

博士論文

The Effect of Reading Instructions
on Japanese Junior High School Students'
English Reading Processes and Depth

読解教示が日本人中学生の
読解のプロセスと深さに与える影響

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The Effect of Reading Instructions
on Japanese Junior High School Students'
English Reading Processes and Depth

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概要

論文題名 : The Effect of Reading Instructions on Japanese Junior High School Students' English Reading Processes and Depth

「読解教示が日本人中学生の英文読解のプロセスと深さに与える影響」

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本研究の目的は、日本人初級英語学習者である中学生を対象に、読解前に与える読解教示が学習者の読解のプロセスと読解の深さに与える影響について調査・分析することである。

外国語として英語を学ぶ日本人にとって、話し言葉としての英語にふれる機会が乏しく、書き言葉から多くの情報を得ているという現状から、読解力は4技能の中でも重要である。

また、教室指導における日本人中学生の読解は、教師の発問に生徒が答えることができれば「読めている」と見なされてきた(卯城, 2009)。2021年に施行された学習指導要領「読むこと」の指導目標には「概要を把握すること」や「筆者の意図を読み取ること」が挙げられ、学習者が主体的に読解に取り組み、英文を包括的に捉える方略を指導することが奨励され、変革のときを迎えつつある。

中学校英語科教員として読解指導をする中で、生徒たちが異なったプロセスをたどって読解をしていることに気づき、包括的に英文を捉え、読解にたどり着く指導法を長い間、模索してきた。

学習者の読解を支援する有効な方法の1つとして、読解教示を与えることによって一貫した心的表象の構築を促すことが考えられる。Horiba (2013)によると、読解教示は学習

者の読みの目的を明確にし、読解への動機づけを高め、推論を引き出し、心的表象の構築を促すことができるとしている。

そこで、本研究では、英文を読むことに慣れていない日本人中学生が一貫した心的表象を構築し、推論や読んだ内容について背景知識と結び付けるような上位レベルの読解を促す (Horiba, 2013) ことができる指導法の 1 つとして、読解教示を与え、読解プロセスと読解の深さにどのような影響を与えるかについて調査を行うことにし、研究課題を(1) 読解教示は日本人中学生の英文読解プロセスにどの程度の影響を与えるか、(2) 読解教示は日本人中学生の英文読解の深さにどの程度の影響を与えるか、(3) 読解教示はその種類によって、日本人中学生の英文読解に異なる影響を与えるか、とした。

本研究では、Kimura (2015) の研究手法を元に、研究 1 と 2 を実施した。

研究 1 では、日本人初級英語学習者である 7 人の中学生を対象に、「筆者の意図していることを読み取る (Kimura, 2015)」という読解教示を与えたときと自由に読むときでは、読解プロセスと読解の深さに影響を与えるかを調査した。読解プロセスを測定するために思考発話法を用い、読解の深さを測定するために筆記再生法を用いて、個別に被検者内実験を行った。思考発話プロトコルの分析は Horiba (2013) に基づいて分析した。筆記再生はアイデアユニットがどのくらい多く再生されているかで読解の深さを分析し、さらに、重要度判断により、英文のより重要な情報を産出しているかを測定した。その結果、研究 1 では、読解教示を与えたときと自由に読むときを比較すると、読解プロセスの一部に影響を与え、読解の深さに影響を与えることが示唆された。

研究 2 では、62 人の日本人中学生を対象に、筆者の考えと自分の考えを照らし合わせて批評し、自分の意見を述べる「批評教示 (Horiba, 2013)」を与えたときと、自由に読むときでは、読解プロセスと読解の深さがどのような影響を受けるかを比較した。研究手法は

基本的に研究 1 と同様だが，参加者人数増加により，3 回に分けて調査を行った。その結果，研究 2 でも，読解教示を与えたときと自由に読むときでは，読解プロセスの一部に影響を与え，読解の深さに影響を与えることが示された。

研究 1 と 2 の結果から明らかになったことを以下に挙げる。まず，研究課題 1 について，教師による読解教示は，自由に読むときよりも，読解教示を与えられて読んだときの方が，中学生の英文読解のプロセスにある程度の影響を与えると言える。次に，研究課題 2 について，教師による読解教示は，自由に読むときよりも読解教示を与えられて読んだときの方が中学生の読解の深さにより大きな影響を与えると考えられる。さらに，研究課題 3 については，教師による読解教示は，その種類によって中学生の英文読解に異なる影響を与えることが示唆された。

教育的示唆として，教師が生徒に読解教示を与えることは，生徒に英文を読む目的を与え，生徒が一貫性を構築しながら読み進めるよう導き，上位レベルの読解を促すことにつながるという点において，大変有効であると言える。本研究では，実験参加者が読解教示を与えられたときと自由に読んだときに，また，異なる種類の読解教示を与えられたときに，異なる読み方をしていたことが示され，読みの目的によって，教師が読解教示を使い分けることの必要性が確認された。

今後の課題として，本研究は 2 回の実験結果を元に考察しているので，長期的に読解教示が学習者の読解にどのような影響を与えるのか観察することが求められる。また，読解教示に関する研究についてメタ分析も有用であり，読解教示の効果をより明らかにすることが期待される。

Abstract

For learners of English as a Foreign Language (EFL) in Japan, reading is very important among the four skills because the learners do not have enough opportunity to be exposed to genuine spoken English. Rather, they tend to acquire various information through written language.

At the same time, methods of English teaching in Japan have been recently changing from teacher-centered to student-centered, which is clear from the statement in the objectives and contents in teaching foreign language in the new Course of Study (Ministry of Education, Culture, Sports, Science and Technology, 2017).

Through my English teaching career to junior high school students, I have observed that students read English using different processes with different results. Since then, I have been wondering why this happens among the students. I have noticed that the way the teacher gives instructions to learners on what they need to do with a reading text can make a difference to what they gain through their reading. Consequently, I have been searching for more effective instructions.

Thus, the present study aims to investigate how both the reading task instructions and the reading non-task instruction affect Japanese junior high school students' reading processes and reading comprehension depths.

Horiba (2013) studied how three kinds of reading task instructions, the

expression instruction, the image instruction, and the critique instruction, affected some Japanese university students reading in English. She found that their reading processes and their reading depth were different depending on the reading task instructions. Kimura (2015) also investigated whether the reading task instruction affects the reading processes and the reading depth of Japanese university students and she showed that the task instruction affected their reading depth, yet it did not affect their reading processes. Based on these results, this study addresses the following three research questions:

RQ 1: To what extent do task instructions affect Japanese junior high school students' English reading comprehension processes?

RQ 2: To what extent do task instructions affect Japanese junior high school students' English reading comprehension depth?

RQ 3: To what extent do different task instructions affect Japanese junior high school students' English reading comprehension differently?

The present study implemented two experiments, “Study 1” and “Study 2,” based on the work of Kimura (2015).

In Study 1, the participants were seven Japanese junior high school students while sixty-two junior high school students joined in Study 2. The participants read two English reading texts from Grade 3 STEP (Society for Testing English Proficiency) tests. First, they were asked to read one of the texts in their accustomed manner. Next, they were asked to read another text,

with the goal of finding the author's intention in the text in Study 1 or the critique instruction which the participants read the text and tell their own views about the text or the author's intention in Study 2. In both conditions, the participants were asked to verbalize (think-aloud) their thought process. Then they were asked to recall in Japanese what they remembered about each text.

For scoring, their think-aloud protocols were categorized into six process levels. As for written recall, each participant's written recall was examined to determine how many idea units (IUs) they produced. The third analysis was Importance Level.

In conclusion, as regards RQ 1, the participants produced "Inference" or "Self-monitoring" in global reading more in the task condition than the non-task condition. This indicates that the reading task instruction affects Japanese junior high school students' reading processes. As regards RQ2, the participants recalled more of the texts under the task condition than the non-task condition in both studies. This indicates that reading task instruction affects Japanese junior high school students' reading comprehension depth. As regards RQ3, the participants in Studies 1 and 2 produced think-aloud comments differently, as explained above. They recalled more under task conditions than non-task condition in both studies. As for Importance Levels, the participants produced IUs of Importance Level 3 more in the task conditions than the non-task condition. Thus, the reading task instructions

affect Japanese junior high school students' reading processes and depth of reading comprehension differently.

The pedagogical implication of the present study is that teachers should give reading task instruction depending on the reading goals they have in mind for students. The present study shows that reading task instruction and non-task instruction affected the learners' reading processes and reading comprehension depth differently. Therefore, teachers should use the reading task instructions differently according to the reading goals.

As for further research, longitudinal studies should be conducted to investigate whether reading task instruction affects Japanese junior high school students' reading over the long term. Moreover, a meta-analysis should be executed to reveal the effects of reading task instruction.

Keywords: reading instruction, Japanese junior high school students, reading process, reading depth

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Introduction

Reading skills are generally acquired in educational contexts with the guidance of teachers, who give instructions to students. Reading English instructions in Japan were treated in the past by translation from English into Japanese; in other words, teachers taught English using Japanese and students got information from texts but did not use English as a tool. One result of this particular pedagogical trend is that Japanese cannot speak or write English well, even though they have learned English for six years in junior and senior high schools. However, such thought has been changing as English has become indispensable for communication with people worldwide. Thus, English education for the fifth and sixth students in elementary schools formally started in 2012 and English is now taught from the third grade (about nine years of age). Therefore, students at elementary schools and junior high school have more opportunities to speak English in classes now than in 2012.

In the first few years of English education in Japan, the primary activity is oral, meaning speaking and listening. However, in addition to the oral skills, training students in reading and writing skills are crucially important to acquire English well. As in the students' first language, oral communication precedes written communication. Reading and writing do support oral skills, but they themselves are crucially important in an EFL setting like Japan.

The Ministry of Education, Culture, Sports, Science and Technology (MEXT, 2018) addressed that “reading is foundational in our daily lives and learning to read gives us the necessary skills to develop our knowledge and skills in arts, math,

social studies, and science. Reading skill gives us educational opportunities to live in this global age” (pp. 27-28).

In the modern world, English is ubiquitous. First of all, we get beneficial information from traditional sources such as books and magazines and we increasingly rely on the more contemporary medium of the Internet. Moreover, we can see various things labeled in English at stores and various signs written in English. Additionally, English words written in Japanese *katakana* syllabary are also used for official notices from the government.

The method for acquiring adequate reading skills, however, has undergone considerable changes over time. The traditional method was centered on the teacher, the learned expert that instilled knowledge in the learner. Part of teaching English in Japan has gradually changed from teacher-centered into student-centered or content-centered. For example, reading instruction in Japan was regarded as students answering teachers’ questions, a custom still extant although it contravenes the communicative methods encouraged by the MEXT, which sets educational policy in Japan. Policy guidelines are promulgated in the *Course of Study*, which is revised about every decade. But now, reading instruction is changing because the new Course of Study (MEXT, 2017) states “reading instruction should be given mainly to understand the writer’s intentions in texts and to grasp the written content or writer viewpoints... (II . Objectives and contents for each language, 2 C, Section 9 Foreign Languages, MEXT, 2017, p. 2).”

In fact, students in Japan tend to learn to read texts literally, but they need to learn how to read texts critically. Japanese learners are not well-trained to state their opinions, evaluating, and criticizing the content or the author’s intention in

the texts. Teachers should develop reading instruction not only to understand the meaning of texts but also to elicit their students' deeper reading following the Course of Study.

To better address this need, understanding the essence of teachers' task instruction is important. The reading task instruction is teacher's instruction when students read the text. For example, such instructions can specify the authors' intention and give the reader's opinion on the content. These reading task instructions provide students reading goals, facilitate making inferences and connect background knowledge. As a result, it may become possible that reading task instructions lead to students' global reading skill, which refers to reading the text holistically.

The current study explores the reading comprehension process and depth by Japanese junior high school students learning English in the EFL setting. The current study focused on junior high school students because there is a relative lack of studies on reading comprehension that include junior high school students. In addition, I have been teaching English to Japanese junior high school students and I believe more studies on teachers' effective reading instructions are necessary to improve the students' reading comprehension ability.

In the two studies that comprise this research project, the participants read two short texts with varying task instructions, after which they underwent recall procedures. More specifically, in Study 1, the participants read the two texts in the non-task condition with which they read the text freely and the task condition with which they read another text to find the author's message. In Study 2, different group of participants read the two texts in the non-task condition in the same way

as in Study 1 and in the task condition which they read another text to tell their opinions about what they read or the author's intentions after reading.

By considering both the participants' reading process and reading comprehension depth, the current study gives the researchers various issues and a deeper understanding of ways to facilitate learners' reading comprehension. Furthermore, the present study is beneficial to provide pedagogical implications of reading instruction in junior high schools in Japan.

The present study consists of six chapters. In this chapter, the overview of the study is mentioned as an introduction. Literature review will discuss what reading comprehension is and the development of the reading comprehension process studies. Two studies were reported in Study 1 and Study 2. They showed how Japanese junior high school students read English texts. General Discussion will discuss how reading task instruction in this study affect junior high school students' reading comprehension. In Conclusion, the present study will be summarized and pedagogical implications for classroom reading instruction will be covered.

Literature Review

In this chapter, the definition of reading will be discussed first. Next, the history of reading models is introduced to understand the reading comprehension process from the perspective from first and second language reading research. And then, the factors of reading comprehension are explained, such as, word recognition, the structure of the text. Lastly, the effect of reading comprehension instruction is mentioned on the basis of previous studies.

What Is Reading Comprehension?

This section proposes what reading comprehension is and factors for reading comprehension from the perspective of the first language reading studies.

Reading is the process of receiving and interpreting information from written language and it is not only understanding what is written in the text but also reconstructing incoming information and our background knowledge (Grabe, 2009). According to Rumelhart (1976), readers first perceive linguistic information from a writer. And then, they understand meanings of information. Finally, they construct messages the author intended. Goodman (1997) agrees with Rumelhart (1976). Kintsch (1998) states that comprehension involves the relating to pieces of information. Further, Grabe (2009) states “comprehension occurs when the reader extracts and integrates various information from the text and combines it with what is already known” (p. 14).

The First Language Reading Research

This section states the history of the first language reading research and introduces some reading comprehension models because each model can contribute to our understanding of the reading process in second languages. Then, the components of reading comprehension will be explained based on Grabe (2009).

History of Reading Comprehension Models

The development of reading comprehension research is discussed in this section. During the 1960s and early 1970s, a number of researchers proposed some formal models of reading comprehension (Shahnazari and Dabaghi, 2014). Goodman (1965) claimed the first reading model in the 1960s. In the 1970s, Kintsch adapted the perspective of cognitive psychology, which examined what was happening in the learners' brain while they were reading. This research thread introduced the concept of working memory.

Working memory is a dyadic system that includes both long-term and short-term memory and Baddeley (1983) explains that long-term memory is “semantic and episodic memory” and short-term memory is “a range of subsystems” (p. 311). Alloway et al. (2010) also explains that “working memory is distinguishable from short-term as it involves both the storage and processing of information, while short-term memory systems are specialized purely for the temporary storage of material within particular informational domains” (p. 568).

Working memory is also involved in reading comprehension (Carretti et al., 2008). The role that working memory plays in reading comprehension is as a temporary system that maintains and process information (Palladino et al., 2001).

Working memory capacity influences the development of reading comprehension skills (Seigneuric & Ehrlich, 2005). For example, readers must store pragmatic, semantic, and syntactic information from the text and integrate the following text for reading comprehension (Daneman et al., 1980). The cognitive load required to complete all these functions is considerable, and when the load in a learner's brain overdoes his or her extreme level, lower levels of performance and slower speeds may outcome. Cognitive capacity a finite level of information that it can accept and more information outcomes in a trade-off between its processing and storage functions (Alptekin & Erçetin, 2010). Thus, readers understand texts by processing a suitable amount of information. Both inference-making skill and comprehension monitoring affect reading comprehension when working memory is controlled by language skills and text comprehension (Seigneuric & Ehrlich, 2005).

Information from texts can be stored in working memory in several ways such as pragmatically, semantically, or syntactically from the text or long-term memory. The information can then be used in the processes of comprehension (Daneman et al., 1980).

Good readers may require fewer processes than poor readers to update incoming information when they read texts. They may skip some or all the intermediate steps, such as decoding, lexical accessing, parsing, inferencing, and integrating. Therefore, they have extra capacity to store the necessary intermediate and final products of reading process because they do not need to expend too much of their working memory. Non-proficient readers who lack working memory require storage, which inhibits the acquisition of off-goal information and updating of content information (Carretti et al., 2008). Individual

differences in the capacity of working memory have important roles for the student's ability to acquire knowledge and new skills (Alloway et al., 2010). According to Seigneuric & Ehrlich (2005), "individual differences in working memory capacity were expected to influence the development of linguistic comprehension" (p. 641). In reading comprehension, individual differences reflect differences in working memory capacity.

Motivation is one of the main issues for individual differences, which significantly affects working memory. When highly motivated learners perform well, their good performances are not due to their better working memory, but rather their better selection of the given item in memory (Grogan et al., 2021). What mentioned above occurs because a selected item receives more memory attention than an unselected (i.e., unprioritized) item. Moreover, their motivation improves, regardless of the encoding, maintenance, or attention shifts between or among items in memory. When learners with high motivation read texts, the learners will understand better and retain what they read. Thus, working memory resources facilitated by motivation allows for improved learning.

Improvement also originates with learning style. Ge (2021) demonstrates that "working memory is related to information storage and processing" (p. 5) and cognitive styles reflect how individual develop information. Witkin & Goodenough (1977) proclaimed one of the learning styles which affect reading: field dependence (FD) and field independence (FI). These cognitive styles show how people perceive things from the surrounding or the field they exist. Ge (2021) also explains that "FD involves personal orientation, holistic views, dependence, and social

sensitivity while FI involves impersonal orientation, analytical views, independence, and social unawareness” (p. 2).

Teachers should consider learners’ learning styles that improve their working memory performances.

A summary of reading comprehension models is described below. There are various kinds of reading comprehension models but they have some common ideas. The following section explains some reading comprehension models.

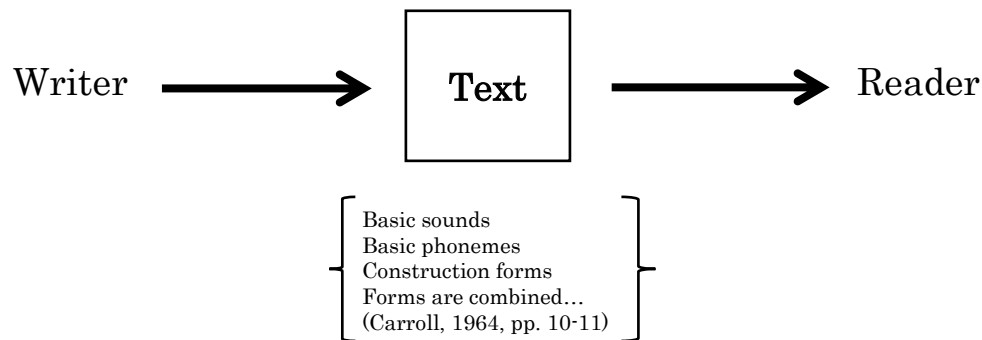
Reading Comprehension Models of First Language Reading Research in Early Days.

Until the mid-1950s, knowledge and theory about the reading process was not conceptualized, and so reading models were not explicit (Samuels & Kamil, 1984). In the 1960s, an informal model was conceptualized which showed that reading started basically from bottom-up process (Carroll, 1964).

During the 1960s, less formal models of the reading process were developed. For example, Carroll (1964) provided a simple one-way flow diagram from the writer to the reader. Since he aimed to be illustrative rather than definitive, his model was unspecified at many stages (Samuels & Kamil, 1984), which means the reading process was described as a serial process.

Figure 1

Reading Comprehension Chart in Early Days (based on Carroll, 1964)



Reading has evolved under the influence of Goodman, who explained clearly that “reading is a psycholinguistic guessing game. It involved an interaction between thought and language” (Goodman, 1967, p. 2). His view of reading means a top-down approach to reading. A top-down approach is the way of reading from higher process (e.g. inference, critical evaluation or linkages to background knowledge) to lower process (word recognition, syntactic parsing, or meaning formation), of which further details will be explained in the section, *Components for Reading Comprehension*. Reading starts with bottom-up but Goodman also focused on top-down reading. Goodman’s view of reading has had considerable influence on reading research and practice (e.g., Carrell, 1984).

The Interactive Model.

In the 1970s, the concept of reading has started changing from either a bottom-up or a top-down model to reading as an interactive process (Rumelhart, 1976). The interactive models of reading explain that lower-level and higher-level processes work together interactively in the reading process.

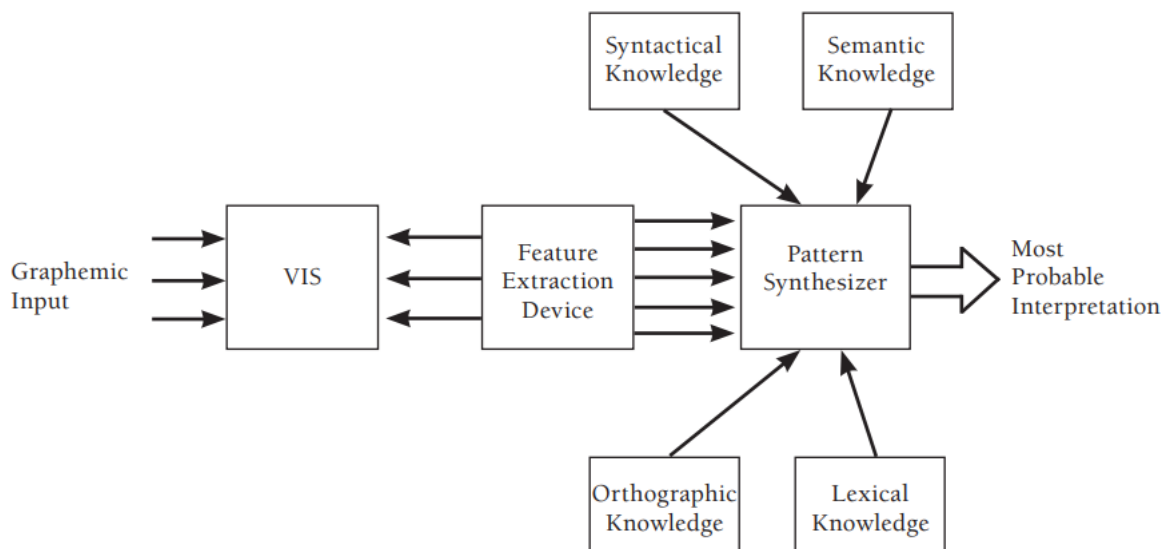
The model by Rumelhart (1976) shown in Figure 2 represents the simple serial flow of information. It suggests that different types of information interact with each other. Rumelhart (1976) explains as follows:

The figure illustrates the assumption that graphemic information enters the system and is registered in a visual information store (VIS). A feature extraction device is then assumed to operate on this information, extracting the critical features from the VIS. These features serve as the sensory input to a pattern synthesizer. ... The pattern synthesizer, then, uses all of this information to produce a “most probable interpretation” of the graphemic input. (p. 732)

Thus, all of the various sources of knowledge, both sensory and non-sensory come together at one place. The reading process is the product of the simultaneous joining of these resources.

