This idea is based, for example, on the data of ophthalmology saying that the number of sense-able word is 1.12–1.2 words per pause and the number of letters that its saccade can pick up is only 6.7–9.5 letters, both of which are surprisingly small.

However, in a practical sense, the above perceptual sensory input unit is not equal to the information processing unit of readers. It is considered that visual input is stored in sensory memory for a short time, then, formed into recognised units which are processed as a whole, based on linguistic information such as phonemes, meaning and syntax, in working memory.

In parsing and proposition formation, the decoded words are grammatically parsed as clauses and sentences, and then further processed so that their propositions can be formed. Competent readers can perform these processing near automatically in the phonological loop, while poor readers are likely to consume working memory resources by conscious efforts in the episodic buffer.

In the higher level processing, the propositions are formed not only as the text model but also as the reader’s situation model in the episodic buffer, where relevant

information from the phonological loop is consciously integrated with background knowledge or knowledge of pragmatics from long-term memory under the control of the central executive. This higher level processing takes place only in competent readers who can store essential propositions of the text in the episodic buffer. For that reason, few poor readers can reach the stage of understanding the content.

### **2.3. Purpose of the Present Research**

Reading aloud reflects the processing level of understanding. Aside from performance error, where if parsing is unprocessed, it is not possible to break up a sentence into appropriate phrases, and where if the proposition of a sentence is not formed, prosody at sentence level has problems. Where if understanding the content is unprocessed, prosody at discourse level has problems and, as such reading aloud is unable to transmit overall content.

Even though word recognition has been done to progress to parsing, the reading comprehension process by grasping word-for word meaning will take too long. Without correct recognition of chunks, parsing will not function correctly. The prerequisite for reading is correct recognition of a chunk to process per chunk and keeping enough working-memory resources for the next proposition formation. Phrase-reading and reading aloud were introduced as training to grasp chunks correctly to automate the parsing process. “To master chunks with consciousness is useful for understanding” (Takanashi, Takahashi 1984, Tsuchiya 2004) is a previous study of making use of reading aloud for understanding content, by reading aloud copying model reading to make grasping chunks and processing meaning and parsing easier, to help understand the content.

The research, “reciting to understand a passage as it stands” (Sakuma 2000) points out that reading aloud is good practice for understanding a sentence in the original order, because it makes it hard to go back to read again. This suggests that reading aloud contributes to make it possible to understand meaning which was grasped per chunk, as it stands to process proposition formation.

On the basis of the above, I wish to show how effective training phrase-reading and reading aloud, with awareness of a phrase to grasp a chunk, is for automating parsing, and whether it is effective for speeding up and automating proposition formation to practice reading aloud to stop reading back, and to understand chunks

as they stand, or not. Also we examine the effect of only phrase-reading without reading aloud.

## 2.4. Research Questions

The current study addressed the following research questions about how the phrase-reading and reading-aloud approaches in EFL instructions may influence the results of the two different types of interventions.

- (1) Is there any different impact between the methods of instruction with phrase-reading and reading-aloud approaches and the methods of instruction without such approaches?
- (2) Is there any different impact between the methods of instruction with phrase-reading and reading-aloud approaches and the method of instruction with only phrase-reading approach?

## 3. Method

### 3.1. Participants

Participants were 122 students from Japanese private University who are not English majors. A breakdown of the participants is: Experimental Group 1 (phrase-reading and reading aloud) 38 students; Experimental Group 2 (phrase-reading only) 40 students; and Control Group 44 students.

### 3.2. Material and Test

I used two texts: one for Experimental Group 1 and 2, the other for Control Group. The materials were passages of about 400 words taken from various sources and similar in level. These materials corresponded to students' ability and students are familiar with most of the words in these texts.

I conducted the Reading Test in both the pre- and post- test phases of this research project. It was designed to measure students' reading comprehension levels, and consisted of 23 questions in total (23 full marks) including 5 passages from TOEFL and STEP, and all those questions were to choose an answer out of four choices, and its time limit was 30 minutes.

### 3.3. Procedure

During the first and second semester (approx 4 months × 2 semesters), as class activity, phrase-reading and reading aloud practices were given to Experimental Group 1, and only phrase-reading practice was given to Experimental Group 2, and no training was given to the Control Group.

#### 3.3.1. Procedure for Experimental Group.

- (1) Distribute printed out text to students for the next lesson at end of the lesson. In this text, sentences are divided into each phrase by a slash, and as the preparation for the next lesson, students insert meanings of each phrase under the phrase text.
- (2) Call student to explain the meaning of each phrase at class to check what they have prepared. Teacher should explain them giving consideration to continuity between phrases, not with the translation method, but explaining English sentence as it stands for them to be able to understand without re-arranging in word order of Japanese. (20 mins)
- (3) After the checking, get the students to practice to understand English text as it stands by looking at text which has no insertion and by listening a model reading. (5 mins)
- (4) Reading-aloud practice per phrase in text. (15 mins) This practice was not given to Experimental Group 2.

