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Investigating Differences in the Reading Processes of Advanced and Intermediate Readers

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This study investigates the differences between advanced and intermediate readers, focusing on the reading process of Japanese EFL students at the university level. A reading test was conducted among English learners with advanced and intermediate reading skills, with three people in each respective group. Subsequently, interviews were held to determine how the participants had read the English texts. The results of a qualitative analysis of this interview data revealed three differences between the reading processes of the advanced and intermediate readers. The first difference concerned vocabulary size (larger in the advanced group), while the second concerned their knowledge of syntactic structures: the advanced group was sufficiently knowledgeable about sentence structures to understand the material, but the intermediate group was not, and therefore sometimes made mistakes in understanding the sentences. The third difference involved automaticity: the advanced group was able to carry out lower-level reading processing nearly automatically, while the intermediate group could not. These findings indicate that to improve reading skills, it is not only necessary to increase vocabulary size, but to also build up learners' knowledge of sentence structures.

Keywords: reading process, syntactic structures, reading fluency, automaticity, advanced reader, intermediate reader

INTRODUCTION

Since the shift in English education in Japan to a focus on cultivating communicative abilities, it seems that the English reading skills of university undergraduates, who have received six years of middle and high school English instruction, have declined. According to Yoshimura et al. (2005), English language academic achievement among examinees in the National Center Test for University Admissions in 1990 to 2004 shifted to a downward trend from 1997. This decline has been attributed to the abandonment of the once predominant grammar-translation method, which was once blamed for undergraduates' inability to speak English even after six years of learning. However, some undergraduates still possess exceptional reading skills, and reading abilities vary greatly. It is essential to better understand the precise state of students' reading skills by critically examining how they read English texts. To improve students' reading skills, teachers must identify areas of difficulty, how students cope with such difficulties, and whether their strategies enable them to effectively read English texts.

This study assesses the English reading comprehension skills of Japanese undergraduate EFL learners, paying particular attention to reading processes through qualitative description.

LITERATURE REVIEW

Reading Processes

In reading, the processing of linguistic information can be broadly divided into lower and higher levels, which respectively include the following components (Grabe, 2002, pp. 19-30):

- Lower-level processes
  - Lexical access
  - Syntactic parsing
  - Semantic proposition formation
  - Working memory activation
- Higher-level process
  - Text model of comprehension
  - Situation model of reader interpretation
  - Background knowledge use and inferencing
  - Executive control processes

When readers initially recognize words in a text, they visually identify those words and break them down into a phonological code before activating their meanings during lexical access. Next occurs syntactic parsing for word order, phrase identification, and hierarchical structure, constructing a mental representation based on the reader's grammatical knowledge. Subsequently, a semantic representation is constructed using propositions. However, because propositions must be formed by identifying subject, verb, and object in a clause or sentence, successful syntactic parsing is needed for semantic parsing (Kintsch, 1995). These phases of word recognition, syntactic parsing, and proposition formation are integrated into working memory; and since working memory only holds information for one or two seconds, integration must occur quickly for appropriate meanings to be constructed.

After each sentence in a text is processed at the lower level, a semantic representation of the text as a whole is constructed at the higher level, on the basis of the reader's inferences and background knowledge. Finally, a situation model is formed, reflecting the reader's purpose for reading, views, and background knowledge.

Koda (2005, p. 19) describes reading's intellectual function as follows:

> Reading is the product of a complex information-processing system, involving a constellation of closely related mental

> operations. Each operation is theoretically distinct and empirically separable, serving an identifiable function. These skill components interactively facilitate perception, comprehension, and memory of visually presented language.

Reading's component skills are closely linked; deficiency in one inherently affects others. If we can understand how advanced and intermediate readers use these skills while reading, then the inadequacies in intermediate readers that prevent them from becoming advanced readers can also be determined.

Fluency

Becoming a proficient reader requires reading fluency: the ability to read automatically, accurately, rapidly, and with appropriate prosody and phrasing to facilitate comprehension (Grabe, 2009). Kuhn and Stahl (2003) similarly define automaticity, accuracy, and rate (speed) as primary sub-components of fluent reading. Automated processing requires limited cognitive resources and can thus be performed quickly and unconsciously without interruption (National Reading Panel, 2000; Samuels, 2002; Segalowitz, 2000). Beginners pay attention to processing throughout the reading process; however, when lower-level processes are automated, processing speed increases, since readers are no longer required to focus on word recognition. Consequently, they can concentrate on comprehending sentence meanings and contexts utilizing background knowledge.