Figure 2

A Stage Representation of an Interactive Model of Reading (adapted from Rumelhart, 1976, p. 732)



Note. VIS: a visual information store

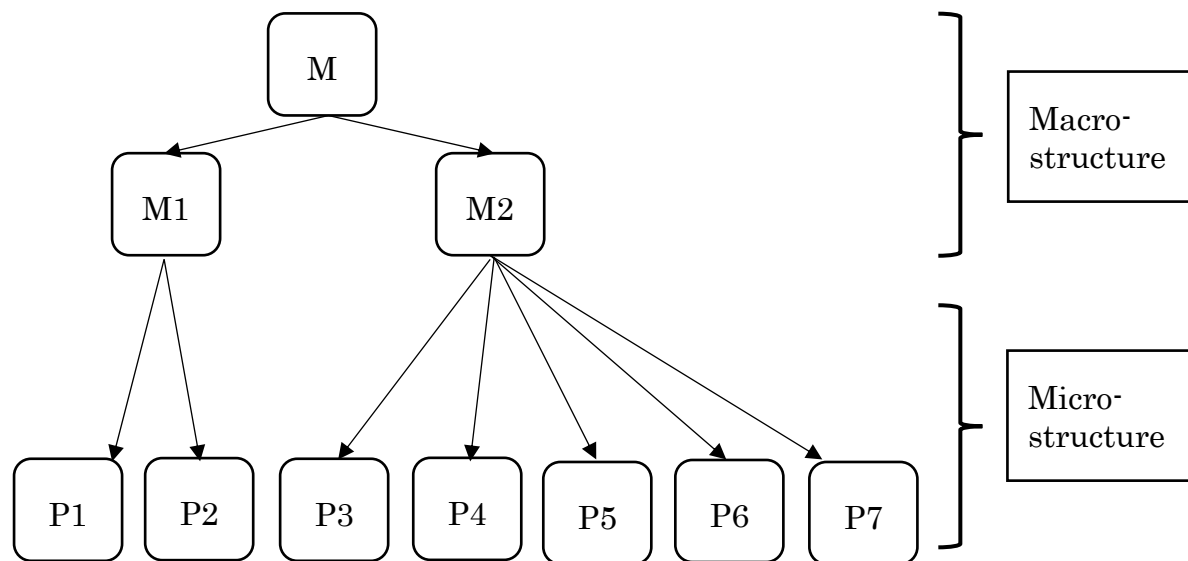
The term interactive approach has two different meanings. First, it means the interaction between the reader and the text (Grabe, 1991). Second, it means the interaction of cognitive skills, lower-level and higher-level processes (Eskey & Grabe, 1988,) because reading comprehension is also recognized that it occurs at several levels (van Dijk, 1977), such as higher-level and lower-level.

Microstructure and Macrostructure.

Kintsch and van Dijk (1978) explain the microstructure and macrostructure, which describe the discourse text semantically at the local microlevel and at the global macrolevel. They show that reading comprehension includes levels dimensionally even though reading comprehension is thought connecting points between a reader and writer, top-down and bottom-up. Their work is close to the interaction model (Rumelhart, 1976), but it is valuable to influence reading comprehension studies later. Figure 3 is from the culmination of his work, Kintsch (1998). Macrostructures contain prepositions. Those were cognected as microstructure. Microstructures form macrostructure. Kintsch and van Dijk (1978) explain macrostructure and microstructure. The microstructure is the local level of the discourse and is the structure of the individual propositions, pieces of ideas in the text, and their relations. The macrostructure is the global level of the discourse, which is “the intuitive notion of the gist of a discourse” (van Dijk, and Kintsch, 1983, p. 52). It is connected only with the important points of a text. At both structures, discourse coherence is indispensable (Kintsch & van Dijk, 1978). The macrostructures also connect local coherence at the micro-level with the global coherence of discourse (van Dijk, 1977).

Figure 3

Hierarchical Structure of Macrostructure (adapted from Kintsch, 1998, p. 67)



P: Proposition
M: Macrostructure

Originating in Kintsch and van Dijk (1978), the model in Figure 3 is similar to part of the early model of Rumelhart (1976). The situation model in the next section explains details of part of the macrostructure model.

The Situation Models.

Horiba (2013) pointed out that the situation model is “for events, states, and actions that occur or ideas that are presented in the micro-world that the text describes” (p.99). van Dijk and Kintsch (1983) distinguish three levels of the depth of reading comprehension (Figure 4): surface level, propositional level, and the situation model. Horiba (2013) found the following:

Major levels are the *surface code* (i.e., memory for the surface linguistic structure of the text), the *propositional text base* (i.e., memory for the

meaning that is explicitly stated in the text), and the *situation model* (i.e., memory for events, states, and actions that occur or ideas that are presented in the micro-world that the text describes). (p. 99)

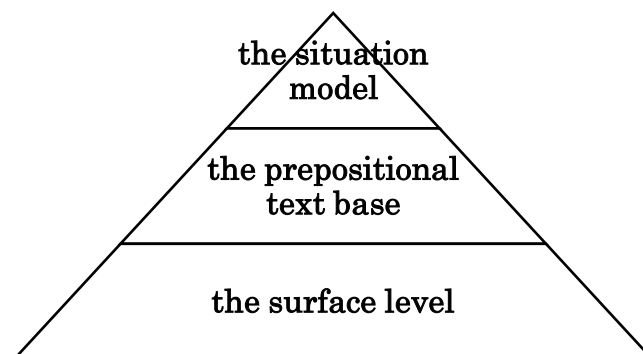
McNamara, et. al. (1996) states the following:

The situation model integrates the information provided by the text with prior knowledge, often reorganizing and restructuring it in terms of the reader's understanding of the knowledge domain as a whole rather than the particular text just read. The resulting mental representation allows for a deeper understanding of the text, which is no longer a separate, episodic memory unit but is linked to the reader's long-term memory and knowledge. (p. 4)

Horiba (2013) explains that “the situation model representation is most stable; the stronger situation model enables better performances in a later task (e.g., recall) that requires use of text memory” (p.99).

Figure 4

Reading Comprehension Process (based on van Dijk and Kintsch, 1983)



Samuel and Kamil (1984) states that there is a common idea among the above stated reading comprehension models. There are some more different theories and models for reading comprehension but these above explained from 1 to 4, have the common idea among researchers. The fifth model will explain the consensus.

Recent Reading Comprehension Model.

The reading models explained above do not follow the earlier models because each model describes different aspects of reading. It is challenging to compare them each other. However, reading models have common characteristics as follows:

1. Most reading comprehension models assume that “readers generate at least two levels of representation of a text, a text-based representation and a situational or mental model” (Albrecht & O’Brien, 1993, p. 1061).
2. Reading comprehension models differ in the local and global coherence constructed by readers and they require to organize incoming information and connect with preceding context immediately to maintain local coherence (O’Brien et al., 1998).
3. According to McNamara et al. (1996), previous studies show that “increasing the coherence of a text has been found to improve readers’ comprehension” (p. 34).

Components for Reading Comprehension

According to Grabe (2009) and other researchers, reading comprehension includes the eight components shown in Figure 5. It is valuable to understand that reading occurs at several different levels and they interact with each other. In

Figure 5, the components of reading comprehension will be explained from the bottom to the top.

The bottom three processes in Figure 5 are called lower process, while the top five processes are called higher process. Additionally, two types of processing often occur, bottom-up processing and top-down processing. Kirby (2007) illustrates as follows:

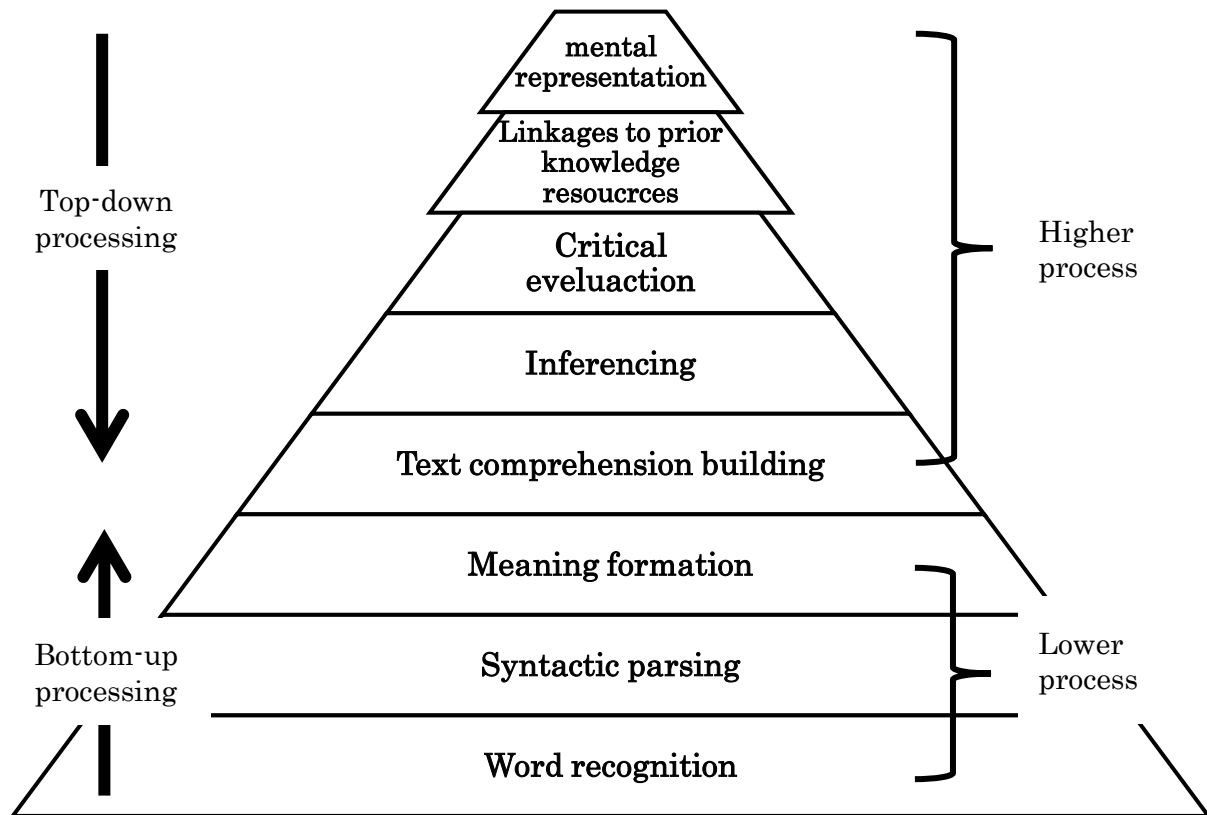
In bottom-up processing, words are formed into phrases, and phrases are formed into more abstract units called propositions or ideas; these processes require knowledge of syntax (grammar). ... Top-down processing occurs when higher-level information, just as knowledge of the general topic of the text, helps the reader identify lower-level information. It is important to recognize that both bottom-up and top-down processing often occur in reading comprehension. This is called the interactive processing. (p. 2)

In the same way as L1 readers, L2 readers recognize words and understand sentences in a text when they try comprehending the text. They then integrate information from different sentences. Next, they activate information based on related general knowledge and construct a coherent mental representation of the text (van Dijk & Kintsch, 1983). They usually start from lower-level processing.

Each component in reading comprehension process in Figure 5 will be explained as follows.

Figure 5

Reading Comprehension Process (based on Grabe, 2009)



Word Recognition.

Word recognition is indispensable for reading fluency and automaticity. Vocabulary knowledge influences reading ability (Koda, 1989). Successful word recognition leads for the higher levels of comprehension (Kirby, 2007). If some words are not recognized, the higher process helps somehow to understand texts: Figure 5 illustrates this process on top-down processing. Because the one's second language is weaker than the first language, word recognition in the second language is less automatic than in the first language (Carrell & Grabe, 2010).

Syntactic Parsing.

The subsequent step is grammatical recognition, syntactic parsing. In the second language reading, the knowledge of structure facilitates reading and supports reading comprehension (Grabe, 1991), thus linguistic differences at syntactic level sometimes influence reader comprehension. The recognition of syntactic and vocabulary knowledge is related to the automaticity of reading. The automatic lower-level processing is essential for L2 reading comprehension.

Meaning Formation.

In the previous steps, the readers will have recognized lexis as well as the syntax, and extracted meaning. When a learner recognizes lexis, the meaning will be clear, but additional word information such as collocations and nuances also demonstrate specific. In addition, the learner brings certain prior knowledge to this step, inasmuch as any language user will already have schema, into which the new sentence will settle. Thus, the readers can understand the meaning of each sentence.

Text Comprehension Building.

Information from the text is combined in text comprehension (Grabe, 2009). This information connect coherence among sentences then paragraphs, including such sentences.

Inference.

Inference connects what we recognize with the memory of our background knowledge. Two inferences appeared, bridging inferences and elaborative inferences. Bridging inference refers to maintaining the coherence of the text during comprehension, while elaborative inference refers to add information that elaborates on the situation model. Reading comprehension is enhanced when readers generate successful inferences (McNamara & Kendeou, 2011).

Critical Evaluation.

Critical evaluation includes synthesis and evaluation. And they are essential skills for reading comprehension (Grabe, 1991). Readers evaluate the information and find the author's intention and decide whether or not the information is helpful. Readers evaluate and find texts persuasive, interesting, boring, and exciting. These evaluations relate to reading comprehension.

Linkages to Prior Knowledge Resources.

Background knowledge is a primary factor in reading comprehension processes. The role of background knowledge in second language reading was discussed in the 1970s and 1980s (Carrell & Grabe, 2010). When readers have more knowledge about the main idea, or about the world, their understanding of a text or discourse is probably more complete (McNamara & Kendeou, 2011).

Mental Representation.

The mental representation is a representation of the space and time described in the text, which combines events, actions, persons, and the general situation. Kirby (2007) states that “As we read, we update our mental representation of the text’s meaning” (p. 4). Oakhill et al. (2019) proposes that “successful comprehension involves construction of an integrated representation of the overall meaning of the text. With a suitable mental model in mind, the text will also be much easier to remember later” (p. 85).

The Second Language Reading Studies

This section states the second language reading research focusing on successful reading comprehension.

Studies on Success and Unsuccess in Reading Comprehension

There are some reasons for L2 readers’ successful reading comprehension.

Their successful reading comprehension requires not only word recognition but also textual information from relevant general knowledge (Horiba, 2013). Grabe (1991) explains that “fluent reading is rapid, purposeful, interactive, comprehending, flexible, and gradually developing” (p. 378).

Automaticity.

Automaticity is essential for fluent reading that the reader controls the process such as direct lexical access or autonomous syntactic parsing unconsciously (Grabe, 1991). Proficient readers are effective in constructing meanings that they

can assimilate or accommodate, and which bears some levels of agreement with the original meaning of the authors. Also, they can understand directly from the written language to meaning without a phonological stage.

Constructing coherence.

Horiba (2013) proclaims that “successful text comprehension requires the construction of a coherent representation at the propositional text base and the situation model levels” (p. 99). Morishima (2013) explains that local coherence means that propositions of a text are connected to other propositions in working memory. Whereas global coherence refers to the situation in which propositions are connected to other propositions based on the parts of the text related to the world knowledge.

Non-proficient readers can integrate information at a local level but are unable to produce a coherent integrated text as a whole.

Making inferences.

Making inference is important for skilled reading (e.g., Graesser, Singer, & Trabasso, 1994; van den Broek, 1994) to produce coherence at the global level. Inference contributes to connecting ideas and fill in details that are not explicitly mentioned in the text. However, L2 readers always have difficulty generating inferences because their linguistic automaticity is weaker than L1 readers. It is difficult to make inferences because of readers’ text-level comprehension problems. One of the reasons is working memory whose capacity is in the trade-off between

processing text-level and storage functions. Thus, teachers should support their students to generate inferences.

Schema.

According to Carrell (1988), there are content schema and formal schema (p. 245). AI-Issa (2006) identifies that “content schemata includes what we know about people, the world, culture, and the universe, while formal schemata consists of our knowledge about the discourse structure” (p. 42). Also, language schema includes lexical and syntactic linguistical knowledge. AI-Issa (2006) explains more as follows:

When students are familiar with the topic of the text they are reading (i.e., possess content schema), aware of the discourse level and structural make-up of the genre of the text (i.e., possess formal schema), and skillful in the decoding features needed to recognize words and recognize how they fit together in a sentence (i.e., possess language schema), they are in a better position to comprehend their assigned reading. ... students might have sufficient schemata, yet unable to comprehend the text if such schemata are not appropriately activated. (pp. 41-42)

General knowledge and familiarity can also enhance in L2 reading comprehension (Horiba & Fukaya, 2015). However, L2 readers tend to have fewer schemata because of their limited experience or cultural background, therefore, they devote their working memory to activate the schema and to access linguistic and inferential comprehension automatically.

Metacognitive awareness.

Metacognition is also crucial for reading comprehension (Baker & Beall, 2014). The metacognitive processes of reading comprehension include metacognitive knowledge (i.e., the reader's prior knowledge, experiences, or purposes for reading), metacognitive monitoring, and control (van Kraayenoord, 2010). Non-proficient readers often show little comprehension monitoring; they skip words, guess, or generate interpretations of texts rather than re-read to repair comprehension failure (Paris & Hamilton, 2014). They also tend to focus on decoding words rather than assessing their understanding of the text in the higher process level. Proficient readers have some awareness and control the cognitive activities they engage in.

As mentioned above, L2 reading comprehension is similar to L1 reading comprehension. However, L2 reading comprehension is difficult to accomplish because L2 learners allocate lower process level, such as vocabulary and structures. Therefore, they devote their working memory to local reading and it is hard for them to achieve global reading. In this study, the term 'global reading' is used to refer to constructing global level of discourse with the text in macro-level. Whereas, the term 'local reading' refers to constructing the local level of the discourse in micro-level, which constructs the micropropositions, or the literal comprehension of texts.

Studies on the Effect of Task Instruction for Reading Comprehension in Teaching

It is difficult for L2 readers to maintain coherence during reading and teachers should think approaches to solve this problem (Ushiro, 2017). One of the ways to solve this problem is to give learners reading task instruction.

The task instruction is a crucial factor for learners' reading in second language research and practice, which also motivates to set the goals for reading comprehension (Horiba, 2000). According to Ellis (2000), 'task' provides learners what they need for learning. Although several definitions of 'task' have been proposed because of the prevalent task-based language teaching (TBLT), the term 'task' in the current study refers to a sort of reading strategies that facilitates learners' reading comprehension and leads to their reading to focus on higher process level, global reading.

Strategies are used by learners to help the acquisition, storage, or retrieval of information (Oxford, 1989). Learners use strategies to make reading comprehension more successful, self-directed and enjoyable. Good readers use various reading strategies for their global and local reading. Reading strategies promote the readers to find what is important in the text or what may be implied in the text. Moreover, they can assist in the monitoring and checking of the reading process (Yapp, et al., 2021).

The following section introduces some reading task instructions based on previous studies. Horiba (2013) states that little research evidence is available to investigate how task factors affect the cognitive process in L2 reading. Here, two representative researches are introduced.

Horiba (2013) investigates that reading task instructions, the expression instruction, the image instruction, and the critique instruction, affect Japanese college students' L2 reading process measured by think-aloud and product measured by written recall. Her study indicates that the amount of recall, that is, products of comprehension, is similar, although the process of comprehension differs depending on the tasks.

Reading task instructions are expected to help learners consciously comprehend the gist of the text. According to Schmidt (1990, 2010), 'noticing' is necessary for language development. It is because such conscious learning is a higher level of awareness.

The current study emphasizes the process and depth of reading comprehension. The process of reading comprehension focuses on thinking protocols by process levels within think-aloud. The reading instructions should help Japanese high school students read the text as a whole through the reading task instructions. The depth of reading comprehension focuses on the extent of understanding by the amount of written recall and the important information of the texts produced by Japanese junior high school students in written recall. Reading instructions should help Japanese high school students read and understand the main idea of the text through the reading task instructions. 'The depth of reading comprehension in this study means the degrees of understanding texts. That is, learners read and understand English texts in different depth as using inferences, connecting their world knowledge, and constructing mental representations and moreover, understanding thoughts and feelings of authors or protagonists in the text and having thoughts or opinions.

The different types of reading task instructions by Horiba (2013) and Kimura (2015) are shown in the following section.

The Expression Instruction.

Horiba (2013) explains that “students are told to pay attention to words and expressions used in a text” (p. 101). She also demonstrates that “the expression condition would encourage active lower level linguistic processing, which may help analyze and infer the meaning of unknown words and expressions, thus contributing to the construction of stronger (surface code and propositional text base) representations” (p. 102).

The Image Instruction.

Students are told to visualize in their mind, events, states, and actions in a text (Horiba, 2013). The image condition leads to conceptual processing and active generation of elaborative inferences from relevant general knowledge. It may result in the construction of stronger representations, especially propositional text base and situation model.

The Critique Instruction.

Students are told to compare the author's views with their own views and evaluate them (Horiba, 2013). The critique instruction leads to higher level conceptual processing the reader-writer communication and relevant general knowledge. It leads to the construction of a stronger representation. As mentioned in the section Critical Evaluation, The Components for Reading Comprehension,

reading critically relates to reading comprehension and it leads readers to decide whether or not information is important.