#### 3.3.2. Procedure for Control Group.

- (1) Distribute printed out text to students for the next lesson at end of the lesson. Students insert the meanings under text as the preparation, but sentences in this text are not divided into each phrase by a slash.
- (2) After vocabulary test for this lesson, get the student to check the meanings amongst their group, and read them to the teacher. Teacher should explain syntax and grammar as needed. After that, re-check the content by listening to a model reading, then ask them questions to check if they understand the content.

### 3.4. Analysis Method

Two-way ANOVA repeated measure was applied to compare the score of reading comprehension test before and after the treatment. Participants were students who received treatment during the term and took both tests.

## 4. Result

Its homoscedasticity was approved by Levene before the principal analysis. Mean, Standard Deviation and numbers of participants of Pre- and Post- Reading Tests of three groups are listed in Table 1.

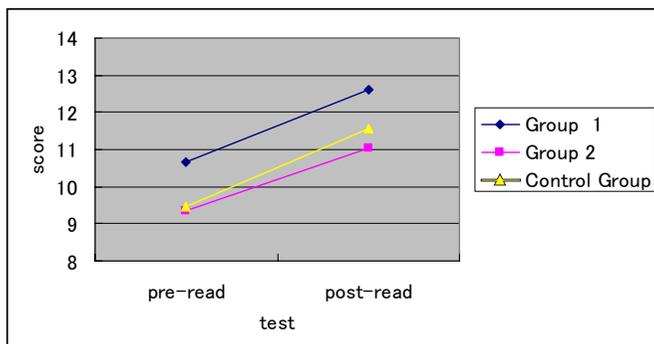
**Table 1. Means, Standard Deviation and numbers of participants of Pre- and Post- Reading Tests**

test	group	mean	SD	N
Pre Reading	Group 1	10.66	3.26	38
	Group 2	9.35	3.05	40
	Group 3	9.45	2.77	44
Post Reading	Group 1	12.61	3.07	38
	Group 2	11.05	2.86	40
	Group 3	11.11	3.12	44

The two-way ANOVA repeated measure was performed to analyze the two differences between the mean score of the pre-test and that of the post-test. The ANOVA repeated measure detected a significant difference between the results of the reading pre-test and post-test of Group 1 ( $F(1,37) = 19.903, p < .01$ ), a significant difference between the results of the reading pre-test and post-test of Group 2 ( $F(1,39) = 12.372, p < .01$ ) and a significant difference between the results of the reading pre-test and post-test of Control Group ( $F(1,43) = 10.944, p < .01$ ).

Figure 1 compares improvement between the reading pre-test and post-test of three groups.

Figure 1. Group 1, 2 and Control group Results of Pre- and Post- Reading Tests



The ANOVA repeated measure detected a significant interaction among groups. The result of multiple comparison (Bonferroni) showed a significant difference between Experimental Group 1 > Experimental Group 2 ( $p < .05$ ), and a significant difference between Experimental Group 1 > Control Group ( $p < .05$ ).

## 5. Discussion

In response to research question 1 “Is there any different impact between the methods of instruction with phrase-reading and reading-aloud approaches and the methods of instruction without such approaches?”, the methods of instruction with phrase-reading and reading-aloud approaches were effective because of the gain demonstrated by the results of the Reading Tests of the Group 1 over that of the Control group. Experimental Group 1 who practiced phrase-reading and reading-aloud showed more significant impact on the test scores compared to not only Control Group, but also Experimental Group 2 who practiced only phrase-reading. This result shows that phrase-reading and reading-aloud have some kind of effect on the process of recognizing texts, that is, bottom-up processing, and a positive effect on reading.

Even though word recognition had been done to progress to parsing, if chunks were not understood correctly or if this process took too long, working memory resources ran out and it caused difficulty for understanding meaning. Phrase reading to grasp meaning per phrase and reading aloud with awareness of a phrase

understanding the content during the treatment, are presumed to help to understand the chunk correctly, and by automating this operation to some extent, to have had an effect on advancing the reading process to the next step, which is proposition formation.

The effectiveness of reading aloud on developing reading skills was shown by the more significant impact of Experimental Group 1 compared to Experimental Group 2. The result that Experimental Group 2 (who did not practice reading aloud) did not show any statistical differences compared to the Control Group, also supports the above concept. The stage of grasping chunking by phrase-reading means the stage where chunking was just understood, and this will not help to automate this for acquiring. However, repeatedly reading English sentences aloud, where the content has been understood, is considered to be effective for automating chunking. Furthermore, because reading aloud does not allow reading back, repeated reading aloud, with understanding the content as it stands, has positive impact on developing proposition formation skill and to organize each proposition fast and appropriately.

## 6. Conclusion

To develop students' practical reading skills, we should automate the bottom-up process to progress the reading process from word recognition, through parsing to proposition formation and still leave some working memory resources. Class-activity should accelerate this automation. To do that, it is crucial to automate the process by presenting teaching material in phrase-units, which are a fundamental unit for language processing, in order for students to understand the content by repeated reading aloud. Especially, practicing reading aloud per phrase unit is important to accelerate the automation of the process of parsing and proposition formation.

From the result of this research, we cannot tell which process parsing or proposition formation, received most benefit from reading aloud. In the future, we want to investigate and analyse further to find out which of them gain the most benefit from reading aloud.

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