Many researchers have noted that repetition can facilitate automaticity (Ellis, 2002; Ellis & Ferreira, 2009; Segalowitz, 2000). Segalowitz and Hulstijn (2005) assert that repetition of input and output automates cognitive processing and enhances linguistic competence. Bybee (2008) states that grammatical processing becomes automatic with repetition.

Accuracy is closely linked to word recognition. Fluent word recognition requires speed, accuracy, and automaticity. Although L2 learners often cannot recognize words accurately, they can rapidly and somewhat automatically

access high-frequency words and those learned through repetition. Even in such cases, however, comprehension will decrease if the learner cannot read the word correctly. Achieving fluency and accurate comprehension requires the reader to store morphemes, phonemes, and word meanings in detail in long-term memory. Fluency also entails reading quickly and understanding with ease.

Grabe (2009) cites appropriate use of pauses, stresses, and intonations as a fourth component of fluency. These skills are used not only in oral reading but also in silent reading, because learners subvocalize while reading silently to avoid separating sentences into chunks inconsistent with a sentence's structure or using pauses inappropriately.

Chunking

In lower-level reading processes, linguistic information is processed and comprehension achieved in semantically and structurally meaningful units called "chunks" (Kadota, 2002). Information embedded in a newly interpreted chunk is added to temporarily constructed content based on the chunks preceding it, a process called chunking (Tanaka, 2006). Chunking is essential to reading well; children who find L1 reading difficult lack this ability (Filippo, 1984) and poor L1 readers are inhibited by slower parsing (McMillion & Shaw, 2009). Thus, chunking is considered a key element of English education in Japan. Good chunking ability allows enhanced processing speed (Ellis, 2003; Newell, 1990; Ushiro, 2002), increased comprehension (Ellis, 1996, 2001; Ushiro, 2002), and the facilitation of direct reading and understanding (Terashima, 2002).

Numerous studies have been conducted to verify the effectiveness of teaching methods based upon various theories of reading. Some studies of reading are: the importance of building up vocabulary (Nation, 2001; Schmitt, 2000); the impact of syntactic knowledge on reading abilities (Bowey, 2005; van Gelderen et al., 2004); and the contribution of reading aloud to fluent reading (Doughty, 2001; Yasugi, 2001). However, few have described how

learners read English. If how learners read can be understood and the differences between good and poor readers identified, then it should also become clear what poor readers must do to improve their skills. This study identifies the skills characteristic of good readers while examining how learners actually read, adopting the theories mentioned above as a framework.

Research Questions

Three research questions are adopted:

(1) What processes do advanced L2 English readers undergo?
(2) What processes do intermediate L2 English readers undergo?
(3) How do the reading processes of advanced and intermediate readers differ?

METHOD

Interviews with readers were adopted as a method of data-gathering, and the data were analyzed qualitatively. Interviews were conducted after participants completed a reading test, and questions were asked concerning how the participants read set texts, difficulties encountered while reading, strategies used to overcome these difficulties, and the extent to which the texts were ultimately understood.

Participants

Two groups, each consisting of three Japanese undergraduate English learners, were formulated—an advanced group with TOEIC (Test of English for International Communication) scores between 700 and 900, and an intermediate group scoring between 500 and 695. The criteria for the advanced level and intermediate level were set following Ishikawa (2008) and Ishikawa

and Ishikawa (2008). No participant was an English major, and none had studied abroad. The reading test results confirmed that each participant's actual proficiency was consistent with the group in which they were placed.

Instruments

Reading Test

The reading proficiency test included four passages from the Eiken Test in Practical English Proficiency (Pre-First, Second, Pre-Second, and Third Grades, respectively). In TOEIC terms, Eiken Pre-First Grade is equivalent to a score of approximately 750; Second Grade, 500; Pre-Second Grade, 400; and Third Grade, 350. The participants read each passage (Pre-First Grade, 483 words; Second Grade, 343; Pre-Second Grade, 312; Third Grade, 266) and answered four multiple-choice questions on each, designed to assess their comprehension. There were 18 questions in total (resulting in a maximum score of 18). A 40-minute time limit was set. Participants' scores and amount of time taken on the test are provided below.