Finding the Author's Intention.

Students are told to understand the author's message in the text (Kimura, 2015). Finding the author's view during reading aims to facilitate learners' global reading. The task leads students to generate "Inferences" and "Reader responses," such as, "Reaction" and "Evaluation". That would contribute to better text comprehension.

Kimura (2015) investigated whether the task instruction that the participants read the text to find author's intention affects Japanese university students' reading measured by think-aloud and written recall. The results showed that the task instruction did not affect learners' processes measured by think-aloud during reading, but it facilitated the learners' text comprehension measured by written recall. It indicated that the task instruction is difficult to change the participants reading processes. Alternatively, they construct coherent text representations by the task instruction. In this way, their text comprehension was facilitated by the task instruction.

In summary, reading is the process of receiving information from a writer to a reader, which contains various factors. Reading comprehension has two process levels, the higher process level and the lower process level. When readers read texts on the lower process level, they focus on analyzing vocabulary or structures, which is called 'local reading.' Alternatively, when they read texts on the higher

process level, they comprehend texts holistically by making inference, connecting their general knowledge and constructing the situation model, which is called 'global reading.' L2 reading comprehension is similar to L1 reading comprehension. However, clear difference is that L2 readers only possess vocabulary and structure knowledge less than L1 readers. L2 readers cannot use linguistic knowledge automatically and do not have sufficient L2 world knowledge because of cultural differences or linguistic distance. Thus, L2 readers devote their working memory for language processing and they miss the opportunities to use reading comprehension strategies for global reading. To solve those problems, the present study suggests that teachers give learners reading task instructions in their teaching. By giving reading task instructions it is expected to help learners give reading goals, use reading strategies, and read texts globally as a result. The current study focuses on the effect of the reading task instructions which lead learners to read texts globally.

Research Questions

As discussed in the former section, L2 readers, especially the beginners, tend to read locally focusing on the processing of words and sentences and they cannot read globally focusing on making inferences and constructing the situation model (Ushiro, 2017). In Kimura (2015), the task instruction to find the author's intentions affects the participants' reading products and process. Kimura (2015) concluded that the task instruction may increase making inferences, thus, contributing to global reading. The present study adapted the method in Kimura (2015) because it measured the process of reading comprehension by think-aloud

that can be practical to investigate Junior high school students' reading process. Based on the results of the previous studies and my teaching experience that the author has taught English for Japanese junior high school students in the EFL setting for twenty-five years, the present study compared the effect of two types of task instructions and the non-task instruction on Japanese junior high school students' the reading processes and the depth of reading comprehension. The research questions addressed in this research are as follows:

- RQ 1: To what extent do task instructions affect Japanese junior high school students' English reading comprehension processes?
- RQ 2: To what extent do task instructions affect Japanese junior high school students' English reading comprehension depth?
- RQ 3: To what extent do different task instructions affect Japanese junior high school students' English reading comprehension differently?

Study 1

The Aims of Study 1 and Research Questions

The purpose of the first study is to examine whether the teachers' task instruction to find the author's intention affects the quantity and quality of L2 reading comprehension process and depth by junior high school students in Japan. As was noted earlier, Horiba (2013) found that the task instruction causes changes in the reading process measured by think-aloud and the better-quality reading depth measured by written recall by the participants. On the other hand, Kimura (2015) stated that the task instruction does not cause any changes in the reading process, but it causes changes in the depth of reading. Based on their findings mentioned above, the following research questions (RQs) will be investigated in Study 1:

When Japanese junior high school students are tasked with finding the author's intention,

RQ 1: To what extent does the task instruction which asked the participants to find the author's intention affects Japanese junior high school students' English reading comprehension processes?

RQ 2: To what extent does the task instruction which asked the participants to find the author's intention affects Japanese junior high school students' English reading comprehension depth?

Method

Participants

The participants in Study 1 were seven fifteen-year-old Japanese junior high school students (five males and two females) who had studied English at elementary schools and a junior high school for about five years in the EFL setting in Japan, as shown in Table 1. They were all beginner-level learners and pre-A1 level in CEFR (The Common European Framework of Reference for Languages) according to the comparison table by MEXT, which shows the comparison among CEFR and some qualified examinations, such as, STEP (Society for Testing English Proficiency) tests. As shown in Table 1, for the purpose of this research, the participants were grouped from upper proficiency to lower proficiency levels according to the results of an achievement test administered in 2018. Although their English proficiency seemed different qualitatively due to their English learning backgrounds, all participants were at CEFR-Level pre-A1 and all had had five years of English education at school, which means their proficiencies are supposed to be equivalent.

Table 1*Participants in Study 1*

Proficiency	Participants	STEP Grade	English Learning Backgrounds	
			Conversation School	Cram School
Upper	Participant A	Grade Pre-2	age 2-12	age 7-12
	Participant B	Grade 3		
Middle	Participant C	Grade 3		age 13-15
	Participant D	Grade 3		age 13-15
	Participant E	Grade 3		age 13-15
Lower	Participant F	Grade 3	age 7-9	age 7-12
	Participant G	Grade 3		age 13-15

Note: All participants were at CEFR-Level pre-A1, and all had had five years of English education at school.

Reading Material

The experimental texts asked to read were adapted from the reading section of the third grade STEP tests, 2013 and 2014: *The Christmas Tree* (CT) in 2013 and *A Famous Drink* (FD) in 2014 (See Appendix A-1 and 2). *The Christmas Tree* explains when fir trees are started to be used as Christmas trees. The story tells that many people still use real fir trees, even though many plastic Christmas trees are sold. *A Famous Drink* is about the history of Coca-Cola which is still sold in many countries around the world. The number of words, sentences, the readability are provided in Table 2.

Table 2*Outline of the Experimental Texts*

	Number of words	Number of sentences	FRE	FKGL	L2 Readability
CT text	262	21	75.64	5.80	28.513
FD text	250	25	72.83	5.59	27.185

Note: CT = *The Christmas Tree*; FD = *A Famous Drink*. FRE = Flesch Reading Ease; FKGL = Flesch-Kincaid Grade Level. Values provided by *Coh-Metrix 3.0*.

Readability indicates the reading ease. The Flesch Reading Ease (FRE) and Flesch-Kincaid Grade Level (FKGL) are used as traditional readability formulae. These readability formulae provide a text readability based on the word and sentence length in the text (Crossely, Allen, & McNamara, 2011). FRE is indicated by the numbers from 1 to 100. For example, the number from 70 to 80 shows grade eight at school in the U.S., which is a suitable reading level for average adults. Whereas FKGL is provided the level of the text in grades at school in the U.S. That is, the big numbers show that the text is challenging. In the present study, although the values are slightly different, each grade level is a span of 10. Thus, FRE with a difference of 2.81 suggests that the texts are of equivalent difficulty. In addition, the FKGL index is just exceeding one, suggesting that this measure also shows similarity.

Regarding some low-frequency words in the texts, glosses in Japanese were provided just beside in the columns of each text. The frequency level was chosen based on the latest version of JACET 8000 for junior and senior high schools created by JACET (The Japan Association of College English Teachers) and English textbooks for junior high school students in Japan.

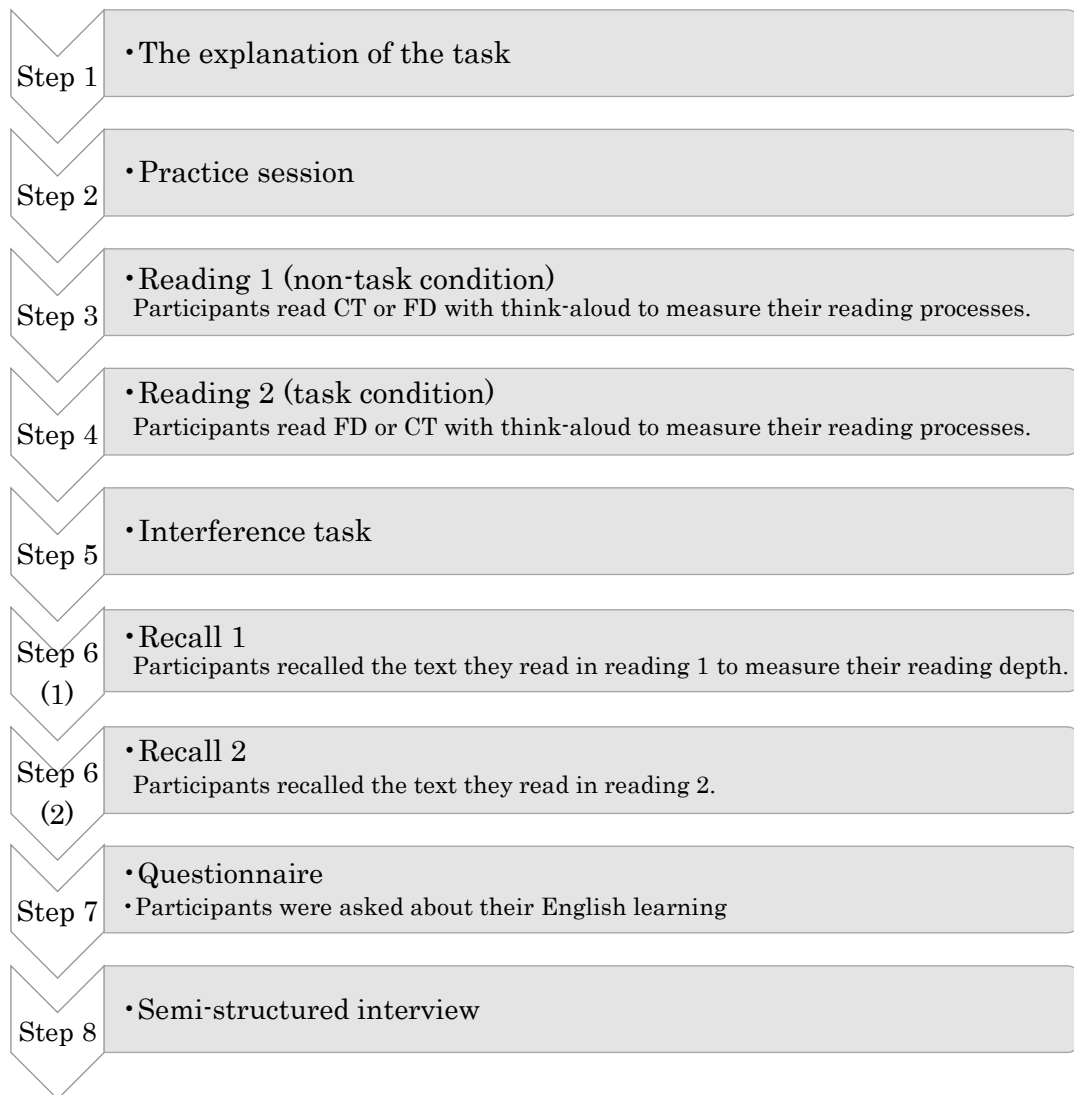
The topics of these texts are familiar to the participants. Background knowledge is crucial for text comprehension because readers can understand the text easily without sufficient English linguistic knowledge (Carrell, 1987a). Therefore, these texts were chosen because the topics were familiar to the participants, who did not know detailed information written in the texts.

Procedure

Study 1 includes eight steps as shown in Figure 6. The participants were tested individually in sessions lasting approximately fifty minutes. All verbal reports were recorded using the IC recorder and the video camera; these data were used to analyze participants' think-aloud protocols and written recall responses. Two texts were counterbalanced across two conditions: the non-task condition and the task conditions. The experimental texts were presented in random order to each participant.

Figure 6

The Eight Steps of the Experimental Session of Study 1



In Step 1, the researcher first explained the study's purpose, procedures, and data in the participants' L1, Japanese. The protocol is included as shown in Appendix E. This explanation took three minutes. The participants consented to join the research.

In Step 2, in the practice session, each participant was asked to read the practice text with think-aloud without any task instruction. Thereafter, the first

reading text was distributed, the participants were then asked to read in their usual way and engage in a think-aloud protocol, in which they say whatever thoughts came into their minds in either English or Japanese.

Think-aloud protocols enables measurement of how participants read the text. It may happen that participants do not verbalize everything they thought in their minds. However, the participants joined the experiment in the same atmosphere as their usual English classes because think-aloud is easy to answer. The participants were allowed to do the think-aloud exercise in Japanese as proposed by Donin & Silva (1993). The reason for the participants thought aloud in their L1 during reading was as follows: When the participants produce in their L2, their production tends to be underestimated because their second language is still developing and they cannot produce what they comprehend sufficiently.

In Step 3, the participants followed the non-task instruction, where they thought aloud about the first text without any specific task instruction. They read the experiments' texts at their own pace both in Step 3 and 4. The participants were not informed that they would complete the recall task.

In Step 4, they followed the same procedure for the second experimental text after being asked in the task condition to comprehend the authors' intention. This step leads to the experimental condition that one group of participants read the CT in the non-task condition (i.e., participants read the text freely, in their usual way, without searching specifically for the author's intention), then they read the FD in the task condition (i.e., while searching for the author's intention). Additionally, the task instruction to find out the author's intention from the second text was written on the top of the paper of the experimental text in Japanese.

In the Step 3 and Step 4, the present study showed the whole text because they were shorter ones (*The Christmas Tree*: 262 words, *A Famous Drink*: 260 words) than the texts including 375 words and 379 words in Kimura (2015). Also, Kimura (2015) showed the texts one sentence at a time on the screen. However, in the present study, the entire texts were presented on a sheet of paper at one time. Therefore, the participants could refer back to the texts and recognize the text structure as explained by Carrell (1992). Additionally, students who read texts in print scored significantly better on reading comprehension than those who read texts on a screen (Mangen et al., 2013).

In Step 5, the participants were asked to do an interference task (simple math questions, for about five minutes) to avoid any recency effect in the recall task. Recency effects means taking advantages in the memory for the first and last items in the list compared to intermediate items (Matell et al., 2005). Interval timing is concerned with the ability to perceive and make judgments about duration in the seconds to minutes range. Working memory and interval timing may be intimately linked.

In Step 6, at the recall task, they were asked to write down in their L1, Japanese, all of what they remembered about the story without looking back the experimental texts. Clark (1982) explained that free recall is a simple and quick way of measuring reading comprehension and provides much information what the learners understand about the text. Clark also states that it involves reconstructing or remembering, interpreting, and evaluating the information learners select during reading. A time limit was not set so that the participants could recall the information as much as possible.

In Step 7, the participants responded to the questionnaire regarding their English learning experience (See Appendix D-1).

After they finished filling in the questionnaire, the participants had a semi-structured interview in Step 8. Participants were asked about their English learning experience, how they usually read English texts, and how they felt when they read the experimental texts with the reading task instruction. For example, Participant A and F were asked what they learned or what kind of activity they had in the cram school to learn English conversation when they were in elementary schools.

Scoring and Analysis

Think-Aloud Protocols.

For scoring the participants' think-aloud protocols, three frameworks mainly from Horiba (2013), in addition to Kimura (2015) and Ogiso (2018) were adapted for the present study as shown in Table 3. There are six process levels and eleven categories. "Comment on text structure" in process level was added by the researcher referred to previous studies.

Table 3*Process Levels and Categories of Think-Aloud Protocols*

Process Level	Category	Definition
Structure analysis	(a) Word analysis	The reader attempts to analyze the formal or semantic features of a word, phrase, or sentence, including L1 translation. (a) Word analysis is that the participants tell the meanings of the words in the experimental texts.
	(b) Phrase analysis*	
	(c) Sentence analysis	
Paraphrase	(d) Paraphrase	The reader attempts to paraphrase the expression in the text to enhance his/her understanding
Inference	(e) Backward inference	The reader generates an inference that is intended to explain the contents of the current sentence by connecting it to prior text or on the basis of general knowledge.
	(f) Predictive inference	The reader anticipates something about what will occur in the incoming text.
Reader response	(g) Association	The reader generates an inference that is brought to mind by the text that is not intended to enhance the understanding of textual information.
	(h) Evaluation	The reader makes a comment or states an opinion on the text critically.
	(i) Reaction	The reader expresses his/her thoughts about the text.
Self-monitoring	(j) Self-monitoring	The reader makes a comment about the degree of his/her own comprehension or use of a reading strategy.
Comment on text structure	(k) Comment on text structure*	The reader makes a comment about the text structure.

Note: Based on Horiba (2013). Asterisks indicate that the researcher added those categories.

“Structure analysis (b) Phrase” was also added as one of the categories because the participants often verbalized separated phrases, not sentences. For example, “He made, *goju doru de* (\$50), but he spent, *nana-ju doru* (\$70), make the drinks.” As mentioned above, “Comment on text structure” was also added for analysis. For example, the participant said “*saisho ni, san ko atte...*,” which means “Three things are written in the text.” After this protocol, he told “*saisho ga*

kurisumasu wa maitoshi nanka yatte kuru...kore sennen no rekishi ga aru...momi no ki wo tsukatta kurisumasu tsuri ga aruyo,” which means, “First, Christmas comes every year... Next, Christmas has a thousand-year history...Finally, fir tree is used for Christmas tree....”

Fifteen per cent of the participants’ protocol data were scored by three Japanese raters who are majoring in English education and teachers at junior high schools including the author. Raters agree upon each other although some think-aloud protocols were challenging to differentiate. Before raters categorize think-aloud protocols, the following rules were explained to clarify the rating process. The process levels and categories are from Table 3. As for “Structure analysis (c) Sentence analysis”, “Structure analysis” is process level and “(c) Sentence analysis” is category. Participant A-G are from Study 1 and Participant 1-57 are from Study 2):

1. The following think-aloud protocol was represented as “Structure analysis (c) Sentence analysis” because the participant translated the English into Japanese.

ex.) “He had a lot of good ideas.” [original sentence]

“*Kareha takusan no yoi aidea wo motte imashita.*” (= He had a lot of good ideas.) (Participant A)

2. “Structure analysis (c) Sentence analysis” and “Paraphrase (d) Paraphrase” were differentiated as follows: “Sentence analysis” was translated into Japanese. When the participants told what they read in

their own words they were categorized as “Paraphrase.” The following sentence was treated as “Sentence analysis” because the participant translated the English into Japanese.

ex.) “When the needles fall to the floor, they are hard to clean up.”

[original sentence]

“hari ga yuka ni ochite shimau. sousuruto, souji wo suru noga, soujiwo suru noga taihen ni narimasu.” (= The needles fall to the floor then it’s hard to clean up.) (Participant A)

3. This sentence, however, represented “Paraphrase” in his own words of the original sentence.

ex.) “When the needles fall to the floor, they are hard to clean up.”

[original sentence]

“de, momi-no-ki ttesa, kou, souji-ga-ne, hari-ga soujishinakya ikenakute, mendokusai to.” (= Then, fir trees, um... cleaning... the needles...they have to clean up...that’s troublesome.) (Participant 13)

4. “Paraphrase (d) Paraphrase” and “Inference (e) Backward inference” were differentiated as follows: The participants told the story of what they read in their own words for “Paraphrase.” While the participants gave the story as reconstructing what they read for “Backward inference.”

ex.) “Fir trees are often used for Christmas trees. They have long thin needles. When the needles fall to the floor, they are hard to clean up.

Plastic Christmas trees don't have this problem.” [original sentence]
*“momi-no-ki? ga tokidoki kurisumasu tsuri ni tsukawareru no kana?
 ...karera wa hari nagai hari wo motte iru... hari ga...karera
 wa...kurisumasu...purasuchikku no kurisumasu tsuri da
 to...konoyouna mondai ga nai to. a- sakki no wa are ka? ki no, happa
 ga, hari, mitai de, yuka ni ochite toka. dakara, souji wo issokenmei
 yannaito ikenai mitaina... (= Fir trees? ...are they used for Christmas
 trees? They... needle...long needles... they have long needles...
 needles... they... Christmas...plastic Christmas trees don't have this
 problem. Ah! I understand sentences I read before. Leaves of the trees
 are like needles and they fall to the floor. So we have to clean up.)*

(Participant C)

The sentence above was treated as “Paraphrase” because the participants thought aloud about the text in their own words. However, “Inference,” especially backward inference was represented when the participants returned to the previous sentences and reread them. In the experimental text, the sentence is presented “They are hard to clean up.” Interestingly, many participants thought aloud “we have to clean up.” instead they thought aloud “they are hard to clean up.”

5. “Reader response (g) Association” and “Inference (e) Backward inference” were differentiated as follows: The participants told related words and phrases with the information they got during reading.
 ex.) “Pemberton’s friend Frank Robinson wrote the name down, he wrote it

in special writing.” [original sentence]

“*Koka-kora botoru, Robinson ga kaita to. Spittsu-kun ga kaitanda.*”

(= Robinson wrote [the name] down on the Coca-Cola bottle...Spitz wrote it!) (Participant 13)

This sentence above was treated as “Association” because the participant said “Spittsu-kun,” the name of the Japanese singers’ group “Spitz,” associated with “Robinson,” which is one of their songs. However, “Inference,” especially “Backward inference” was represented when the participants went back to the previous sentences and read them again.

6. “Reader response (g) Association” and “Inference (f) Predictive inference” were differentiated as follows: “Association” is that the participants talked what they read related to their background knowledge. On the other hand, “Predictive inference” is that the participants stated related words and phrases with the information they got during reading.

ex.) (No applicable examples)

7. “Reader response (g) Association” and “Reader response (i) Reaction” were differentiated as follows: The participants told related words and phrases with the information they got during reading. On the other hand, the participants reacted emotionally to what they read.

ex.) (No applicable examples)

The agreement among the three raters was checked, and any discrepancies were resolved through discussion. The degree of agreement was assessed using Cohen's kappa (Cohen's $\kappa = .87$) with the following criteria: $\kappa > .5$ is a strong effect size, $.5 > \kappa > .3$ is a medium effect size, and $\kappa < .3$ is a weak effect size (Cohen, 1988). The author then scored the remaining data alone, and the other two raters checked her work. The number of think-aloud protocols was counted and those percentages in each category were calculated.

Written Recall and Importance Level.

Before scoring written recall, three raters including the author divided the experimental texts into idea units (IUs) following the criteria created by Carrell (1985). As Ushiro et al. (2007) explained, the texts are separated sentences syntactically into IUs and they are often employed to analyze protocols systematically without the interpretations. The agreement among the three raters was checked, and any discrepancies were resolved through discussion.

Carrell (1985) states as follows:

Each idea unit consisted of a single clause (main or subordinate, including adverbial and relative clauses). Each infinitival construction, gerundive, nominalized verb phrase, and conjunct was also identified as a separate idea unit. In addition, optional and/or heavy prepositional phrases were also designated as separate idea units. (p. 737)

Table 4 exemplifies the IU categories and examples used in the present study. Examples of IUs are provided in bold.

Table 4

Examples of IUs

Categories		Examples	
Single clause	Main clause	Christmas is a popular holiday (that comes every year,...)	
	Coordinate clause	and the Christmas tree is a famous symbol.	
	Subordinate clause	Noun clause	(and) some department stores have big trees (with many bright lights).
		Adjectival clause (Relative clause)	(Christmas is a popular holiday) that comes every year,
		Adverbial clause	Because Coca-Cola was very popular, (other companies tried to make the same drink.)
	Adverbial clause	When the needles fall to the floor, (they are hard to clean up.)	
Phrase	Infinitival construction	(But many families still like) to have real trees (in their homes at Christmas.)	
	gerundive	(Pemberton started) selling Coca-Cola (for five cents a glass.)	
	Adjectival participle construction	(Many people say the first person to use a Christmas tree was a man) named Saint Boniface.	
	Normalized verb phrase	(No applicable examples)	
	heavy prepositional phrase	(Christmas trees are usually covered) with different decorations and colored lights.	

Each IU has one idea as a general rule and sentences which include a participle clause or a relative clause were separated into different IUs. For example, the sentence in the texts “... *the number of people who use plastic trees is growing.*” was separated into two IUs; “*the number of people...is growing.*” (the main clause) and “*who use plastic trees*” (relative clause). While in others, “...*the number of plastic trees sold in the United States grew from 7.3 million to 17.4*

million.” was separated into three IUs; “the number of plastic trees...grew” (the main clause), “sold in the United States” (participle construction) and “*from 7.3 million to 17.4 million*” (prepositional phrase). However, we need more rules to make IUs for the experimental texts for the present study. For example, conjuncts, such as, “Today,...” and “Now,...” are treated as one IU even though they are just a single word because they are categorized into sentence-modifying adverbials which can be deemed IUs functioning as scene-setters.

Regarding infinitive, gerundive, prepositional phrase, each IU has one idea. For example, “The bottle was easy to remember.” includes infinitive but it is considered one set phrase for “easy to remember.” Another example is the sentence “Pemberton started selling Coca-Cola...” includes gerundive, but it is considered one set phrase for “started selling.” Lastly, the sentence “...it could help people with headaches.” includes prepositional phrase but it is considered as one set phrase for “people with headaches.” However, regarding prepositional phrases, most prepositional phrases were counted as one IU because the participants in the current study were novice English learners in EFL settings in Japan and it was assumed that they would produce experimental texts fragmentally.

Fifteen per cent of the recall data were randomly selected and scored by three raters including the author separately. If two-thirds of the information in each IU was reproduced in a participant’s recall protocol, one point was given to that IU. The agreement between the three raters was strong (Cohen’s $\kappa = .87$). Disagreements were resolved through discussion. For example, raters judged to recall “*Otoko no hito ga sen-nihyaku doru de reshipi wo katta.*” for “... a man called Asa Griggs Candler bought the recipe from Pemberton for \$2,300.” Also, raters

judged to be recalled “*Koka-kora wa sekai de urarete iru yumei na nomimono de aru.*” for “Coca-Cola is sold in more than 200 countries.” After that, the author scored the remaining data alone and the other two raters checked them. The recall production rate was calculated and compared by reading conditions; the non-task condition and the task condition.

The Importance Level.

The idea of “Importance Level” proposed by Brown and Smiley (1977) was added to analyze the quality of written recall whether participants recalled the important parts of the experimental texts. The “Importance Level” is one of the ways to analyze learners’ production to measure reading comprehension. Different researchers opt for a different number of stages, but this study simply selected three stages. Three raters judged each IU into an Importance Level (See Appendix E-1 and 2). In this study, IUs in Importance Level 3 are the most important ideas, which readers should recall. IUs in Importance Level 1 are the least important ideas, which are unnecessary to understand the text. Table 5 shows the definition and number of IUs in each Importance Level.

Table 5*The Definition and the Number of IUs in Each Importance Level*

Importance Level	Definition	Number of IUs	
		CT	FD
3	Main topics: the most important information in the text	14	16
2	Subtopics: the information for subtopics or the supportive information for level 3	28	28
1	Minor details: the least important ideas	20	18

Note. CT = The Christmas Tree, FD = A Famous Drink.

Three Japanese raters judged Importance Level [The CT: Cohen's $\kappa = .90$; The FD: Cohen's $\kappa = .87$]. And then, the raters discussed their consistency to decide Important Levels. For example, a sentence from the experiment text was "In 1886, a man named John Pemberton invented a new drink in an American city." IUs were "In 1886," "a man...invented a new drink" "named John Pemberton" and "in an American city." Raters discussed "named John Pemberton." Rater 1 judged it as Importance Level 1 at first because it is important that an American invented the famous drink, but his name is unimportant. However, rater 2 said, "John Pemberton is the name of the man who invented 'a famous drink' Coca-Cola. I don't think the IU including his name is Importance Level 1 because he is important in the story." Rater 3 agreed with rater 2 because "John Pemberton" is the main character in this story. Thus, the raters resolved this point by agreeing that "named John Pemberton" is in Importance Level 2.

Then, IUs were categorized into each Importance Level by the researcher. In this way, the percentage of written recall at each level was calculated.

Results

The Ratio for Think-Aloud Protocols

Table 6 illustrates the production ratio of think-aloud comments per each process level according to the reading condition (i.e., searching for the author's intention vs. not searching). "Structure analysis" and "Paraphrase" focus on local reading while "Inference," "Reader response," "Self-monitoring," and "Comment on text structure" focus on global reading.

Table 6

The Ratio for Think-Aloud Protocols of Study 1

Conditions	Comments in think-aloud						
	TOTAL	Local reading			Global reading		
		Structure analysis	Para-phrase	Inference	Reader response	Self-monitoring	Comment on text structure
Non-task	100%	82.86%	0.55%	0.39%	7.74%	8.46%	0.00%
Task	100%	80.53%	1.73%	5.64%	6.19%	5.91%	0.00%

All the participants devoted a large amount of resource to lower-level processing, such as "Structure analyses," regardless of the reading conditions [the non-task condition: 82.86%; the task condition: 80.53%].

Interestingly, "Paraphrase" and "Inference" increased more in the task condition than in the non-task condition. Although the participants focus on local reading, such as "Structure analysis" or "Paraphrase," they also focus on global reading slightly more in the task condition than in the non-task condition.

On the other hand, "Reader response" and "Self-monitoring" decreased more in the task condition than in the non-task condition.

Table 7 shows the examples of think-aloud protocols for each category. For example, in the first row in Table 7 is an example of “Structure analysis.” Participant D was trying to understand the sentence “Christmas is a popular holiday that comes every year.” The participant then tries to parse this sentence word by word, saying “Every year” followed by a pause and then the next word “comes” that seems to have been understood. The following word “holiday” is not understood, however, inasmuch as the student repeats it three times, the final time with rising inflection indicates a question. She then asked, “What’s that?” and ventures a guess that it means a day off. Thus, we see the word-by-word analysis occurring.

Table 7

Categories of Think-Aloud Protocols and Examples in Study 1

Process Level	Category	Example
Structure analysis	(a) Word analysis	(a) “ <i>Maitoshi kuruhitono, holidei, holidei, holideitte nandakke? kyujitsu?</i> ” (= Every year, comes, holiday, holiday, holiday holiday? What’s that? A day off?) (Participant D)
	(b) Phrase analysis	(b) “also...be with... <i>de ukemi-kei.</i> ” (= “also...be with” is passive voice.) (Participant B)
Structure analysis	(c) Sentence analysis	(c) “But when were Christmas trees first used? <i>Shikashi itsu kurisumasu tsuru ga tsukaware hajimeta no desho ka.</i> ” (= But when were Christmas trees first used?) (Participant A)
Paraphrase	(d) Paraphrase	(d) “He made \$50, but he spent \$70 to make the drinks. He was not very happy because he spent more money to make the Coca-Cola. <i>Rieki ga tomonawanakatta.</i> ” (= He couldn’t turn a profit.) (Participant E)
Inference	(e) Backward inference	(e) “ <i>Kare wa koka-kora no... koka-kora wo, takusan no chigau basho ni, oitano kana? Sou kubareru,</i>

continued from the previous page

Process Level	Category	Example
Inference	(e) Backward inference	(e) <i>Ah muryo-de kubaru kara ironnatokoro ni oita to.</i> (= He put ...of Cola-Cola...Coca-Cola in many places. Did he put? So he could give [Coca-Cola]. He put many places to give for free.) (Participant D)
	(f) Predictive inference	(f) <i>“Yonhyaku shurui no Coca-Cola ga urarete iru...tsumari, koka-kora ga konnani yumei-na no ha nazeka... hoka-no, ja, koka-kora ha totemo yumei dattakara, de, oishikatta kara...”</i> (= Four hundred kinds of Coca-Cola are sold. Why is Coca-Cola famous very much like this? Coca-Cola is famous and delicious.) (Participant E)
Reader response	(g) Association	(g) No applicable examples)
	(h) Evaluation	(h) <i>“Kare wa... koka-kora wo ageru? Takusan no hitotachi ni? Muryo de? Ttekoto kara kana?”</i> (h) <i>Muryo de Koka-kora age chauno? Muryo dato muri jane? Mouke naku nai?”</i> (= He...gave Coca-Cola? To many people? For free? Does it make sense? Why did he give Coca-Cola for free? Is it possible to give Coca-Cola for free? I guess it’s not good that he couldn’t turn a profit...) (Participant D)
	(i) Reaction	(i) <i>“Ah, koka-kora ka...”</i> (= Oh, “A Famous Drink” is Coca-Cola! I see!) (Participant B) (i) <i>“Kora wa... ni-hyaku no kuni de urarete iru to, kore wo itten nana no, mmm, oku ka...”</i> (= Coca-Cola is sold in two hundred countries. This...one point seven...hundred thousand...That’s a lot.) (Participant B)
Reader response	(i) Reaction	(i) <i>“Kare wa itta... Ah zutsu no hito wo tasukeru koto ga dekiru, dekita? Ha? Nande da?”</i> (= He said that Coca-Cola can help people who have headaches. In fact, Coca-Cola could do it. Why was it possible?) (Participant C)
Self-monitoring	(j) Self-monitoring	(j) (No applicable examples)
Comment on text structure	(k) Comment on text structure	(k) (No applicable examples)

Note. Words in parentheses are translations of participants’ Japanese comments.

The Ratio for Written Recall

Table 8 indicates basic data for written recall and Table 9, the ratio of written recall. The participants recalled approximately twice more in the task condition than in the non-task condition. The results of a *t*-test provided that the difference between the reading conditions was statistically significant, and the effect size was medium, $p = .04$, $K = .35$. It was indicated that the participants recalled more in the task condition than in the non-task condition and the effect size was large ($d = 0.99$).

Table 8

Descriptive Statistics for Written Recall in Study 1

		Non-task condition	Task condition
<i>M</i>		7.00	12.71
<i>95% CI</i>	Lower Bound	2.90	6.36
	Upper Bound	11.10	19.07
<i>SD</i>		4.44	6.87
<i>SE</i>		1.68	2.60
Skewness		0.14	0.23
<i>SES</i>		0.79	0.79
Kurtosis		-2.06	-2.09
<i>SEK</i>		1.59	1.59

Note. $N = 57$

Table 9

The Ratio for Written Recall by IUs in Study 1

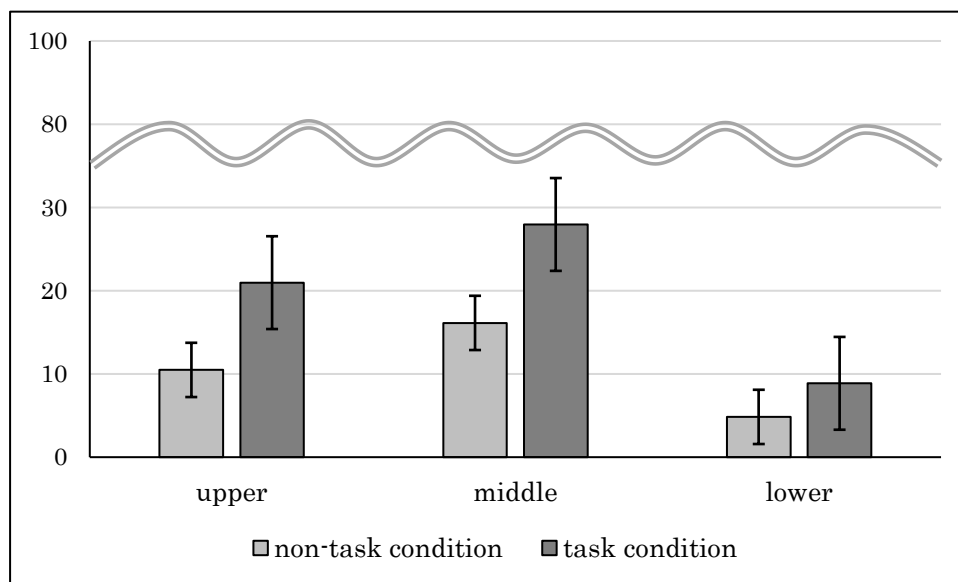
Proficiency	Non-task condition	Task condition	Difference	<i>p</i>
Upper	6.50 (10.48%)	13.00 (20.97%)	6.50 (10.48)	.44
Middle	10.00 (16.13%)	17.33 (27.96%)	7.33 (11.83)	.12
Lower	3.00 (4.84%)	5.50 (8.87%)	2.50 (4.03)	.04*
Total	7.00 (11.29%)	12.71 (20.51%)	5.71 (9.21)	.01**

Note. **p* < .05. ***p* < .01.

Figure 7 shows the graph based on Table 9.

Figure 7

The Ratio for Written Recall in Study 1 (%)



However, the participants recalled more in the task condition than in the non-task condition. Notably, the participants in the middle group recalled 1.7

times more in the task condition than in the non-task condition. On the other hand, they did not recall globally as shown in the following examples from written recall. These are examples in written recall by the participants. The first example shows that the participant A read the text globally (Table 10).

Table 10

Written Recall in the Task Condition by Participant A

- ・ コカコーラがどのようにして開発されたのかということ
“koka-ko-ra ga donoyouni-shite kaihatsu sareta noka toiu koto.”(= How was Coca-Cola invented?)
- ・ アメリカに住んでいたジョンという男の人が新しい飲み物を発明した。それがコカコーラであった。
“America ni sunde ita jon toiu otoko no hito ga atarashi nomimono wo kaihatsu shita.”
 (= The man named John lived in America invented a new drink. It was Coca-Cola.)
- ・ 彼はこのコカコーラという新しい飲み物はとても美味しくたくさんの人々に支持されるのではないかと考えた。
“Kare wa kono Coca-Cola toiu nomimono wa totemo oishiku takusan no hitobito ni shiji sareru nodewanaika to kangaeta.”(= He thought his new drink, Coca-Cola tasted very good and many people will agree with it.)
- ・ 最初にコカコーラを発売したときには、1 グラス 5 セントで販売し、9 グラス売った。
“Saisho ni Koka-ko-ra wo hanbai shita toki niha, ichi gurasu go sento de hanbai shi, kyu gurasu utta.”(= When he sold Coca-Cola first, he sold for five cents a class and he sold nine glasses.)
- ・ ジョンは友だちにコカコーラの包装紙にのせる文字を書いてもらった。その時に書いてもらった文字が今日のコカ・コーラのボトルに書いてある文字である。
“Jon wa tomodachi ni Koka-kora no hososhi ni noseru moji wo kaite moratta. Sonotoki ni kaite moratta moji ga konnichi no Koka-kora no botoru ni kaite aru moji de aru.”(= His friend wrote the name of Coca-Cola on a wrapping paper for John. The same writing it still used on Coca-Cola bottle today.)
- ・ コカ・コーラは時代がたつにつれて、たくさんの人々からの支持を得るようになりまたたく間に世界に広がった。
“Koka-kora wa jidai ga tatsu ni tsurete, takusan no hitobito kara no shiji wo eru youni nari, matatakuma ni sekai ni hirogatta.”(=Coca Cola was getting popular in the world among people who agreed with it.)
- ・ 今では 200 もの国々がコカ・コーラを販売している。
“Ima dewa ni hyaku mono kuniguni ga Koka-kora wo hanbai shite iru.”(= Coca-Cola is sold in more than two hundred countries.)

- ・ コカ・コーラはたくさんの種類の飲み物をたくさんの国々で販売している。
“Koka-ko-ra wa takusan no shurui no nomimono wo takusan no kuniguni de hanbai shite iru.”(= Coca-Cola (company) sells many kinds of drinks in many countries.)

The second example by Participant B recalled as picking up important information, but he did not understand the author’s intention by his conclusion in the last sentence (Table 11).

Table 11

Written Recall in the Task Condition by Participant B

- ・ コカ・コーラについての話
“Koka-kora ni tsuite no hanashi”(= Speaking of Coca-Cola)
- ・ 作った人たちは人々を幸せにしたいと思ったけど
“Tsukutta hito tachi wa hitobito wo shiawase ni shitai to omotta kedo,...”(= Inventors hoped to make people happy but...)
- ・ お金が足りなかった。
“Okane ga tarina katta.” (= They had little money.)
- ・ あるとき1人の人がたくさんの場所や人にコカ・コーラを配った。
“Arutoki hitori no hito ga takusan no basho ya hito ni Koka-ko-ra wo kubatta.”(= Once, a man gave people CoCa-Cola in many places.)
- ・ 無償で。そして、多くの場所で多く飲めるようになった。
“Musho de. Soshite, oku no basho de oku nomeru yoni natta.”(=For free. And Coca-Cola was drunk very much in many places.)
- ・ そのおかげで多く売れるようになった。
“Sono okage de oku ureru yoni natta.”(= For it, Coca-Cola became sold very much.)
- ・ そして、ついにはガラスのボトルになった。
“Soshite, tsuini wa garasu no botoru ni natta.”(= Then, at last, they started to use bottles made from glass.)
- ・ それらは今でも同じような形をもったままデザインも変えずにのこっている
“Sorera wa ima demo onaji yona katachi wo motta mama dezain mo kaezu ni nokotte iru.”(= The almost same bottle are still used keeping the design and the shape of them at that time.)

The third example by Participant D showed that she did not understand the story globally even though she recalled more in the task condition than in the non-task condition (Table 12).

Table 12

Written Recall in the Task Condition by Participant D

- ・ コカ・コーラは約 400 国で売られている。たぶん...200 だけ？
“Koka-kora wa yaku yon-hyaku koku de urarete iru. Tabun... nihyaku dakke?”(= Coca-Cola is sold in about 400 countries. Maybe...was it 200 countries?)
- ・ 昔、コカ・コーラはたくさんの場所で無料で置かれたことがあった
“Mukashi, Koka-kora wa takusan no basho de muryo de okareta koto ga atta.”(= Long time ago, Coca-Cola was put in many places to give it to people for free.)
- ・ ペンなんたらさんがコカコーラを作った人で、その友達の人が何かを書いた。
“pen nantara san ga koka-ko-ra wo tsukutta hito de, sono tomodachi no hito ga nanika wo kaita.”(= Pen...something was a man who made Coca-Cola, and his friend wrote something...)
- ・ 初めはガラスのボトルで売られていたコカコーラであったが、ペットボトルに変わった。人々の記憶に残るようになった。
“Hajime wa garasu no botoru de urarete ita koka-kora de atta ga, petto botoru ni kawatta. Hitobito no kioku ni nokoru yoni natta.”(= At first, Coca-Cola was sold in glass bottles, later, it changed in plastic bottles. It remained in people’s mind.)
- ・ コカコーラは頭痛で大変な人を助けることができる...？
“Koka-kora wa zutsu de taihenna hito wo tasukeru koto ga dekiru...?”(= Coca-Cola can help people who had headaches...?)
- ・ 昔、コカコーラに似たものを他の会社が作ろうとしていた。
“Mukashi, koka-kora ni nita mono wo hoka no kaisha ga tsukuro to shite ita.”(= Long time ago, other companies tried to make drinks like Coca-Cola.)
- ・ 1 人の男性 (名前忘れた) がレシピをペンなんたらさんから買った。
“Hitori no dansei (namae wasureta) ga reshipi wo Pen nantara san kara katta.”(= A man (I forgot his name) bought the recipe from Pen...something.)
- ・ その人にはたくさんの良いアイデアがあった。
“Sono hito niwa takusan no yoi aidea ga atta.”(= He had lots of good ideas.)
- ・ ペンなんたらさんがコカコーラを作った時、おいしいと思った。人々もそれに賛成した。
“Pen nantara san ga koka-kora wo tsukutta toki, oishi to omotta. Hitobito mo sore ni sansei shita.”(= When Pen...something made Coca-Cola, He thought it tasted good. People agreed with him.)

The Importance Level for Written Recall

Table 13 demonstrates the ratio of IUs produced by each Importance Level. As mentioned in 3.2.4.3, in this study, IUs in Importance Level three are the most important ideas, which readers should recall. In order to evaluate the effects of two treatments on the three Importance Levels, a two-way mixed ANOVA was performed. The within-subjects factor was condition with two *level* (task condition and non-task condition) and importance level with three levels (three, two, and one). The results showed that the *condition* main effect was significant, $F(1, 12) = 18.60$, $p < .01$, $\eta^2 = .76$. The average of written recall numbers in the non-task condition was higher than the average in the task condition. The test main effect was also significant, $F(2,12) = 6.15$, $p < .05$, $\eta^2 = .51$. The higher the Importance Level was, the smaller the average of written recall numbers was. The interaction effect was not significant, $F(2,12) = 1.60$.