TABLE 1
Test Information

Participant	Reading test score	Time required (minutes)
S	18	20
K	18	25
N	16	30
H	16	40
U	15	40
M	15	40

S and K achieved perfect scores on the test and answered the questions quickly. U and M answered three questions incorrectly, and stated in their interviews that they had insufficient time to finish reading the final passage.

While N and H both scored 16 points, N required 30 minutes to answer the questions and H 40, indicating a significant difference in reading speed. Additionally, when understanding of the final passage was assessed during their interviews, it was evident that N interpreted the passage accurately, whereas H interpreted a substantial portion inaccurately. Based on these results, S, K, and N were expected to perform as advanced learners, and H, U, and M as intermediate learners.

Interviews

Following the reading test, semi-structured, 60-minute interviews were conducted with the participants (individually, recorded with an IC recorder) to determine how they read the texts. The issues addressed were:

1. How the texts were read;
2. Difficulties encountered while reading (in general);
3. How difficulties were addressed;
4. Whether difficulties with unknown words were encountered;
5. How unknown words were managed;
6. Whether difficulties with understanding sentence structures were encountered;
7. How unclear sentence structures were managed;
8. Whether difficulties were encountered with understanding sentence meanings despite familiarity with the words and structures used; and
9. How sentences with unclear meanings were managed in these cases.

Procedure and Ethical Approval

The reading test was administered and the interviews conducted in December 2013. Prior to the test and interviews, the study's intent was

explained, and informed consent to use the data and results was obtained.

Data Analysis

Moustakas (1994) explains that qualitative research is intended to understand individuals' experiences on the basis of their actual words, focusing primarily on their views and the meanings of their actions. Therefore, data analysis focused on the identification and classification of clues in this regard.

Creswell (2007, p. 148) describes qualitative analysis as a procedure where data are reduced "into themes through a process of coding and condensing the codes, and finally representing the data in figures, tables, or a discussion." Accordingly, first, interview data were transcribed; next, the transcript was examined and segments pertaining to the research questions were isolated. After that, similar segments were grouped and coded (labeled). Finally, the relationships between codes were examined, and some categories amalgamated. A category is a conceptual unit formed by grouping several related codes.

RESULTS AND DISCUSSION

The participants in this study read English texts at four different proficiency levels to determine the features of their English reading. During the interviews, participants were asked mainly about how they read passages that matched their identified proficiency level; their responses were analyzed and emerged codes were subsumed under three categories. For this study, in order to elucidate the research question within the framework of the reading process, the following three categories were created: 1) Lower-level processes, 2) Automaticity (given that the automatizing of lower-level processes is linked to fluent reading), and 3) When they fail to understand (in order to understand how problems were managed when they occurred in lower-level processes).

This section has two parts. The first reports on three categories. In the second part, the results are examined to answer the research questions.

Three Lower-level Processes

Unknown Words

Advanced level. Regarding unknown words in the Pre-First Grade passage "Teaching Nomads to Read" ("Nomads" henceforth), S related that "there were some, but not many," while K did not know words like *nomadic* and *buffalo herds*. N noted that he did not know the meaning of *nomadic* or *logistics*, and believed that *loggers* could refer to travelers. Overall, only a few words in the passage were unknown. Although no participant could initially define *nomad*, S claimed that he gradually understood its meaning. "If [words] don't seem too important—for example, if they are adjectives [or] adverbs, express degrees, or are modifiers . . . if I don't understand some of those, then I don't really pay attention to them; I just skip them." Additionally, S indicated that the small quantity of unknown vocabulary in the passage had not caused him any difficulty in overall comprehension.

Intermediate level. H found the vocabulary in "Nomads" difficult to understand. U encountered two unknown words in the passage's opening sentence, while M stumbled upon a few unfamiliar words in another sentence. Thus, both participants indicated that a significant number of unknown words were present. As mentioned above, S, an advanced learner, could infer the meaning of *nomad*, whereas H could not, but continued reading nevertheless. Likewise, U admitted skipping unfamiliar words. In contrast, M noted that two or three unknown words in a sentence severely hindered her ability to comprehend it.