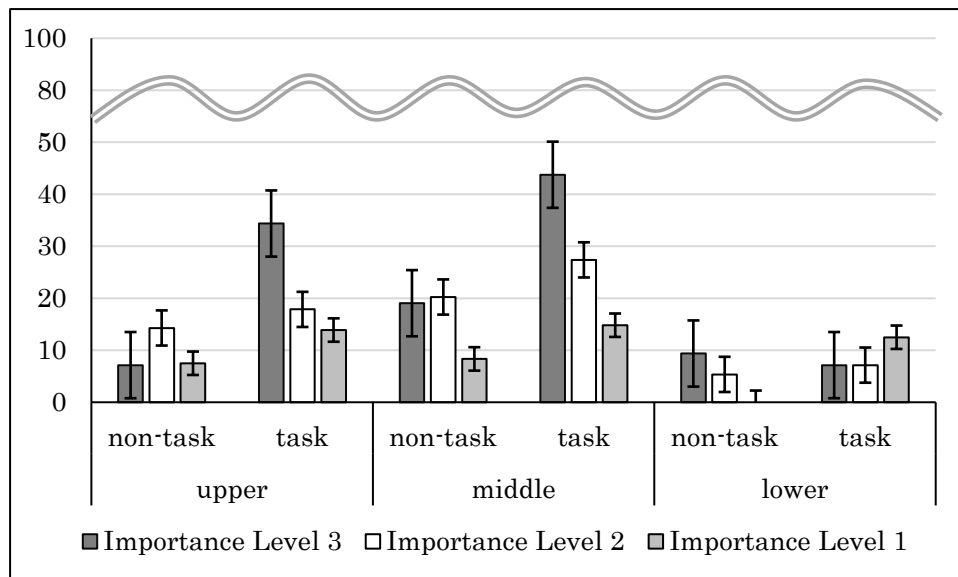
Table 13*The Numbers and Ratio of Written Recall by Importance Levels in Study 1*

Proficiency	Importance Level	Non-task condition	Task condition	Difference
Upper	3	1.00 (7.14%)	5.50 (34.38%)	4.50 (27.23)
	2	4.00 (14.29%)	5.00 (17.86%)	1.00 (3.57)
	1	1.50 (7.50%)	2.50 (13.89%)	1.00 (6.39)
Middle	3	2.67 (19.05%)	7.00 (43.75%)	4.33 (24.70)
	2	5.67 (20.24%)	7.67 (27.38%)	2.00 (7.14)
	1	1.67 (8.33%)	2.67 (14.81%)	1.00 (6.48)
Lower	3	1.50 (9.38%)	1.00 (7.14%)	-0.50 (2.23)
	2	1.50 (5.36%)	2.00 (7.14%)	0.50 (1.79)
	1	0.00 (0.00%)	2.50 (12.50%)	2.50 (12.50)
Average	3	1.86 (12.88%)	4.86 (30.61%)	3.00 (17.73)
	2	4.00 (14.29%)	5.29 (18.88%)	1.29 (4.59)
	1	1.14 (5.71%)	2.57 (13.89%)	1.43 (8.17)

Figure 8 is the graph based on Table 13. The upper and middle participants produced the most important IUs in the task condition more than in the non-task condition. The most important IUs in the lower level decreased slightly in the task condition less than in the non-task condition. The participants in the lower group recalled less in the task condition than in the non-task condition. They could not construct coherence because they concentrated decoding too much.

Figure 8

The Ratio for Written Recall by Importance Levels in Study 1 (%)



Processes and Productions by Each Participant

Participant B read the text as analyzing word and sentences in the non-task condition. As he devoted most attentional resources for sentence analysis in the non-task condition, he did not pay attention to the content of the text. In the task condition, he focused on the content more in the task condition than in the non-task condition, so his “Reader response” and written recall were increased more than in the non-task condition. It seems extremely local reading inhibits learners’ reading comprehension. When he read English texts, he tried to summarize the content of the text and put slashes after each phrase, but he did not understand the content of the English texts in this study.

Participants A and C completely translated the whole texts. Participant C told in the semi-constructed interview that she wanted to know the meaning of each word and sentence and otherwise, she was not sure whether she understood

or not. Participant A is good at reading English because she has been studying English in a cram school since she was two or three years old and her attentional resources are sufficient. However, her understanding of the text tends to be local in the non-task condition and she produced “Reader response” more in the task condition because she tried reading the text globally. According to the interview, she usually read aloud each sentence in her mind even while engaging in silent reading and she also puts slash after each phrase when she reads English texts.

Participant E read the texts quickly and understood the main points of the texts better than other participants. His father uses English in his job and colleagues who are from foreign countries often visit his house. That is why Participant E is exposed to authentic English and he thinks listening and reading English slowly does not work for real communication. So, he tried reading the texts fast and often produced “Paraphrase” during reading the experimental texts. He said that he did not care about unknown words and sentences he couldn’t understand.

Participants F and G tried reading aloud most of the texts. They used their attentional resources to speak out English and understand words and sentences, so they did not reach to understand the contents of the texts. Reading aloud sometimes helps learners understand a text, but the participants F and B seemed to use their attentional resources too much for their reading aloud.

Discussion of Study 1

Study 1 investigated to what extent the task instruction to ask the participants finding the author’s intention and the non-task instruction affects the

reading processes and the reading comprehension depth of junior high school students in Japan.

Regarding RQ 1: To what extent does the task instruction which asked the participants to find the author's intention affects Japanese junior high school students' English reading comprehension processes?, participants in Study 1 produced "Structure analysis" in think-aloud, which was more than 80% of all think-aloud protocols responses in both the task condition and the non-task condition. Similar findings were reported as the tendency by typical novice learners in previous research (e.g., Horiba, 2000; Kimura, 2015; Linderholm & van den Broek, 2002).

However, the participants produced "Inference" more in the task condition than in the non-task condition. Moreover, they produced "Backward inference" more than "Predictive inference." The above results seemed to indicate that they tried to understand by using backward inferences which maintain the coherence of the text during comprehension as explained in the sections, (5) Recent Reading Comprehension in History of Reading Comprehension Models and (3) Making inferences in Studies on Success and Unsuccess in Reading Comprehension.

Also, the participants produced "Reader response" and "Self-monitoring" more in the non-task condition than in the task condition. As for "Reader response," it seemed that they expressed their thoughts and feelings freely in the non-task condition but they devoted their attentional resources to reading and understanding the text deeply in the task condition. As for "Self-monitoring," it seemed that they wanted to make sure whether they understood the text or not.

Therefore, the reading task instruction in Study 1 affected the participants' reading process.

Regarding RQ2: To what extent does the task instruction affects Japanese junior high school students' English reading comprehension depth?, the participants recalled more in the task condition than in the non-task condition in written recall. This result illustrates that they understood the text better in the task condition than in the non-task condition. This tendency was clearly shown in the middle group. In the analysis of Importance Levels, the participants recalled the most important (Importance Level 3) IUs more in the task condition than in the non-task condition. It seemed that they tried grasping the main ideas to understand the text by the reading task instruction, which was possibly predicted that the participants in the upper group might have an advantage more than the participants in the lower group because the former might possess high academic skills. Therefore, it is shown that in Study 1, the reading task instruction affected the participants' reading comprehension depth.

In Study 2, the other task instruction, the critical instruction in which the students compare the author's intention with their own views and evaluate them will be adopted and investigated the reading process and production.

Study 2

As has been specified in Chapter 3, reading is the process of understanding written language. As discussed above, according to van Dijk and Kintsch (1983), readers build a coherent mental representation to comprehend a text. Although skilled readers can use sensory, syntactic, semantic, and pragmatic information to comprehend the text (Rumelhart, 1976), decoding the text is difficult for novice readers.

Three difficulties for L2 reading comprehension mentioned by former students are as follows:

1. L2 readers have less sufficient linguistic knowledge than L1 (Horiba, 2000).
2. L2 readers devote attentional resources more than L1 readers because L1 works in the brain at the same time for L2 reading (Morishima, 2013).
3. L2 readers need to know the background of L2 linguistic knowledge, such as nuances of L2 (e.g., vocabulary, structure, and pragmatics) and L2 culture (Carrell & Grabe, 2010).

To investigate these issues, in Study 2, the participants read the texts with the critique instruction provided by Horiba (2013) and compared the author's intention with their own views and evaluated the author's intention.

The Aims of Study 2 and Research Questions

The purpose of the second study is to examine if the teachers' critique instruction affects the quantity and quality of the students' L2 reading

comprehension process and the depth of reading comprehension by Japanese junior high school students. This type of instruction encourages readers high-level reading process and constructing coherent stronger. Horiba (2013) showed that the critique instruction causes any changes in the reading process measured by think-aloud, but it brings more quantity and better-quality to the depth of reading comprehension measured by written recall by the participants. Considering the findings in Study 1, the following research questions (RQs) will be investigated in Study 2:

When Japanese junior high school students were tasked with the critique instruction,

RQ 1: To what extent does the critique instruction affect Japanese junior high school students' English reading comprehension processes?

RQ 2: To what extent does the critique instruction affect Japanese junior high school students' English reading comprehension depth?

Method

The present study used measures which were used in Study 1 except for the number of participants.

Participants

The participants in Study 2 were sixty-two Japanese junior high school students who were fifteen years old and had studied English at schools for about five years in the EFL setting in Japan (36 males and 26 females) as shown in Table

15. They were all different members from the participants in Study 1, and all native speakers of Japanese and all beginner-level English learners. They were at approximately the same level, A1 level in CEFR, as students in Study 1 according to the comparison chart MEXT provided. Four participants had passed the EIKEN Test Grade Pre-2nd, 21 participants passed Grade 3, nine students passed Grade 4, one student passed Grade 5, and 22 students were not certified for any grade. The participants were divided into three groups based on proficiency scores from the *Seishinsha* Proficiency Exam in 2018; the three groups were Upper ($n = 20$): $M = 67.20$, $SD = 12.76$; Middle ($n = 18$): $M = 37.22$, $SD = 7.06$; and Lower ($n = 19$): $M = 20.89$, $SD = 7.64$. A one-way ANOVA confirmed that there was a significant difference among the three groups in terms of their English language proficiency, $F(2, 56) = 116.71$, $p = .01$, which shows each group was different (Table 14). Five participants who could not appropriately complete the task were excluded from the analysis; thus, data from fifty-seven participants were used for full analysis.

Table 14

Participants in Study 2

Proficiency	<i>n</i>	<i>M</i>	<i>SD</i>	STEP Grade				
				Grade Pre-2nd	Grade 3rd	Grade 4th	Grade 5th	Not certified
Upper	20	67.20	12.76	4	11	3	0	2
Middle	18	37.22	7.06	0	9	5	0	4
Lower	19	20.90	7.64	0	1	1	1	16

Note. $N = 57$. Full score = 100. All participants were at CEFR-Level pre-A1, and all had had five years of English education at school.

Table 15

Analyses for the Interaction of Proficiency Levels by Proficiency Test Scores in Study 2

Proficiency		<i>MD</i>	<i>SE</i>	<i>p</i>	95% CI	
					LL	UL
Upper	Middle	29.98	3.12	.001*	22.26	37.69
Middle	Lower	16.33	3.16	.001*	8.51	24.14
Lower	Upper	-46.31	3.08	.001*	53.91	-38.70

Note. *MD* = mean difference. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit. **p* < .001.

Reading Material

In order to compare with the results in Study 1, reading texts used in the study are the same as the ones used in Study 1 (See Table 2 in 3.2.2). The experimental texts were from the reading section of the third grade STEP tests: *The Christmas Tree* (CT) in 2013 (See Appendix A-1) and *A Famous Drink* (FD) in 2014 (See in Appendix A-2).

Procedure

The procedure was slightly different from that of Study 1. Study 2 includes three parts as shown in Figure 12. Study 2 took three classes (50 minutes for one class) for the experiment because the number of participants was large. Participants were separated into four groups of fifteen or sixteen. All experiments had been taken for ten days.

Details of the three steps are explained as follows (The instruction is showed in Appendix B-2):

Step 1: Practice session: the participants read the practice text with a think-aloud task.

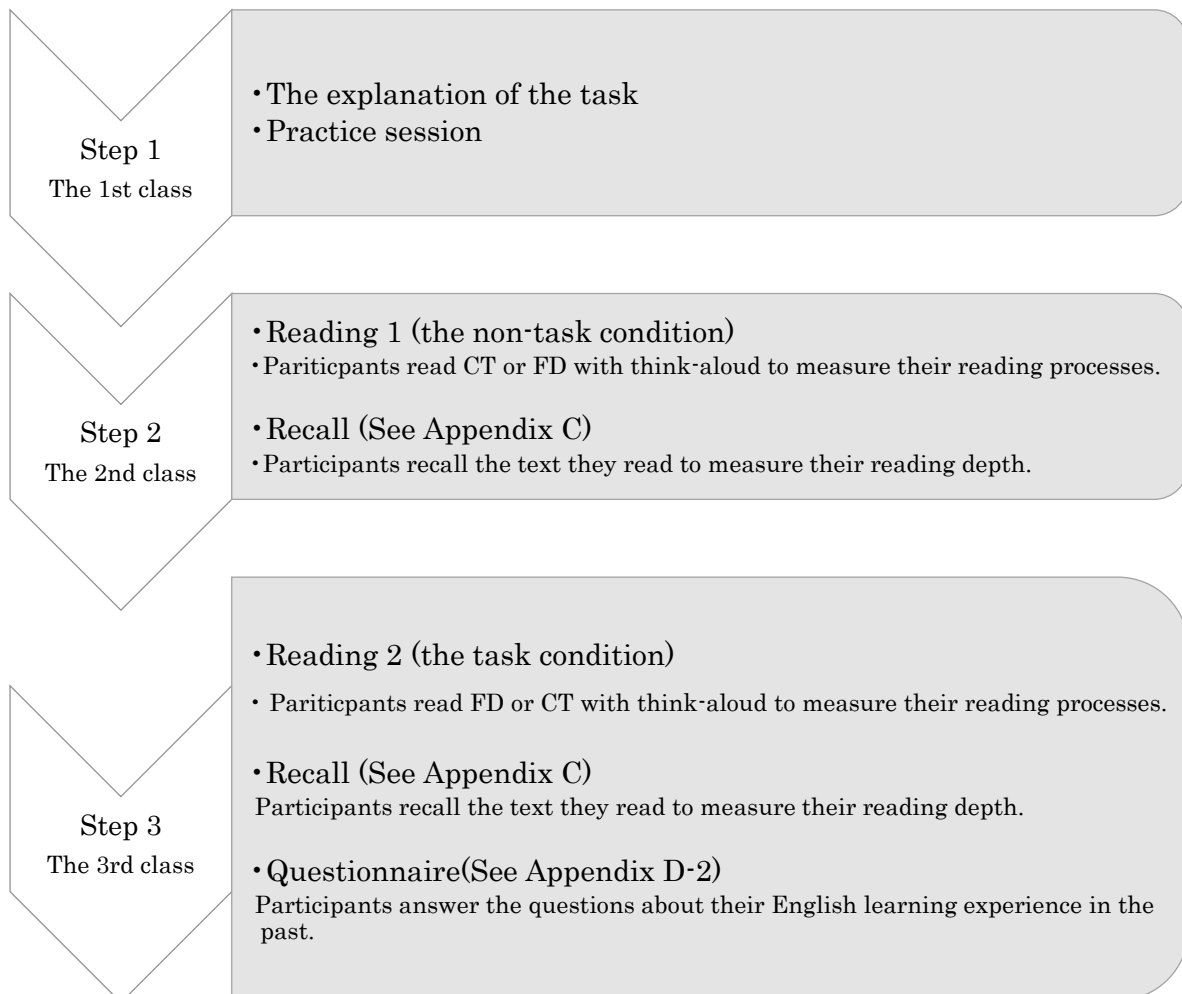
Step 2: The first reading: the participants read the experimental text freely and worked on a written recall task

Step 3: The second reading: the participants critically read the second experimental text.

Figure 9 shows the procedure of Study 2.

Figure 9

The Procedure of the Experiment of Study 2



In Step 1, the researcher explained the study's purpose, procedures, and the method of data collection in the participants' L1, Japanese. The participants consented to join the research. Then, the participants were asked to read the practice text with think-aloud without any task instruction.

In Step 2, the participants followed the non-task instruction. They read and thought aloud the first text without any specific task instruction. Then, they recalled whatever they remembered about the first text without rereading the text.

In Step 3, they followed the same procedure for the second experimental text after being asked in the task condition to compare the author's intention with their own views and evaluate the author's intention.

The participants in Study 1 carried out the experiment Step 1, 2, and 3 immediately and it took from thirty minutes to fifty minutes because the size of participants was small in Study 1. Although the participants in Study 1 implemented calculation between reading the experimental text and written recall, the participants in Study 2 did not work on calculation because they took the experiments with three steps in each different day. Therefore, the recency effect was not expected. Fifty minutes were limited for each step. All participants finished the experiment within the allotted time.

Scoring and Analysis

Scoring and analysis were the same as in Study 1. Think-aloud protocols and written recalls were analyzed in the same way as in Study 1.

Think-Aloud Protocols.

As stated in the section, Think-Aloud Protocols, some frameworks from Horiba (2013), Kimura (2015), and Ogiso (2018) were adapted to the present study to score the participants' think-aloud protocols. Table 3 shows the process level, the categories, and the definition of think-aloud protocols. Fifteen per cent of the participants' protocol data were scored by three raters majoring in English education and teachers at junior high schools, including the author.

Written Recall and the Importance Level.

Written recall is also scored in the same way as Study 1, which explained in the section, Written Recall and Importance Level in Study 1. Fifteen per cent of the recall data were randomly selected and scored by three raters separately including the author. If two-thirds of the information in the IU was reproduced in a participant's recall protocol, one point was given to that IU. Also, IUs were analyzed by Importance Levels (See Appendix E-1 and 2).

Results

As same as in Study 1, think-aloud protocols provided the ratio according to process levels and categories, while written recall provided the ratio of IUs produced by the participants and ratio of IUs produced in each Importance Level.

The Ratio for Think-Aloud Protocols

Table 16 shows the descriptive statistics of think-aloud comments per each process level (“Structure analysis,” “Paraphrase,” “Inference,” “Reader response,” and “Comment on text structure”) according to the reading conditions.

Table 16

Descriptive Statistics for Think-Aloud Comments by Process Levels in Study 2

Process level	<i>M</i>	<i>SD</i>	<i>SE</i>	95% <i>CI</i>	
				LL	UL
Structure analysis	86.59	20.92	2.24	82.01	91.09
Paraphrase	0.25	0.84	0.09	0.07	0.44
Inference	3.49	8.18	0.91	1.66	5.32
Reader response	3.93	9.53	0.92	2.10	5.77
Self-Monitoring	3.96	8.38	0.98	1.99	5.93
Comment on text structure	0.03	0.24	0.02	-0.01	0.08

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

In order to evaluate the effects of two treatments on the students’ use of six process levels, a two-way repeated-measures ANOVA was performed. The first within-subjects factor was *condition* with two level, (task condition and non-task condition), and the second within-subjects factor was process level with six levels (Structure analysis, Paraphrase, Inference, Reader response, Self-monitoring, and Comment on text structure). Since the Sphericity Test was not passed, the

Greenhouse-Geisser adjustment was used. The results showed that the *task* main effect was not significant, $F(1, 56) = 2.04, p = .16, \eta^2 = .04$; the *process* main effect was significant, $F(5, 280) = 798.43, p = .001, \eta^2 = 0.93$; and the interaction effect was not significant, $F(5, 280) = 1.40, p = .25, \eta^2 = 0.02$.

Pairwise comparison tests were performed between the six process levels in order to follow up the significant *process level* main effect. Holm's sequential Bonferroni adjustment was used to control for Type I errors. Table 17 displays the post hoc test results. The students utilized structure analysis most frequently among all the reading strategies. "Structure analysis" was significantly more frequent than "Paraphrase," "Inference," "Reader response," and "Self-monitoring"; "Self-monitoring" was significantly more frequent than "Paraphrase."

Table 17

Post Hoc Analysis for Think-Aloud Comments by Process Levels in Study 2

Process Level	<i>p</i>	<i>d</i>	α
Structure Analysis_Paraphrase	.001***	7.18	.003
Structure Analysis_Inference	.001***	6.40	.003
Structure Analysis_Reader response	.001***	6.37	.003
Structure Analysis_Self-monitoring	.001***	6.30	.003
Structure Analysis_Comment on text structure	.001***	7.20	.003
Paraphrase_Inference	.001**	-0.66	.010
Paraphrase_Reader response	.001**	-0.75	.006
Paraphrase_Self-monitoring	.001**	-0.70	.008
Paraphrase_Comment on text structure	.026*	0.43	.013
Inference_Reader response	.697	-0.06	.017
Inference_Self-monitoring	.710	-0.07	.025
Inference_Comment on text structure	.001**	0.71	.001
Reader response_Self-monitoring	.981	0.01	.050
Reader response_Comment on text structure	.001***	0.80	.005
Self-monitoring_Comment on text structure	.001***	0.74	.007

Note. $N = 57$. * $p < .05$, ** $p < .001$, *** $p < .0001$. The alpha level after Holm's Sequential Bonferroni adjustment.

Table 18 shows the ratio of think-aloud comments per each process level (“Structure analysis,” “Paraphrase,” “Inference,” “Reader response,” and “Comment on text structure”) according to the reading conditions.

Table 18

The Ratio for Think-Aloud Comments by Process Levels in Study 2

Conditions	Comments in think-aloud						
	Total	Local reading			Global reading		
		Structure analysis	Para-phrase	Inference	Reader response	Self-Monitoring	Comment on text structure
Non-task	100%	86.00%	0.32%	4.67%	5.77%	3.18%	0.06%
Task	100%	90.70%	0.18%	2.30%	2.09%	4.73%	0.00%

Participants produced “Structure analysis” more in the task condition than in the non-task condition. Moreover, the ratios of Structure analysis were accounted for more than 80% in both conditions. Also, Self-monitoring was produced more in the task condition than in the non-task condition.

Table 19 shows the examples of think-aloud comments in Study 2.

Table 19

Examples of Think-Aloud Comments in Study 2

Process level	Category	Examples
Structure analysis	(a) Word analysis	(a) “ <i>Maitoshi sanju-go mirion</i> Christmas trees are sold in the United States. <i>Maitoshi sanju-go mirion hyaku-man en kana, sanju-go, hyaku-man en dakara san-zen go-hyaku man ka.</i> ” (= Every year, 35 million Christmas trees are sold in the United States. Every year, thirty-five million...million? ...thirty-five, million, so...three thousand five hundred, ten thousand...) (Participant 1)
	(b) Phrase analysis	(b) (No applicable examples)
	(c) Sentence analysis	(c) “He made <i>goju doru</i> but he spent <i>nanaju</i> to make the drinks. <i>kare wa goju doru tsukutta. Demo nanaju doru tsuiyashita, dorinku wo tsukuru tame ni.</i> ” (= He made fifty dollars but he spent seventy to make the drinks. He spent fifty dollars. But he spent seventy dollars ...to make the drink.) (Participant 20)
Paraphrase	(d) Paraphrase	(d) “ <i>Ima wa purasuchikku no tsuri ga hayattenda to.</i> ” (= Now plastic trees are often used.) (Participant 13) (d) “ <i>Kono hito nani yatta no?</i> ” (= What did this man do?” [= What did the man do?] (Participant 1) (d) “He wrote it in special writing. The same writing is still used at Coca-Cola bottle today. <i>Furanku Robinson wa kaita, namae wo, tokubetsuna namae wo tokubetsu ni kaita. Sorega ima tsukawarete iru, botoru ni.</i> ” (= Frank Robinson wrote the name down. He wrote the special name

continued from the previous page

Process level	Category	Examples
Paraphrase	(d) Paraphrase	(d) with the special way.) (Participant 45)
Inference	(e) Backward inference	(e) “ <i>doitsu no machi ni sen-nen mae ni sunde ima shita. Dare desuka? Saino san kana?</i> ” (= He lived in Germany more than 1000 years ago. Who is “he?” Is he “Saint?”) (Participant 8)
	(f) Predictive inference	(f) (No applicable examples)
Reader response	(g) Association	(g) “ <i>Penba-ton, Pepper de iiya. Pepper wa hajimeta Coca-Cola wo go doru de.</i> ” (= Pemberton, it’s like Pepper, Pepper sold Coca-Cola in five dollars.) (Participant 13) (g) “ <i>Ju-roku seiki, kurisumasu tsuri wa yumei ni narimashita. In no-zan, yoroppa de yumei ni narimashita</i> people, <i>Um?, higashi yoroppa, sen-go-hyaku...madaka, Berurin no kabe wa madaka. Higashi yoroppa de yumei ni narimashita.</i> ” (= In the sixteenth century, Christmas tree became famous. In Northern Europe, it became famous. Um? The Eastern Europe? It was the year of one thousand five hundred...Berlin did not appear then. It became famous in the Eastern Europe.) (Participant 1)
	(h) Evaluation	(h) (No applicable examples)
	(i) Reaction	(i) “Plastic Christmas trees and they can also be used many times. <i>Nan kai mo tsukaeru yona, tashikani na.</i> ” (= We can actually use plastic Christmas trees many times. That’s right.) (Participant 13)
		(i) “ <i>Mainichi, itten-nana, itten-nana oku mono hitobito ga nonde imasu. e, ooi.</i> ” (= Every day, one point seven, one point seven hundred million people drink it. That’s many!) (Participant 1)
Self-monitoring	(j) Self-monitoring	(i) “Pemberton started selling Coca-Cola for five cents. <i>Yasu!</i> a glass.” (=It’s cheap!) (Participant 43)
		(j) “They are hard to clean up. <i>Muzukashii to...Kokora hen yoku wakaranai na.</i> ” (= That’s difficult. I don’t understand the text here.) (Participant 10)
		(j) “ <i>Kare wa tesuto wo toshite takusan no hito no, ah? Matte wakannai.</i> ” (= He...many people through the test...Um? Wait a minute. I don’t understand!) (Participant 27)
		(j) “Today, the number of popular who use plastic trees is growing... <i>chotto yaba, nani itteruka wakannen dakedo.</i> ” (= I’m in trouble. I don’t understand!) (Participant 35)

continued from the previous page

Process level	Category	Examples
Comment on text structure	(k) Comment on text structure	(k) (No applicable examples)

Note: Words in parentheses are translations of participants' Japanese comments.

Table 20 exhibits the respective ratios of each process level by proficiency. All the participants also devoted a large amount of resource to “Structure analyses” regardless of the reading conditions: the non-task condition was 86.00% while the task condition was 90.70% ($t(56) = -2.2, p = .03$), which showed the same tendency as in Study 1. In more detail, the participants in the upper and middle groups produced “Structure analysis” more in the task condition than in the non-task condition: the upper level result was $t(19) = -2.3 (p = .03)$ and the middle level result was $t(15) = -2.3 (p = .03)$. “Self-monitoring” protocols were produced more in the task condition than in the non-task condition but it was not significant, $t(56) = -1.5, p = .14$. The lower group also produced “Self-monitoring” more in the task condition than in the non-task condition (which was statistically significant). The upper and middle groups showed the same tendency but their “Self-monitoring” protocols were increased slightly. In all three proficiency groups, “Inference” and “Reader response” protocols were smaller in the task condition than in the non-task condition: “Inference” $t(56) = 2.08 (p = .04)$, and “Reader response” $t(56) = 2.18 (p = .03)$.

Table 20

The Ratio for Think-Aloud Comments by Process Levels and Proficiency in Study 2

Conditions	Proficiency	Comments in think-aloud					
		Local reading		Global reading			Comment on text structure
		Structure analysis	Paraphrase	Inference	Reader response	Self-monitoring	
(SD)	(SD)	(SD)	(SD)	(SD)	(SD)	(SD)	
Non-task	Upper	82.85% (25.00)	0.78% (1.48)	4.54% (9.92)	7.48% (15.92)	4.36% (6.64)	NA
	Middle	84.67% (17.19)	NA	6.82% (8.63)	6.05% (9.86)	2.32% (5.54)	0.14% (0.57)
	Lower	90.01% (15.94)	0.13% (0.57)	3.16% (9.01)	3.94% (10.93)	2.71% (4.94)	0.06% (0.25)
	Average	86.00% (19.80)	0.32% (0.99)	4.67% (9.19)	5.77% (12.53)	3.18% (5.72)	0.06% (0.34)
Task	Upper	90.28% (13.76)	0.37% (0.92)	3.01% (6.75)	1.33% (3.43)	5.00% (10.78)	NA
	Middle	91.80% (10.03)	0.18% (0.72)	0.94% (2.04)	3.08% (5.12)	4.01% (9.14)	NA
	Lower	90.25% (32.36)	NA	2.66% (9.23)	2.06% (4.73)	5.03% (11.31)	NA
	Average	90.70% (22.15)	0.18% (0.67)	2.30% (6.91)	2.09% (4.42)	4.73% (10.38)	NA
Difference	Upper	7.43	0.40	1.53	6.14	0.64	NA
	Middle	7.13	0.18	5.89	2.97	1.69	0.14
	Lower	0.24	0.13	0.50	1.88	2.32	0.06
	Average	4.70	0.14	-2.38	-3.68	1.55	0.06
<i>p</i>	Upper	.03	.19	.35	.11	.71	NA
	Middle	.03	.33	.01*	.20	.23	.33
	Lower	.24	.33	.82	.47	.27	.33
	Average	.72	.28	.04	.03	.14	.18
<i>d</i>	Upper	14.40	1.35	7.14	16.22	7.73	NA
	Middle	11.90	0.72	7.73	8.94	5.40	0.57
	Lower	35.23	0.57	10.04	11.60	9.44	0.25
	Average	24.84	0.96	8.62	12.74	7.77	0.34

Note. $N = 57$. NA = not applicable. Paraphrase of Middle in the non-task condition, Comment on text structure of Upper in the non-task condition, and Comment on text structure in the task condition were not found.
* $p < .01$.

The Ratio for Written Recall

Table 21 is the basic statistics for written recall. Table 22 shows the number of IUs and the ratio of written recall. Participants produced IUs in the task condition than in the non-task condition. To examine whether each language proficiency group obtained different scores depending on reading conditions, 2 (reading condition) \times 3 (language proficiency) two-way ANOVA was conducted; the results were $F(2, 54) = .82, p = .45$. The effect size indicated a small interaction on reading comprehension ($\eta^2 = .03$).

Table 21

Descriptive Statistics for Written Recall in Study 2

Condition	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Non-task condition	31.37	16.71	0.90	0.25
Task condition	37.50	14.52	0.15	-0.54

Table 22

The Number of IUs and the Ratio for Written Recall in Study 2

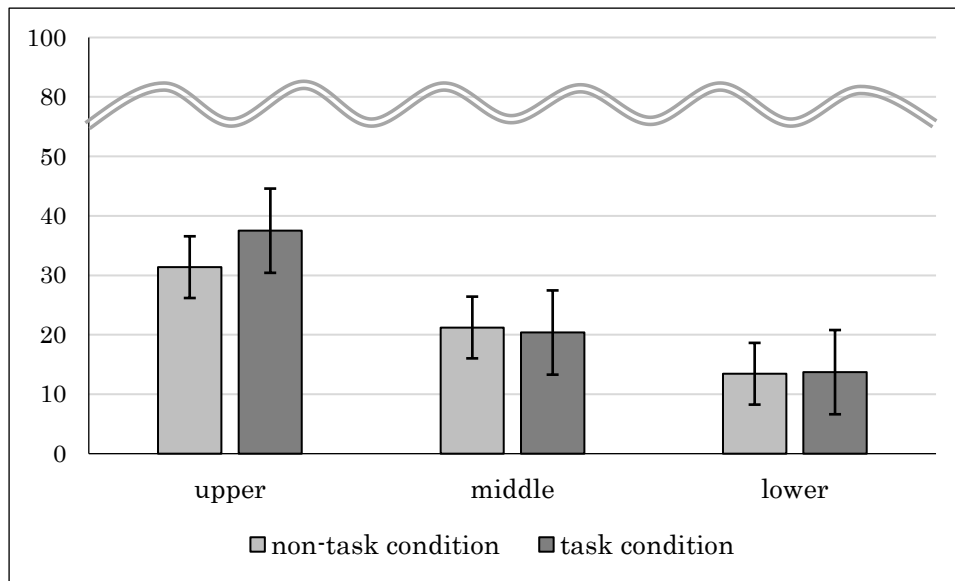
Proficiency	Non-task condition	Task condition	Difference	<i>p</i>
Upper	19.45 (31.37%)	23.25 (37.50%)	3.80 (6.13%)	.22
Middle	13.16 (21.22%)	12.63 (20.37%)	-0.53 (-3.25%)	.85
Lower	8.33 (13.44%)	8.50 (13.71%)	0.17 (0.27%)	.93
Average	13.84 (22.33%)	15.05 (24.28%)	1.21 (1.95%)	.01*

Note. * $p < .01$

Figure 10 presents is the graph based on Table 22.

Figure 10

The Ratio for Written Recall in Study 2 (%)



The difference in the ratio of written recall was small between the non-task condition and the task condition. Moreover, they were not significant. The following two examples of written recall by Participant 32 and 33 show the difference.

The first example is by Participant 32. He understood the story of the text briefly and his production was well organized. Moreover, he seemed to use his background knowledge rather than reading details in the non-task condition. While in the task condition, he coherently recalled the main ideas of the text even though his written recall was short and simple.

Table 23

Written Recall in the Non-Task Condition by Participant 32

- ・ クリスマスの木の話。
“*Kurimasu no ki no hanashi.*” (= The story about Christmas trees.)
- ・ 針がある木よりプラスチックの方が良い。
“*Hari ga aru ki yori purasuchikku no hou ga yoi.*” (= Plastic trees are better than trees with needles.)
- ・ 手入れしやすい。
“*Teire shiyasui.*” (= It is easy to clean.)
- ・ おいしいものをおく。
“*Oishii mono wo oku.*” (= [People] put something delicious [under the Christmas tree].)
- ・ プレゼントをおく。
“*Purezento wo oku.*” (= [People] put presents.)
- ・ たくさんの木がいろいろな国でかざられる。
“*Takusan no ki ga ironna kuni de kazarareru.*” (= A lot of trees are displayed in many countries.)

As can be seen Table 23, in the written recall in the non-task condition, the responses are quite short and simple; three are about five words in length and the remaining three are only slightly longer. However, in the task condition (Table 24), the responses are much longer and well organized.

Table 24

Written Recall in the Task Condition by Participant 32

- ・ コカコーラは1800年代につくられ、さいしょはあまり売れなかった。
“*Koka-kora wa 1800 nendai ni tsukurare, saisho wa amari urenakatta.*” (= Coca-Cola was invented in the 1800s. At first it didn't sell well.)
- ・ つくった人はあきらめて、作り方を他の人に売った。
“*Tsukutta hito wa akiramete, tsukuri kata wo hoka no hito ni utta.*” (= The man who invented Coca-Cola gave up and he sold the recipe to another man.)

- ・買った人は無料でいろんな場所でくばった。
“Katta hito wa muryo de ironna basho de kubatta.” (= The man who bought the recipe of Coca-Cola gave Coca-Cola [to people] in many places for free.)
- ・よく売れるようになる。
“Yoku ureru youni naru.” (= Coca-Cola sold well.)
- ・他の会社も同じようなものをつくろうとした。
“Hoka no kaisha mo onaji youna mono wo tsukuro to shita.” (= Other companies tried to make the same kind of drinks.)
- ・いまでは 400 種類以上が世界中で売られている。
“Ima deha 400 shurui ijo ga sekai de urarete iru.” (= Now, more than 400 kinds of drinks are sold around the world.)

The second example is by Participant 33. His written recall in the non-task condition addressed the main ideas but jumped from one subject to another, which showed that he could not reconstruct the story (Table 25). While in the task-condition, he produced the main ideas and his written recall of the story was organized well (Table 26).

Table 25

Written Recall in the Non-Task Condition by Participant 33

- ・コカコーラははじめ 70 ドルで作られ、50 ドルで売られていたため、作った人はそんなにうれしそうではなかった。
“Koka-kora wa hajime nana-ju doru de tsukurare, goju doru de urareteita tame, tsukutta hito wa sonnani shiawase dewa nakatta.” (= Coca-Cola was first made for \$70 and sold for \$50, so the people who made it didn't seem too happy.)
- ・コカコーラはとても人気のあるドリンクだ。
“Koka-kora wa totemo ninki no aru dorinku da.” (= Coca-Cola is a very popular drink.)
- ・コカコーラを作った会社は、今では 400 種類ものドリンクを売っている。
“Koka-kora wo tsukutta kaisha wa, ima dewa, yon-hyaku shurui mono dorinku wo utte iru.” (= The company which invented Coca-Cola sells 400 kinds of drinks now.)

Table 26

Written Recall in the Task Condition by Participant 33

- ・ クリスマスの木はアメリカやイングランド、カナダでたくさん売られている
“*Kurisumasu no ki wa Amerika ya Ingurando, Kanada de takusan urarete iru.*” (= Christmas trees are sold in the U.S., England, and Canada.)
- ・ その木はたくさんのかざりや色々な光がかざられている。
“*Sono ki wa takusan no kazari ya iroirona hikari ga kazararete iru.*” (= The tree is covered with a lot of decorations and many bright lights.)
- ・ 最初に木を使った人はドイツに住んでいた。
“*Saisho ni ki wo tsukatta hito wa doitsu ni sunde ita.*” (= The first person who displayed [Christmas] tree lived in Germany.)
- ・ 最初のころは本物の木を使っていて、それらはたくさんの針がついていたため、きれいにするのが大変だった。
“*Saisho no koro wa honmono no ki wo tsukatte ite, sorera wa takusan no hari ga tsuite ita tame, kirei ni suru no ga taihen datta.*” (= At first, people used real trees but they have a lot of needles so it was hard to clean up.)
- ・ しかし途中でプラスチックで作られた木がでてきて、それらをする必要がなくなった。
“*Shikashi tochu de purasuchikku de tsukurareta ki ga detekite, sorera wo suru hitsuyo ga nakunatta.*” (=But plastic trees were made many years later and people don't have to do it (= clean up needles) then.)
- ・ しかし、まだたくさんの方は本物の木を使いたいと思っている。
“*Shikashi, mada takusan no hito wa honmono no ki wo tsukaitai to omotte iru.*” (= But many people think that they still want to use real trees.)

Participant 33 provided good details, but it is essentially a list of the main ideas rather than an organized structure typical of storytelling. It appears that this participant was simply repeating some facts that came to mind instead of engaging with those facts to tell the story in the non-task condition. However, in the task condition, he told the main ideas as constructing coherence.

The Importance Level for Written Recall

Table 27 shows the ratio of IUs produced in each Importance Level. As explained in the section The Importance Level, IUs in Importance Level 3 are the most important ideas, which shows the readers understand the text. IUs in Importance Level 1 are the least important ideas, which are unnecessary to understand the text.

Table 27

The Ratio for Written Recall by Importance Level and Condition in Study 2

Proficiency	Condition	IL	<i>M</i>	<i>SD</i>	<i>SE</i>	<i>N</i>
Upper	Non-task	IL3	39.6	20.3	4.5	20
		IL2	33.2	20.1	4.5	20
		IL1	21.6	16.8	3.8	20
	task	IL3	52.9	19.6	4.4	20
		IL2	36.8	14.3	3.2	20
		IL1	26.3	15.7	3.5	20
Middle	Non-task	IL3	32.0	17.9	4.1	19
		IL2	19.2	16.2	3.7	19
		IL1	15.4	12.3	2.8	19
	task	IL3	30.2	19.4	4.5	19
		IL2	16.9	12.1	2.8	19
		IL1	17.3	16.3	3.7	19
Lower	Non-task	IL3	19.5	14.1	3.3	18
		IL2	10.1	7.0	1.6	18
		IL1	13.1	9.5	2.2	18
	task	IL3	19.8	17.6	4.1	18
		IL2	10.9	9.3	2.2	18
		IL1	12.9	12.3	2.9	18

Note. IL = imporntance level.

In order to examine the effects of the critique instruction, a mixed ANOVA was conducted on each Importance Level for IUs. The between-subjects factor was *proficiency* with three levels (upper, middle, lower), and the first within-subjects factor was *condition* with two levels (task and non-task) and the second within-subjects factor was *importance level* with three levels (three, two, one). Results indicated that the *proficiency* main effect was statistically significant, $F(2, 54) = 23.71$, $p = .01$, $\eta^2 = .47$, and post hoc analysis showed that mean differences among all three proficiency levels were statistically significant (Table 28). Moreover, *importance* main effect was statistically significant, $F(2, 108) = 68.51$, $p = .00$, $\eta^2 = .56$, and post hoc analysis showed that mean differences among all three proficiency levels were statistically significant (Table 28). However, the *condition* main effect was not significant, $F(1, 54) = 0.77$, $p = .38$, $\eta^2 = .01$. The three-way ANOVA interaction effect was not significant, $F(4, 108) = 1.41$, $p = .24$, $\eta^2 = .05$. However, Proficiency \times Importance interaction effect was significant, $F(4, 108) = 7.43$, $p = .01$, $\eta^2 = .22$.

Post hoc analysis (Table 29) showed that, regarding the upper group, a significantly greater number of idea units were produced in Importance Level 3 than in Importance Level 2 and Importance Level 1; more idea units were produced in Importance Level 2 than in Importance Level 1. Regarding the middle group and the lower group, more idea units were produced in Importance Level 3 than in Importance Level 2 and Importance Level 1.

Table 28*The Ratio for Written Recall by Importance Level and Proficiency in Study 2*

Proficiency	IL	<i>M</i>	<i>SD</i>	<i>SE</i>	<i>N</i>
Upper	IL3	46.2	16.4	3.7	20
	IL2	35.0	13.9	3.1	20
	IL1	24.0	12.3	2.7	20
Middle	IL3	31.1	10.0	2.3	19
	IL2	18.0	8.7	2.0	19
	IL1	16.4	9.8	2.2	19
Lower	IL3	31.1	9.3	2.2	18
	IL2	18.0	5.4	1.3	18
	IL1	16.4	7.7	1.8	18

Note. IL = importance level.**Table 29***Post hoc Analysis of the Ratio for Written Recall by Importance Level in Study 2*

Proficiency	IL	<i>MD</i>	<i>SE</i>	<i>p</i>	<i>d</i>	95% CI	
						LL	UL
Upper	IL3-IL2	11.23	2.20	.01**	.98	0.52,	1.44
	IL3-IL1	22.27	2.53	.01**	1.94	1.41,	2.47
	IL2-IL1	11.04	1.79	.01**	1.08	0.61,	1.54
Middle	IL3-IL2	13.02	2.26	.01**	1.14	0.65,	1.62
	IL3-IL1	14.70	2.59	.01**	1.28	0.79,	1.77
	IL3-IL1	1.68	1.83	.36	.16	-0.28,	0.61
Lower	IL3-IL2	9.15	2.32	.01**	.80	0.32,	1.27
	IL3-IL1	6.67	2.66	.03*	.58	0.11,	1.05
	IL2-IL1	-2.48	1.88	.19	-.24	-0.70,	0.22

Note. IL = importance level. CI = confidence interval; LL = lower limit; UL = upper limit.**p* < .05. ***p* < .01.