Syntactic Parsing

Advanced level. Both advanced and intermediate participants chunked texts rather than simply translating them word for word into Japanese. The three advanced learners did not indicate any difficulties interpreting any of the four passages. The following example presents K's method of analysis:

> This has become a serious problem, (as their educational inability
>
> to read documents or contracts makes them vulnerable to
> S V O C
> exploitation <by loggers or businesspeople wishing to purchase
>
> land for development.>)
> (Passage referred to as "This has become" henceforth.)

"This is the main clause. I put this part in parentheses. Then I think about what the subject is, like this (writes down SVOC). Also, I think about what this *by* modifies, and *wishing* modifies this part (loggers or businesspeople)." Thus, K pays close attention to sentence structures and syntax.

N's strategy entailed separating the following sentence into chunks: Hoping to change that, / one NGO, / the Rural Litigation and Entitlement Kendra (RLEK), / has, / in cooperation with the Indian government, / been attempting / to reach these nomads and teach them to read ("Hoping" henceforth). Concerning his analysis of the sentence structures, N stated the following:

> I think about them. I see *that* here, then what comes next should describe what the person wants, so I put a slash here. This part looks like the subject, and next comes *has*, so it means that part is the subject, and I [should insert] a slash. Basically, I think about sentence structures . . . and [then] separate them into chunks.

As indicated in the quotation above, N's manner of analysis involves maintaining an awareness of sentence structures while reading.

Finally, S stated that he ". . . really [did not] have to think about sentence structures when reading," and that he nevertheless understood what he read.

Intermediate level. While none of the advanced learners encountered sentence structures that they could not understand, H felt that the structures in "Nomads" were somewhat complicated. H observed the sentence structures

closely, noting that she definitely reads with syntax in mind. Illustrated below is her analysis of a clause from "Nomads":

> RLEK (hopes its efforts) will open doors for them

H described her approach to reading the clause as follows:

> There are two verbs here: *hopes* and *open*. If I don't pay attention to the structure, then it gets very confusing . . . [so] I take a look at it and see [that] this part [above] is the problem. If I put this part in parentheses, then I can probably read it. [Therefore] this must modify something. That's how I read.

Note that H misunderstood the syntactic structure of this clause. H was taught this method of simultaneously reading and thinking about sentence structures while preparing for her university entrance examinations, and had not used it a great deal before that. Her emphasis on sentence structure is likely attributable to insufficient experience using this reading method, causing her to lack knowledge and understanding of such structures.

M admits that she does not read very closely except upon encountering sentences with complicated structures; at the same time, while she is attentive to these structures, she seems uncertain about how to deal with them in general, as indicated in the following quotation:

> If I think it is okay to place a part in parentheses, or if it would probably work as an adverb, I put it in parentheses. If I [am able to] pick up only the important parts and can interpret the meaning, I can somehow manage to understand.

However, M's inability to understand the complicated syntax in "Nomads" points to an inadequate understanding of sentence structures.

U reported that she did not understand the sentence structures in the Eiken

Second Grade passage "The Blue-Blooded Crab" ("Crab" henceforth): "I pay attention to the subjects, [but] sometimes I don't know what the verbs are. [In such cases] I first look at the words I understand and then join them; I do not always consider syntax." Although U reads English sentences in chunks, she does not reflect on how those chunks function structurally within each sentence; instead, she constructs content based on the meanings of words that she knows, and then links these meanings while reading. Consequently, she can only interpret the content roughly. This reading method suggests a scant understanding of sentence structures, which in turn is likely the result of U's initial learning process, in which she ". . . studied grammar, but didn't understand it at all [and subsequently] skipped it" because she "didn't like studying sentence patterns and [all] those things."

Proposition Formation

Advanced level. S was capable of both understanding sentence structures in these passages and comprehending their content without actively attempting to interpret them. He asserted that he did not attempt to interpret each chunk's meaning when reading English, but could understand a text simply by reading it. He further stated that he had, "no [comprehension] problems [since he] knows sentence structures;" this implies that given his understanding of sentence structures, he can form propositions automatically even without attempts to understand content. K also focused on sentence structures while reading and was able to understand content without aggressively attempting to interpret the meaning. Like S, he "[doesn't] really think about the meanings" but was nevertheless able to "grasp [them]." In contrast, N consciously interpreted the meaning of chunks while reading.