IUs of Importance Level 3 were produced most frequently in both the non-task and the task condition in Study 2. IUs of Importance Level 3 in the task condition were produced more than the IUs in the non-task condition. Also, IUs of Importance Level 1 decreased in each condition and proficiency. IUs of Importance

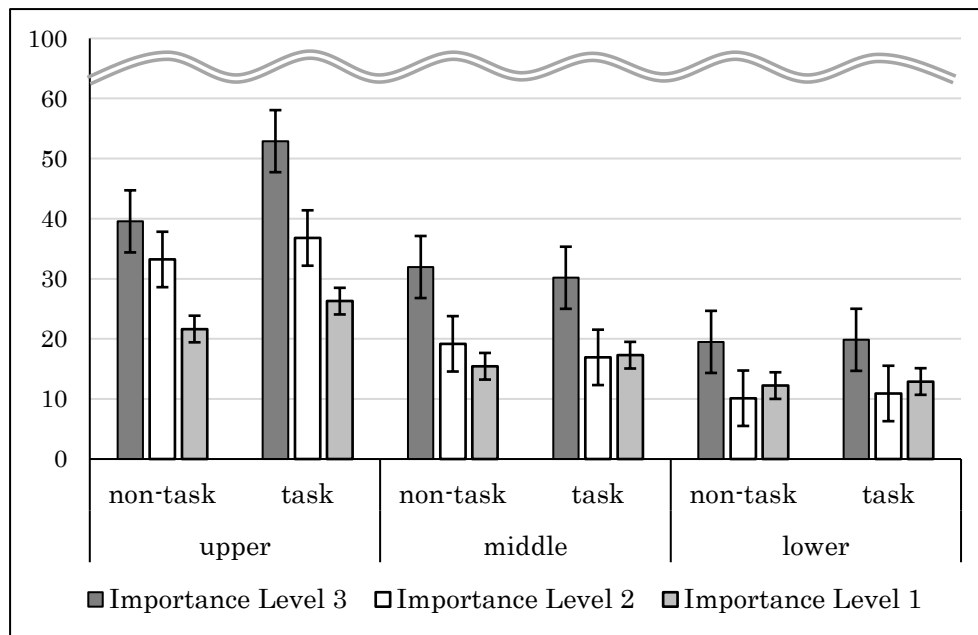
Level 2 were produced differently by different proficiency groups: IUs of Importance Level 2 produced by upper participants were more in the task condition than in the non-task condition. IUs recalled by middle participants produced less in the task condition than in the non-task condition; IUs produced by lower participants were almost the same in both the task conditions and the non-task condition.

Regarding proficiency, upper participants produced IUs of both Importance Level 2 and 3 IUs more in the task condition than in the non-task condition but Importance Level 1 IUs were produced less in the task condition than in the non-task condition.

Figure 11 shows the number of IUs produced by the participants in each Importance Levels. The upper group produced IUs of Importance Level 3 in the task condition more than in the non-task condition. The middle level participants decreased IUs more in the task condition than in the non-task condition. This tendency was shown in all Importance Levels.

Figure 11

The Ratio of Written Recall by Importance Levels in Study 2 (%)



Discussion of Study 2

Study 2 investigated how the critique instruction and the non-task instruction affect the reading processes and the reading comprehension depth of Japanese junior high school students. The results of Study 2 demonstrated positive effects of the critique instruction both on the reading processes and the reading comprehension depth.

Regarding RQ1: To what extent does the critique instruction affect Japanese junior high school students' English reading comprehension processes? The participants in Study 2 produced "Structure analysis" in think-aloud, which was more than 80% of all think-aloud protocols in both task condition and the non-task condition. This tendency was the same as Study 1. According to their answers for the questionnaire after the experiment, some participants seemed to devote their attentional resources for their reading comprehension. For example, one of the

participants wrote, “It was difficult to think about how much one million is in the Japanese yen” or “It was difficult to understand the English names in the texts.” Whereas, the participants produced “Self-monitoring” more in the task condition than in the non-task condition and this tendency became stronger from the upper group to the lower group, these examples showed that they tried checking their understanding of the experimental texts. The previous study that non-proficient readers tend to show little comprehension on monitoring and also they tend to skip words, guess, or generate interpretations of texts were supported. Also, the participants produced “Inference” and “Reader response” more in the non-task condition than in the task condition. As for “Inference,” especially “Backward inference,” they tried to make sure their understanding of the texts. As for “Reader response,” they expressed their thoughts and feelings more freely in the non-task condition. However, for these process levels, the participants seemed to devote their attentional resources to reading and understanding the texts deeply in the task condition, like what was shown in Study 1. From these results, the reading task instruction in Study 2 may be considered effective for the participants’ reading processes.

Regarding RQ2: To what extent does the critique instruction affect Japanese junior high school students’ English reading comprehension depth? In written recall, the participants recalled more in the task condition than in the non-task condition, which showed that they understood the text better in the task condition than in the non-task condition. This tendency was also shown in Study 1.

In the analysis of Importance Levels, the participants recalled the most important (Importance Level 3) IUs more in the task condition than in the non-

task condition. This result indicates that they tried grasping the main ideas to understand the text in the task condition. According to Kimura (2015), the participants in the task condition recalled more information than those in the non-task condition, where the participants' purposes for reading have been given by task instruction and the reading task facilitated readers' reading comprehension for global reading. Study 2 supported her study. Therefore, the reading task instruction in Study 2 clearly affected the participants' reading comprehension depth positively.

As focusing on proficiency, the participants in the upper group recalled more in the task condition than in the non-task condition. However, the participants in the middle group recalled less in the task condition than in the non-task condition and the participants in the lower group recalled almost the same both in the task condition and the non-task condition. This result caused that they might not be able to construct concrete coherence because they tried understanding texts correctly as seen that the participants produced "Self-monitoring" think-aloud protocols more in the task condition than in the non-task condition. As for Importance Level, the participants in the upper group produced Importance Level 3 IUs more in the task condition than in the non-task condition. However, the participants in the middle group produced Importance Level 3 and Importance Level 1 IUs less in the task condition than in the non-task condition. The participants in the lower group produced Importance Level 3 IUs less in the task condition than in the non-task condition. It indicates that the participants in the middle and lower groups might require gist-grasping reading task instructions first.

Before the experiment, the critique instruction was expected to facilitate the participants' global reading in Study 2 based on the findings of the previous studies and the author's teaching experiences. However, their local reading, such as "Structure analysis" including words, phrases, and sentences analyses increased and their global reading, such as, "Inference" and "Reader response" decreased. This fact indicates that the participants engaged more in local reading in the task condition than in the non-task condition. It may happen that they concentrated on understanding and maybe on memorizing what is written in the texts very carefully and paid too much attention to trivial information.

General Discussion

This study investigated how and to what extent the two types of reading task instructions affect the reading process and the depth of reading comprehension by junior high school students in Japan. Two reading task instructions and one non-task instruction were investigated. In both Study 1 and Study 2, the non-task instruction, reading as they read in usual ways, was administered to find the difference in participants reading comprehension to show the effect on reading comprehension process and depth. In Study 1, the participants were asked to find the author's intention, while the participants in Study 2 were asked to compare the author's intention with their own views and evaluate the author's intention. Those two reading task instructions and the non-task instruction affected the reading process and the depth of reading comprehension differently.

Regarding the First Research Question

The first research question asked the following: To what extent do task instructions affect Japanese junior high school students' English reading comprehension processes? Think-aloud comments were examined in both studies. The results of Study 1 and Study 2 suggest that the process of Japanese junior high school students' English reading comprehension may differ in part when the students read the texts with the three different reading instructions. Although the large ratio of think-aloud on "Structure analysis" was produced in the two and the non-task instructions, there were clear differences in the patterns and the ratio of think-aloud in some process levels among the two task conditions and the non-task

condition. The previous study that L2 readers tend to focus on decoding words rather than assessing their understanding of the text was supported. In the two reading task instructions, Study 1 showed that “Inference” was produced more in the task condition than in the non-task condition, while Study 2 showed that “Self-monitoring” was produced more in the task condition than in the non-task condition. Under the non-task condition in both Study 1 and 2, the participants responded as they thought about the text, which may reflect freedom from having to fulfill a specific objective such as discerning the author’s intention.

A second consideration may well be the limitations of cognitive load, meaning that lower-level students might only be capable of understanding the basic meaning of the sentence because reaching that extent of understanding maximizes their use of their cognitive abilities. In other words, the cognitive load expended can only address basic understanding and nothing more; this tendency is more indicative of local processing rather than global processing.

However, at the global level, the student’s proficiency is such that he/she can understand the basic sentence with only a minimum of cognitive expenditure, leaving considerable leeway to judge or comment on the situation. In the following example, we see think-aloud protocols such as, “*Nande?* (=Why?)” “*Yasui!* (=It’s cheap when they sold Coca-Cola for five cents at first).” “*Mouke naku nai?* (=They couldn’t make money when they earn \$50 on Coca-Cola but they spent \$70 to make it).” These reader responses suggest that the participants spoke freely when they read the texts. That is, they allow more creative thinking without the limitation of having to search for something. Students understood not only the meaning of the text but also considered the situation of being a vendor and how such a person

might react (i.e., being concerned about making money). The participants' responses show that the students were reading at a global level because they not only caught the meanings but also reacted to those meanings.

The example "*Mouke naku nai*" in the above paragraph also points to an crucial element of reading comprehension, namely, schema activation. When the student reacts with a pointed question about making profit, that indicated reference to background knowledge about business (i.e., understanding economic profit). This represents knowledge (perhaps nascent) accumulated over the course of reaching junior high school age. In more general terms, schema activation can be used in global reading.

Second, this student reaction also indicates a reasonably deep level of engagement with the text and reading engagement facilitates reading comprehension. It can be considered that the participants tried connecting concepts, propositional relations, and themes in the text.

Alternatively, the participants in the two task conditions produced think-aloud protocols differently.

The participants in Study 1 produced "Inference" more in the task condition than in the non-task condition. They especially produced "Inference (e) Backward inference," which refined participants' understanding of the text and situation upon reflection. Moreover, most students made "Inference (e) Backward inferences" that bridged the current sentence with previous text or knowledge. "Inference (f) Predictive inference" predicted events in the later text that oriented toward the future and a thus predictive. It was indicated that the participants put in missing proposition to establish coherence at global levels for their reading comprehension.

The fact that “Inference (f) Predictive inference” was not produced much suggests that the participants focused on connecting propositions in the text and constructing coherence by using “Inference (e) Backward inferences” and they could not care to foresee what would happen next in the text.

“Comment on text structure” was not found in think-aloud protocols in Study 1 and it was not much on Study 2. It indicated that the participants paid attention to understanding the meaning and they did not read the experimental texts concerning the structure of the text. They might not know the text structure because it is not common to teach such kind of reading strategies in Japan.

Besides, “Evaluation” was not found in think-aloud protocols both in Study 1 and 2. As mentioned above, the participants in both Study 1 and 2 concentrated analyzing vocabulary and structure, thus, they did not pay attention to evaluate author’s intention or to tell their opinions in think-aloud. Nevertheless, they produced “Reader response” responding emotionally without thinking in the non-task condition.

The participants in Study 2 produced “Self-monitoring” more in the task condition than in the non-task condition. The level of “Self-monitoring” was higher in Study 2 (e.g., notice that a mistake was made), which means metalinguistic awareness and self-reflection were used on their own performance such as “*E matte wakannai.*” (= Wait a minute. What does this mean?). The example presented here seemed that the participants tried understanding the texts more accurately to tell their opinions to the author’s view but the intermediate step of “Self-monitoring” represented a comment on their own understanding, which is actually a local-level “Reader response.” The purpose of expressing an opinion,

however, represents more of a global level. Horiba (2000) showed that non-native readers tended to be more localized when they were doing a demanding task than reading stories.

Based on these findings, it is indicated that the reading task instructions affect Japanese junior high school students' English reading comprehension processes and each task instruction affects different process levels.

Regarding the Second Research Question

Next, regarding the second research question, effectiveness of task instructions on reading comprehension depth is discussed based on Study 1 and Study 2.

In both Study 1 and Study 2, IUs were recalled more in the task condition than in the non-task condition. Study 1 had marginal statistical significance, but in Study 2 ANOVA failed to achieve statistical significance. In Study 1, the participants read the first text freely, read the second text with task instruction, then recalled for respective texts; in Study 2 the participants read the first read text freely, then recalled the first text; the second text with task instructions, then recalled the second text. The second text is likely more difficult to recall because of memory limitations, which the participants read protagonist names or numbers such as the year, the price of Coca-Cola, or how many people drink Coca-Cola in a day though they were not accustomed to English names and it is difficult to remember numbers in a foreign language. Therefore, it was more challenging for the participants to recall IUs with those numbers.

In addition, written recalls were analyzed by Importance Levels to examine the quality of written recall in order to ascertain the participants' reading comprehension depth. In Study 1, IUs in Importance Level 3 were produced more than twice as often in the task condition than in the non-task condition (Table 13). In Study 2, IUs in Importance Level 2 and 3 were produced more in the task condition than in the non-task condition (Table 27). It seemed that the participants tried reading important information in the text due to the task instructions. Thus, the participants apparently tried understanding the main ideas of the texts.

Also, each proficiency level showed similar results in the single non-task conditions and the two task conditions (Figure 8 and 11): In the non-task condition, participants produced Importance Level 3 IUs the most, Importance Level 1 IUs somewhat less, and Importance Level 2 IUs the least; that is, Importance Level 2 IUs were produced the least in each proficiency level in the non-task condition. In the task condition, however, they produced Importance Level 3 IUs the most, Importance Level 2 IUs less, Importance Level 1 IUs the least, which showed a reasonable and predictable tendency. As for the tendency in the non-task condition in both Study 1 and 2, it is assumed that the participants tried understanding the main idea of the text, and therefore, they produced Importance Level 3 IUs, important information in the text, the most. The participants produced Importance Level 1 IUs less because it is predicted that novice English learners tend to read details of texts (Ushiro, 2015). Thus, the participants might miss information of Importance Level 2.

Furthermore, Importance Level 1 IUs were produced more in the task condition in Study 1 and in the middle and lower groups in Study 2. According to

Ushiro et al. (2015), this propensity is because learners tend to read details to understand essential information in the text and thereby devote attentional resources to that task, which is inefficient.

From these results, it is also possible that the difference in the results between Study 1 and Study 2 was due to the different number of participants in these studies. However, it should be considered further in future research.

In the investigation of Importance Levels, participants produced IUs of Importance Level 3 which has more important information in the experimental text than in both the task condition and in the non-task condition. It is suggested that participants tried getting more important information during reading with the reading task instructions.

These results suggest that the reading task instructions affected the depth of reading comprehension by Japanese junior high school students although they affected students differently depending on importance levels or proficiency. The participants recalled more in the task condition than in the non-task instruction. Moreover, with regard to Importance Levels, it was assumed that the participants in the upper levels read the texts in depth according to the reading task instructions. According to written recall, it was clear that the participants at the upper level were strongly affected by the reading task instruction. They recalled more in the task condition than in the non-task condition and they also produced important information in the experimental texts more in the task condition.

Regarding the Third Research Question

Lastly, regarding the third question, “To what extent do different task instructions affect Japanese junior high school students’ English reading comprehension differently?” is discussed by the results of Study 1 and Study 2. The findings in Study 1 and Study 2 indicated that different reading task instructions obviously affect the reading processes and the depth of reading comprehension differently.

In both studies, the participants produced think-aloud protocols “Structure analysis,” which showed the participants tended to provide local reading. Novice learners typically tend to devote their attentional resources for “Structure analysis” as shown in previous studies, such as Ushiro et al. (2007). While focusing on global reading, “Inference” protocols were produced, which asked the participants to find the author’s intentions more in the task condition than in the non-task condition in Study 1. In Study 2, “Self-monitoring” protocols were produced more in the task condition, which asked the participants to read the text critically than in the non-task condition. It is indicated that the reading task instructions given before reading texts by teachers provided the participants purposes for reading and facilitated the participants’ reading comprehension, which means the different task instructions affected the reading processes and the depth of reading comprehension differently.

Conclusion

The current study investigated whether and to what extent the reading task instructions and the reading non-task instruction by teachers affected the reading process and the depth for reading comprehension by Japanese junior high school students. Based on the findings of two studies, the following conclusion was made. In Study 1, the participants were given both the non-task instruction and the task instruction which asks participants to find the author's view in the text. In Study 2, other participants were given both the non-task instruction and another task instruction, the critique instruction, which asks participants to have their opinions about the text or author's view. Each of the task instruction and the non-task instruction impacts the effect on the reading process and the depth of reading comprehension of Japanese junior high school students. The data analysis so far provides the following answers to the three research questions.

1. The reading task instruction affects Japanese junior high school students' reading processes.
2. The reading task instruction affects Japanese junior high school students' reading depth but it depends on proficiency or IU Importance Levels. Upper-proficiency students recalled textual information of a higher Importance Level. On the other hand, lower-proficiency students recalled less important textual information.
3. The reading task instruction and the non-task instruction affect Japanese junior high school students' reading comprehension differently.

In conclusion, the present study showed the similar effect of the task instructions as what the previous studies supported. The results of think-aloud protocols showed that each reading task instruction affected the participants' reading processes differently.

In Study 1, when the participants were asked to find the author's view, they produced "Inference" more in the task condition than in the non-task condition. On the other hand, they produced "Self-monitoring" more in the non-task condition than in the task condition. The participants used "Inference" when they read the texts in the task condition because they focused more on understanding the texts and did not focus on whether they understood the texts or not. When the participants read the texts in the non-task condition, they used "Self-monitoring" because they tried to understand the texts better and they checked their reading comprehension by themselves more carefully.

In Study 2, when the participants were asked to have their opinions about the text or author's view, they produced "Self-monitoring" more in the task condition than in the non-task condition. On the other hand, they produced "Inference" more in the non-task condition than in the task condition. The participants used "Self-monitoring" when they read the texts in the task condition because they focused more on checking whether they understood the texts or not. When the participants read the texts in the non-task condition, they used "Inference" more because they tried to construct coherence to understand the content of the texts better.

The results in Study 2 were opposite to the results in Study 1. The different task instructions, the task, the critique, or the non-task, affected different process

levels, “Inference,” “Self-monitoring,” and “Reader response”. Therefore, the reading task instructions and the non-task reading instruction affect English reading processes used by the Japanese junior high school students differently.

While, the results of written recall showed that the participants recalled more in the task instructions than in the non-task instructions, which means that both the task instructions in Study 1 and 2 facilitated the reading comprehension depth.

The results in Study 1 and Study 2 indicated that both the task instructions and the non-task instruction affected the reading processes and the depth of reading comprehension differently.

Thus, the task instructions gave the Japanese junior high school students the different purposes for reading and they facilitated learners’ reading comprehension.

From the results of the present study, some pedagogical implications for teaching reading in English in Japan were ascertained. The task instructions and the non-task instruction in this study had different effects on the participants’ reading processes and depth. Especially, in Study 2, the participants tried to read more accurately and elicit more valuable information by the critique reading task instruction. Since learners have different goals for reading without the teachers’ task instructions, teachers should assign students reading tasks before reading texts.

The limitation of the present study was that since this is the cross-sectional research, this study is based on data that were measured in one-time experiment. Therefore, longitudinal experiments and quasi-experiments are required. In

addition, this study needs more participants and more data, so that the results will be reliable.

For future research, meta-analysis would be valuable to get a broader range of information about the reading task instructions. Most importantly, a longitudinal study should be conducted to investigate whether the task instruction affects Japanese junior high school students reading comprehension.

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https://www.mext.go.jp/a_menu/shotou/gakuryoku-chousa/sonota/detail/1422960.htm

Appendices

Appendix A-1

The Experimental Text 1

The Christmas Tree

Christmas is a popular holiday that comes every year, and the Christmas tree is a famous symbol*. Christmas trees are usually covered with different decorations* and colored lights*. Families put* them up in their houses, and some department stores have big trees with many bright* lights. Every year, about 35 million Christmas trees are sold in the United States. In England, 8 million are sold, and 2 million are sold in Canada. But when were Christmas trees first used?

symbol
「象徴」
decoration
「飾りつけ」
light
「灯り」
put up
「飾る」
bright
「明るい」

Many people say the first person to use a Christmas tree was a man named Saint Boniface. He lived more than 1,000 years ago in a town in Germany. In the 16th century, Christmas trees became popular in parts of Northern* Europe. People put decorations like fruit and sweets on the trees and danced around them. Now, many families put Christmas presents under their trees. People usually put up their trees at the beginning of December and take them down in early January.

Northern
「北方の」

Fir trees* are often used for Christmas trees. They are different from other kinds of trees. They have long thin* needles*. When the needles* fall to the floor, they are hard to clean up. Plastic Christmas trees don't have this problem, and they can also be used many times.

fir tree
「もみの木」
thin
「細い」
needle
「針」

Today, the number of* people who use plastic trees is growing. Between 2001 and 2007, the number of plastic Christmas trees sold in the United States grew from 7.3 million to 17.4 million. But many families still like to have real trees in their homes at Christmas.

the number
of 「～の数」

Appendix A-2

The Experimental Text 2

A Famous Drink

Coca-Cola is sold in more than 200 countries. Every day, about 1.7 billion* people drink it. But how was this famous drink invented*?

In 1886, a man named John Pemberton* invented a new drink in an American city. He thought it tasted good, and many people agreed. Pemberton's friend Frank Robinson* wrote the name down, he wrote it in special writing. The same writing is still used on Coca-Cola bottles today.

Pemberton started selling Coca-Cola for five cents* a glass. He said it could help people with headaches. In the first year, Pemberton sold about nine glasses of his new drink a day. He made \$50, but he spent \$70 to make the drinks. He was not very happy because he spent more money to make the Coca-Cola.

Then, in 1888, a man called Asa Griggs Candler* bought the recipe* from Pemberton for \$2,300. He had lots of good ideas. He gave Coca-Cola to many people for free. He also put Coca-Cola signs in many different places. So, he sold a lot of the drink.

In 1894, Coca-Cola was sold in glass bottles for the first time. Because Coca-Cola was very popular, other companies tried to make the same drink. In 1915, the Coca-Cola Company invented a new bottle. It looked different from other ones, so people bought the real Coca-Cola. The bottle was easy to remember. The same bottle is used today. Now, the Coca-Cola Company sells over 400 kinds of drinks around the world.

billion

「億」

invent

「～を発明する」

John

Pemberton

「ジョン・ペンバートン」

Frank

Robinson

「フランク・ロビンソン」

cent

「1ドルの100分の1」

Asa Griggs

「アサ・グリッグス」

recipe

「レシピ」

Appendix B-1

Instruction for the Experiment for Study 1

与えた読解教示：タスク教示（筆者のメッセージは何か）

1. 説明

- ・ 実験協力者に研究目的と手順内容、データによって個人が特定されることはなく、研究以外にデータを使用することはない旨を伝える。
- ・ 「今日は英文を2つ読んでもらいます。上手に読めても読めなくても問題ありません。あなたが読んでいる様子をビデオに録り、録音します。2つの機材で記録するのは、万が一、どちらかが故障しても、あなたが読んでいる様子が記録できなかったという事態を避けるためです。気にしないで読むことに集中してください。なお、あなたが読んでいる様子を分析して、中学生が英文を上手に読めるようになるにはどう教えたらいいか考える材料にしますが、あなた個人だとわかるように、『○○くん／○○さんはこんな風に英文を読みます。』と発表することはありませんので、安心してください。」

2. 質問紙調査

- ・ 「まず、いくつか質問しますので、回答してください。」
- ・ 英語学習歴に関する質問紙を渡す。
- ・ 回答内容を見ながら、後のインタビューに備える。
- ・ 「ありがとうございました。」

3. 練習

- ・ 「では、さっそく英文を読んでいきますが、今日は1つお願いがあります。英文を読んでいる間、心に浮かんできたことをすべて日本語で声に出してください。『これは余裕でわかる』とか、『この単語わかんない。』『何言ってるかわかんない。』『ふーん。そうなんだ。』『えっさっき何て書いてあったっけ?』なども頭に浮かんできたらつぶやいてください。言いたい放題でいいです。もう1つ、可能であれば、読んでいるところを指で追ってください。これをすることによって、英文を読みづらくなるのであれば、しなくて結構です。最初はやっていたけれども、やっぱり煩わしいと思ったら、途中でやめてくれても結構です。まず、この英文で練習します。」
- ・ 練習テキスト ("Doctor") を渡す。

- ・ 「はい、ありがとうございました。とても上手です（もしくは、直してほしいや補足説明があったら、つけ加える）。ちなみに、この主人公はなぜ最後に『』と言ったのでしょうか。（実験協力者の回答を聞いて、正解を伝える。）」

4. 読解（自由）

- ・ 「では、いよいよ本番です。次の英文を頭に浮かんだことを声に出しながら読んでください。」
- ・ 実験材料 "The Christmas Tree" または "A Famous Drink" を渡す。
- ・ 調査者は時間を測る。読んでいる様子を観察し、詰まったり、実験協力者の感情が出たところをチェックしたりして、後のインタビューに備える。

5. 読解（タスク）

- ・ 「次に、この英文を読んでください。今度は、『筆者がこの英文を通して何を伝えようとしているか』を考えながら読んでください。」
- ・ 実験材料 "A Famous Drink" または "The Christmas Tree" を渡す。
- ・ 調査者は時間を測る。読んでいる様子を観察し、詰まったり、実験協力者の感情が出たところをチェックしたりして、後のインタビューに備える。

6. 干渉課題

- ・ 簡単な足し算とかけ算の問題（25問）に取り組む。

7. 筆記再生

- ・ 「では、ちょっと休憩したところで、英語の話に戻ります。今から、先ほど読んだ英文の内容を日本語で書いてもらいます。覚えているだけすべて書き出してください。まず、1番目に読んだ英文について書き、次に、2番目に読んだ英文について書き出してください。時間の制限はありません。では、始めてください。」
- ・ 筆記再生課題記入用紙を渡す。

8. 半構造化インタビュー

- ・ 「最後に、いくつか質問をしますので、質問に答えてください。」
 - (1) それぞれの英文はどんなお話でしたか。
 - (2) 読みにくいところやわかりにくいところがありましたか。

- (3) なぜ読解に成功したのですか。
- (4) 読むときにどんなことを注意していますか。
- (5) 2つめの英文を読むとき、どんな指示があったか覚えていますか。
- (6) 質問紙回答内容（英語学習歴）について

Appendix B-2

Instruction for the Experiment for Study 2

与えた読解教示：批評教示（筆者の考えに対して自分の意見を言う）

1. Instruction for practice session

今日はある英文を読んでもらいます。上手に読めても読めなくても成績には関係ありません。ただし、英文を読んでいる間、心に浮かんできたことをすべて声に出してください。英語でも日本語でもかまいません。「これは余裕でわかる。」とか「この単語わかんない。」「何を言っているかわからない。」「ふーん、そうなんだ。」「えっさっき何て書いてあったっけ？」なども頭に浮かんできたら、つぶやいてください。言いたい放題でいいです。また、話した内容は録音します。

読み終わった後、英文が書かれた紙を裏返して置き、覚えていることを日本語ですべて書き出してもらいます。

では、さっそく読み始めます。英文を読んで、頭に浮かんできたことを声に出しながら読んでください。心の準備ができた人から IC レコーダーのスイッチを入れて読み始めます。では始めてください。

2. Instruction for the experiment

今日もある英文を読んでもらいます。上手に読めても読めなくても成績には関係ありません。ただし、英文を読んでいる間、心に浮かんできたことをすべて声に出してください。英語でも日本語でもかまいません。「これは余裕でわかる。」とか「この単語わかんない。」「何を言っているかわからない。」「ふーん、そうなんだ。」「えっさっき何て書いてあったっけ？」なども頭に浮かんできたら、つぶやいてください。言いたい放題でいいです。また、話した内容は録音します。

読み終わった後、英文が書かれた紙を裏返して置き、覚えていることを日本語ですべて書き出してもらいます。

（3 回めのみ）今日は今までと違う読み方をします。筆者の考えや書いてある内容について、意見や感想を答えてもらいますので、考えながら読んでください。

では、さっそく読み始めます。英文を読んで、頭に浮かんできたことを声に出しながら読んでください。ICレコーダーのスイッチを入れて読み始めます。では始めてください。

なお、読んだ英文の内容は口外しないでください。休み時間に話題にしないでくれればいいです。

Appendix C

Written Recall Worksheet

読んだ内容について、元の英文を見ないで、覚えていることをできるだけたくさんすべて書きなさい。なお、書く分量と時間に制限はありません。裏面にも記入欄があります。

3年組 番 氏名

1. 書いた日 2019年12月 _____ 日

2. 英文の題名 Polar Bear / The Christmas Tree / A Famous Drink

(○で囲む)

英文の種類 黄色 / 薄緑色 / ピンク色 (配布された紙の色を○で囲む)

3. 書き始めた時間 _____ 分 秒

書き終えた時間 _____ 分 秒

書くのにかかった時間 _____ 分 秒 (先生が計算しますので、空欄でいいです。)

Appendix D-1

Questionnaire after the Experiment in Study 1

英語学習歴に関する質問紙調査

3年 組 番 氏名

以下の質問について、あてはまる番号を○で囲んでください。

1. 小学校での外国語活動について

(1) 出身小学校を教えてください。 _____ 小学校

(2) 小学校で英語の授業はありましたか。

1. あった (1-(3)へ進む) 2. なかった (2へ進む)

(3) 小学校の外国語活動はあなたが何年生のときにありましたか。あてはまる番号をすべて○で囲んでください。

1. 1年生 2. 2年生 3. 3年生 4. 4年生
5. 5年生 6. 6年生 7. その他

(4) 小学校の外国語活動で、英語を読む活動はありましたか。

1. あった (1-(5)へ進む) 2. なかった (2へ進む)

(5) 小学校の外国語活動で、何を読みましたか。

1. 教科書の会話文 2. 絵本 3. その他

2. 小学校に入学する前の英語学習について

(1) 小学校入学前に英語にふれていましたか。

1. ふれていた (2-(2)へ進む) 2. ふれてなかった (3へ進む)

(2) どこでふれていましたか。

1. 家庭で 2. 英語教室等で 3. その他

(3) どのようにふれていましたか。

1. 授業を受けていた 2. テレビ番組やDVD等を見ていた

3. その他

3. 小学校に入学してから、学校の外国語活動以外の英語学習について

(1) 小学校での外国語活動以外に英語にふれていましたか。

1. ふれていた (3-(2)へ進む) 2. ふれてなかった (4へ進む)

(2) どこでふれていましたか。

1. 家庭で 2. 英語教室等で 3. その他

(3) どのようにふれていましたか。

1. 授業を受けていた 2. DVD等を見ていた
3. その他

4. 現在における、学校の授業以外の英語学習について

(1) 学校の授業以外に英語を勉強していますか。

1. 勉強している (4-(2)へ進む) 2. 勉強していない (5へ進む)

(2) どのような教室や教材で、英語や英会話の勉強をしていますか。あてはまる番号をすべて○で囲んでください。

1. 英会話教室
2. 学習塾
3. 通信教育の英語教材
4. 書店で売られている教材
5. テレビやラジオの英語講座
6. インターネット教材
7. 家庭教師
8. 家族に英語を習っている
9. その他

5. 現在、普段の生活の中で英語に触れることはどれくらいありますか。あてはまる番号をすべて○で囲んでください。

- (1) 英語の歌を聴いたり歌ったりする。
- (2) 英語音声の映画やテレビ番組を見る。
- (3) インターネット上の英語の動画・webサイトを見る。
- (4) 英語音声のゲームをする。
- (5) メールやツイッター、フェイスブック、ミクシィなどで英文のメッセージを書く
- (6) 英語の本（教科書や参考書以外）を自分から進んで読む

(7) 外国の人と英語で話す（学校の授業以外で）

6. あなたは次のようなことは好きですか。

	1. したこと ないから わからない	2. まったく すきでない	3. あまり すきでない	4. まあ好き	5. とても 好き
(1) 英語を聞くこと	1	2	3	4	5
(2) 英語で話すこと	1	2	3	4	5
(3) 英語の文や文章を読むこと	1	2	3	4	5
(4) 英語で文を書くこと	1	2	3	4	5

7. あなたは以下のことについてどう思いますか。

	1. まったく そう思わない	2. あまり そう思わない	3. まあ そう思う	4. とても そう思う
(1) 英語の音やリズムがおもしろい	1	2	3	4
(2) 英語の文のつくりやしくみがおもしろい	1	2	3	4
(3) 英語を話せたらカッコいい	1	2	3	4
(4) 外国の人と友だちになりたい	1	2	3	4
(5) 外国の文化やスポーツにきょうみがある	1	2	3	4
(6) 英語のテストでいい点を取りたい	1	2	3	4
(7) 英語ができるといい高校や大学に入りやすい	1	2	3	4
(8) 英語ができると就職に役立つ	1	2	3	4
(9) 外国の高校や大学に留学したい	1	2	3	4
(10) 日本の文化を外国の人に紹介したい	1	2	3	4
(11) 英語を使って仕事をしたい	1	2	3	4
(12) 世界で活躍できる人になりたい	1	2	3	4
(13) 2020年の東京オリンピック・パラリンピック では英語で外国の人を「おもてなし」したい	1	2	3	4
(14) スポーツ選手や英語を使っている大人を見ると 自分も英語をがんばろうと思う	1	2	3	4
(15) 通訳や字幕などがあるから英語を学習する必 要はない	1	2	3	4
(16) 海外旅行に行きたい	1	2	3	4

質問は以上です。ご協力ありがとうございました。

Appendix D-2

Questionnaire Given after the Experiment in Study 2

Class: 3- No. Name:

1. それぞれの英文を読んだことがありましたか。

(1) The Christmas Tree 1. 読んだことがある 2. 読んだことはない 3. その他

(2) A Famous Drink 1. 読んだことがある 2. 読んだことはない 3. その他

2. それぞれの英文に対する意見や感想を教えてください。

(1) The Christmas Tree

(2) A Famous Drink

3. それぞれの英文で筆者は何を伝えようとしていますか。

(1) The Christmas Tree

(2) A Famous Drink

4. 読みにくいところや分かりにくいところがありましたか。

(1) The Christmas Tree

(2) A Famous Drink

5. 普段から英文を読むとき、どんなことに気をつけて読んでいますか。

6. 全3回にわたる英語を読む活動について

(1) 周りの人の声が気になりましたか。

1. 気になった 2. 気にならなかった

(2) いつも英文をどのように読んでいますか。

1. 英語のみで読んでいる。(6-(4)へ)
2. 日本語のみで読んでいる。(6-(4)へ)
3. 英語と日本語を混ぜて読んでいる。(6-(3)へ)
4. その他

(3) 英語と日本語を混ぜて読むとき、どういうときは英語でまたは日本語で読んでいますか。

(4) いつもの英文の読み方と比べてどうでしたか。

1. いつもと違った 2. 同じだった

7. 全3回にわたる英語を読む活動の感想

(こんなところがおもしろかった、こんなところが難しかったなど)

8. 小学校での外国語活動について

(1) 出身中学校を教えてください。 _____ 小学校

(2) 小学校で英語の授業はありましたか。

1. あった (8-(3)へ進む) 2. なかった (9.へ進む)

(3) 小学校の外国語活動はあなたが何年生のときにありましたか。あてはまる番号すべて○で囲んでください。

1. 1年生 2. 2年生 3. 3年生 4. 4年生
5. 5年生 6. 6年生 7. その他

(4) 小学校の外国語活動で、英語を読む活動はありましたか。

1. あった (8-(5)へ進む) 2. なかった (9.へ進む)

(5) 小学校の外国語活動で何を読みましたか。

1. 小学校の会話文
2. 絵本
3. その他

9. 小学校に入学する前の英語学習について

(1) 小学校入学前に英語にふれていましたか。

1. ふれていた (9-(2)へ進む)
2. ふれていなかった (9へ進む)

(2) どこでふれていましたか。

1. 英語教室等で
2. 家庭で
3. その他

(3) どのようにふれていましたか。

1. 授業を受けていた
2. テレビやDVD等を見ていた
3. その他

10. 小学校に入学してから、学校の外国語活動以外の英語学習について

(1) 小学校に入学してから英語にふれていましたか。

1. ふれていた (10-(2)へ進む)
2. ふれていなかった (11へ進む)

(2) どこでふれていましたか。

1. 英語教室等で
2. 家庭で
3. その他

(3) どのようにふれていましたか。

1. 授業を受けていた
2. テレビやDVD等を見ていた
3. その他

11. 現在における、学校の授業以外の英語学習について

(1) 学校の授業以外に英語を勉強していますか。

1. 勉強している (10-(2)へ進む)
2. 勉強していない (11へ進む)

(2) どのような教室や教材で、英語や英会話の勉強をしていますか。当てはまる番号をすべて○で囲んでください。

1. 英会話教室
2. 学習塾
3. 通信教育の英語教材
4. 書店で売られている教材
5. テレビやラジオの英語講座
6. インターネット教材
7. 家庭教師

8. 家族に英語を習っている

9. その他

12. 現在、普段の生活の中で英語にふれることはどのくらいありますか。当てはまる番号をすべて○で囲んでください。

- (1) 英語の歌を聴いたり歌ったりする。
- (2) 英語音声の映画やテレビ番組を見る。
- (3) インターネット上の英語の動画・web サイトを見る。
- (4) 英語音声のゲームをする。
- (5) メールやツイッター、フェイスブック、ミクシィなどで英文のメッセージを書く。
- (6) 英語の本（教科書や参考書以外）を自分から進んで読む。
- (7) 外国の人と英語で話す（学校の授業以外で）。
- (8) その他

13. あなたは次のようなことは好きですか。

項目	5. とても好き	4. まあ好き	3. あまり好きでない	2. まったく好きでない	1. したことがないからわからない
(1) 英語を聞くこと	5	4	3	2	1
(2) 英語を話すこと	5	4	3	2	1
(3) 英語の文や文章を読むこと	5	4	3	2	1
(4) 英語で文を書くこと	5	4	3	2	1

14. あなたは以下のことについてどう思いますか。

項目	4. とても そう思う	3. まあ そう思う	2. あまり そう思わない	1. まったく そう思わない
(1) 英語の音やリズムがおもしろいか。	4	3	2	1
(2) 英語の文のつくりやしきみがおもしろい	4	3	2	1
(3) 英語を話せたらカッコいい	4	3	2	1
(4) 外国の人と友だちになりたい	4	3	2	1
(5) 外国の文化やスポーツにきょうみがある	4	3	2	1
(6) 英語のテストでいい点を取りたい	4	3	2	1
(7) 英語ができるといい高校や大学に入りやすい	4	3	2	1
(8) 英語ができると就職に役立つ	4	3	2	1
(9) 外国の高校や大学に留学したい	4	3	2	1
(10) 日本の文化を外国の人に紹介したい	4	3	2	1
(11) 英語を使って仕事をしたい	4	3	2	1
(12) 世界で活躍できる人になりたい	4	3	2	1

(13) 2020年の東京オリンピック・パラリンピックでは英語で外国の人を「おもてなし」したい	4	3	2	1
(14) スポーツ選手や英語を使っている大人を見ると自分も英語をがんばろうと思う	4	3	2	1
(15) 通訳や字幕などがあるから英語を学習する必要はない	4	3	2	1
(16) 海外旅行に行きたい	4	3	2	1

15. 英語に関する資格を取得していたら教えてください。

- ・取得している ((1)へ進む) ・取得していない (アンケートを終わります)

(1) 種類

1. 英検 2. TOEFL Junior 3. G-TEC 4. その他

(2) 何級または得点 _____ 級または点

16. ただ英文を読むのと「筆者の考えや書いてある内容について、意見や感想を考えながら読む」のは違いがありましたか。

1. 違いがあった (16-(1)へ進む) 2. 違いがなかった (16-(2)へ進む)

(1) どのところが違いましたか。

(2) 違いがなかったのはどんな理由が考えられますか。

1. 考えてもわからなかったので、いつも通りの読みになってしまった
2. そんなこと考えながら読んでいなかった
3. 考えてもわからなかった
4. その他

17. 先日、Polar Bear「北極熊」についての英文を読んだとき、1回めは一人で頭の中でどのように英文を処理しているか声に出して読みました。2回めは友だちに英文の内容を説明しながら読みました。その時の様子を思い出して回答してください。

17-(1) ただ英文を読むのと、友だちに説明しながら読むのとでは、違いがありましたか。

1. 違いがあった
2. 違いがなかった
3. その他

17-(2) どちらがより深く読めたと思いますか。

1. 一人で読んだとき
2. 友だちに説明しながら読んだとき
3. その他

17-(3) それはなぜだと思いますか。

ご協力ありがとうございました。

Appendix E-1

Idea Units and Importance Levels for the Experimental Text 1: *The Christmas Tree*

Level 3: High: the most important IUs to understand the outline of the story.

Level 2: Medium: the information which support Level 3 or might be helpful to understand the text.

Level 1: Low: the least important IUs which is unnecessary to understand the text.

1. **H** Christmas is a popular holiday
2. **L** that comes every year,
3. **H** and the Christmas tree is a famous symbol.
4. **L** Christmas trees are usually covered
5. **L** with different decorations and colored lights.
6. **M** Families put them up
7. **L** in their houses,
8. **M** and some department stores have big trees
9. **L** with many bright lights.
10. **M** Every year,
11. **H** about 35 million Christmas trees are sold
12. **M** in the United States.
13. **L** In England,
14. **M** 8 million are sold,
15. **M** and 2 million are sold
16. **L** in Canada.
17. **M** But when were Christmas trees first used?
18. **L** Many people say
19. **H** the first person...was a man
20. **H** to use a Christmas tree
21. **L** named Saint Boniface.
22. **L** He lived
23. **H** more than 1,000 years ago
24. **L** in a town
25. **L** in Germany.
26. **H** In the 16th century,
27. **H** Christmas trees became popular
28. **M** in parts of Northern Europe.
29. **M** People put decorations
30. **L** like fruit and sweets

31. **M** on the trees
32. **M** and danced around them.
33. **M** Now,
34. **M** many families put Christmas presents
35. **M** under their trees.
36. **M** People usually put up their trees
37. **M** at the beginning of December
38. **M** and take them down
39. **M** in early January.
40. **H** Fir trees are often used
41. **H** for Christmas trees.
42. **L** They are different
43. **L** from other kinds of trees.
44. **M** They have long thin needles.
45. **M** When the needles fall
46. **L** to the floor,
47. **H** they are hard
48. **H** to clean up.
49. **H** Plastic Christmas trees don't have this problem,
50. **M** and they can also be used
51. **M** many times.
52. **L** Today,
53. **H** the number of people...is growing.
54. **H** who use plastic trees
55. **L** Between 2001 and 2007,
56. **H** the number of plastic Christmas trees...grew
57. **M** sold in the United States
58. **L** from 7.3 million to 17.4 million.
59. **H** But many families still like
60. **H** to have real trees
61. **M** in their homes
62. **M** at Christmas.

Appendix E-2

Idea Units and Importance Levels for the Experimental Text 2: *A Famous Drink*

Level 3: High: the most important IUs to understand the outline of the story.

Level 2: Medium: the information which support Level 3 or might be helpful to understand the text.

Level 1: Low: the least important IUs which is unnecessary to understand the text.

1. **H** Coca-Cola is sold
2. **H** in more than 200 countries.
3. **L** Every day,
4. **M** about 1.7 billion people drink it.
5. **M** But how was this famous drink invented?
6. **L** In 1886,
7. **H** a man...invented a new drink
8. **L** named John Pemberton
9. **M** in an American city.
10. **L** He thought
11. **L** it tasted good,
12. **L** and many people agreed.
13. **H** Pemberton's friend Frank Robinson wrote the name down,
14. **L** he wrote it
15. **L** in special writing.
16. **L** The same writing is still used
17. **L** on Coca-Cola bottles today.
18. **H** Pemberton started selling Coca-Cola
19. **L** for five cents
20. **L** a glass.
21. **L** He said
22. **L** it could help people with headaches.
23. **M** In the first year,
24. **H** Pemberton sold about nine glasses
25. **M** of his new drink
26. **M** a day.
27. **M** He made \$50,
28. **M** but he spent \$70
29. **M** to make the drinks.

30. **H** He was not very happy
31. **M** because he spent more money
32. **M** to make the Coca-Cola.
33. **L** Then,
34. **L** in 1888,
35. **H** a man...bought the recipe
36. **L** called Asa Griggs Candler
37. **M** from Pemberton
38. **L** for \$2,300.
39. **H** He had lots of good ideas.
40. **M** He gave Coca-Cola
41. **L** to many people
42. **M** for free.
43. **M** He also put Coca-Cola signs
44. **M** in many different places.
45. **H** So, he sold a lot of the drink.
46. **L** In 1894,
47. **H** Coca-Cola was sold
48. **H** in glass bottles
49. **M** for the first time.
50. **M** Because Coca-Cola was very popular,
51. **M** other companies tried
52. **M** to make the same drink.
53. **L** In 1915,
54. **H** the Coca-Cola Company invented a new bottle.
55. **M** It looked different
56. **L** from other ones,
57. **H** so people bought the real Coca-Cola.
58. **M** The bottle was easy to remember.
59. **M** The same bottle is used today.
60. **L** Now,
61. **H** the Coca-Cola Company sells over 400 kinds of drinks
62. **M** around the world