Intermediate level. U stated that to understand overall content, she "constructs a sentence in [her] head" based on the meanings of each chunk. The following is an example of how she typically breaks a sentence into chunks: "The horseshoe crab / is one of the oldest species of animals / still alive in the world today" ("Crab"). According to U, she understood from these chunks that,

"[the sentence] started out with a horseshoe crab or something, so it's old. It's a creature, and it's still alive." Thus, U was able to roughly grasp the meaning by examining keywords in each chunk and then combining them to construct a complete meaning for the sentence. However, because her knowledge of sentence structures was inadequate, she sometimes incorrectly understood how the chunks were connected, which occasionally led to an inaccurate interpretation. When U could not interpret a sentence's meaning, she attempted to infer it by linking it to the meanings of the sentences around it. But she failed to accurately comprehend the content.

Like U, M also grasped meanings roughly. She explained her method of processing "This has become" as follows:

> It seems like [there is] a serious problem. Here is [the adverb] "as"—what is this [referring to?] There is [an] inability, so they cannot do something. [They] can't read documents . . . I wonder what [this] means? From this point forward I don't quite understand. If I can't understand [the chunks] then I should just skip them. I only understand that there are some serious problem because [the nomads] can't read something.

M attempted to grasp the entire sentence's content by first inferring the meaning of words that she knew in each chunk and then linking those chunks together.

Automaticity

Advanced level. To become a fluent reader, lower-level processes must be carried out automatically, to spare working memory for higher-level processes. To what extent were the present advanced and intermediate participants reading automatically?

S could understand sentence structures without needing to actively identify them, and did not need to devote excessive attention to understanding meanings,

"just like when reading Japanese." He learned to read this way while preparing for his university entrance exams, where he focused on syntax comprehension and reading complicated English texts.

N could automatically understand content except in complicated sentences, and noted that he "doesn't really make conscious efforts to understand [English texts]"; "I practiced reading aloud repeatedly until I could understand the meanings, which was probably when I obtained the ability to read [English] without thinking too much," he said.

K, like S, developed his reading fluency while preparing for university entrance exams. In K's case, however, his goal was to increase his reading speed so that he might read a large amount of study material in a short time; this practice allowed him to develop natural reading fluency.

In addition, the advanced learners stated that they could process some phrases automatically, implying that they store a large pool of phrases and clauses in long-term memory, so that they can be comprehended automatically.

Intermediate level. Intermediate learners could also comprehend the content of some sentences, even if they did not consciously grasp their meanings. However, they could not comprehend sentences as difficult as some of those comprehended by the advanced learners. Regarding easy sentences, H claimed that she did not consciously examine their structure, but simply knew their meaning after seeing them.

When They Fail to Understand

Advanced level. N noted that when he stumbled upon idiomatic expressions unique to English, he stopped to consider their meaning. As for technical expressions, he only translated those he was unfamiliar with into Japanese.

Concerning the former, one example is "However, it's no stroll in the park for them," found in "Nomads." This expression is quite difficult for Japanese learners to comprehend, and none of the learners accurately interpreted it. K stated that: "I cannot comprehend sentences that are difficult even when translated into Japanese."

Intermediate level. While the three advanced learners were able to understand "This has become," H encountered difficulty: "I had no idea what they meant. I couldn't understand the part after [the word] *to*. I just ignored *exploitation* and *logger* because I didn't know the words." H had difficulty understanding the complicated sentences in this passage.

Regarding "Nomads," U said:

> I think I stumbled from the beginning with this one. It was difficult to [even] grasp the meaning of the title in the first place. I couldn't understand this sentence clearly (points) "In some countries, spreading literacy among nomadic ethnic groups has been a major challenge." I thought, "What is a *major challenge*?"

As noted above, U was unable to understand the passage's first sentence, which contributed notably to her poor comprehension of the full text that followed. She lacked sufficient vocabulary or knowledge of sentence structures, and therefore could not read this Pre-First Grade text.

M also encountered difficulty understanding "Nomads;" she described her attempt as follows:

> I couldn't understand [the text]. I [would] read [a sentence] and go back [to it], but I still couldn't quite understand [it]. So I just skipped [the sentences]. If I couldn't understand [sentences] I kept skipping them. So it became more and more difficult to understand the [passage].

Since M possessed only a basic understanding of English, she was not capable of processing these complex sentences.

Answers to Research Questions

Research Question 1: What kinds of processes do advanced English readers undergo?

An inadequate vocabulary can make reading difficult even for advanced learners (Institute for Research in Language and Culture at Tsuda College, 1992; McMillion & Shaw, 2009). However, the advanced readers in this study only encountered a few unknown words in the Eiken Pre-First Grade passage, and the presence of these words did not hinder the advanced readers' overall comprehension—not only because there were only a few of them, but also because the participants could bridge the gaps in comprehension based on their understanding of the other sentences.

In terms of syntactic parsing, the advanced readers did not face any sentence structures that they could not understand in the Eiken Pre-First Grade passage. They used chunking while reading the passage, although some did so consciously and some unconsciously. In reading, chunks do not inherently possess complete meanings, but rather combine to form a sentence's overall meaning. Meaning, then, is not yet established during the chunking process; instead, in a chain of chunks, meaning is continuously constructed and reconstructed by combining the meaning of a chunk with the meaning of the one preceding it (Tanaka, 2006). Properly completing this linking task requires a sound understanding of syntactic structures, which is implemented before progressing to the proposition formation phase. Since advanced readers, who possess knowledge of sentence structures, therefore also understand the relationship between chunks and a sentence's hierarchical structure, they can parse the syntax and infer the target chunk's function without conscious effort.

Thus, advanced readers form propositions through accurate syntactic parsing. Unless they are unfamiliar with words that are key to comprehending the content, they achieve rapid, accurate semantic interpretation.

For advanced readers, the lower-level processes are essentially automatic: unless a sentence is complicated, they can understand its meaning without

pausing or actively attempting to understand it—just as they can when they read in Japanese.

However, when it comes to expressions unique to English, technical expressions, and sentences whose complexity would make them difficult to understand even in Japanese, semantic interpretation can be difficult. Problems with the interpretation of these are best considered in relation to higher-level processes.

Research Question 2: What kinds of processes do intermediate English readers undergo?

When intermediate readers read the Eiken Pre-First Grade level passage, their comprehension of the text's content is impaired in accordance with the number of unknown words. In such cases, the readers do not guess the meaning of the unknown words, but end up skipping over them when reading and, as a result, can acquire only a fragmented understanding of the text.

Intermediate readers are capable of understanding sentence structures without conscious effort, provided that the sentences are simple. However, the Eiken Pre-First Grade passage had some sentence structures that were quite complicated for these readers. Their knowledge and understanding of the structure were insufficient, and they only extracted approximate readings at best.

Insufficient knowledge of sentence structures often hinders intermediate readers' ability to form propositions when reading. When the intermediate readers cannot understand, they will often skip the problem area and move forward, as indicated by the present participants. Yet as the intermediate readers continue to skip more parts, it becomes increasingly difficult for them to understand the passage as a whole. Even if intermediate readers attempt to supplement their inadequate lower-level skills with resort to higher-level processes such as inferencing they have understood so little that reliable inferences cannot be made.

Research Question 3: How do the reading processes of advanced and intermediate readers differ?

Three differences between reader groups were observed in relation to research question (3). The first lies in vocabulary. When examining the comparative frequency with which advanced and intermediate readers encountered unknown words, the Eiken Pre-First Grade passage used in this study functions adequately as a baseline. While advanced readers did also encounter a few unknown words in this passage, this did not appreciably affect their understanding of the text. In contrast, intermediate readers encountered enough unknown words to considerably distort their understanding. Upon encountering unknown words, advanced readers attempted to deal with them by making inferences, whereas intermediate readers simply disregarded them. This finding echoes that of Fukkink, Blok, and de Glopper, (2001). The intermediate readers did not use the inferencing strategy due to the large number of passages throughout the text that they could not interpret, which made this approach seem overwhelming.

The second difference between advanced and intermediate readers concerns their knowledge of sentence structures. Both groups broke meanings into chunks while reading. Since comprehension is facilitated by chunking, throughout the reading process, readers can only semantically interpret content by determining the structural function of the chunk they are presently examining and its relationship to the chunks preceding it. In other words, proposition formation is built upon an understanding of sentence structures: if readers do not understand the syntactic structures used in a given sentence, their comprehension may be erroneous or insufficient. Since the advanced readers possessed a solid understanding of sentence structures, they were able to rapidly and accurately form propositions; in contrast, the intermediate readers possessed scant knowledge, which hindered their semantic interpretation process.

The final difference between the groups involves automaticity. Fluent readers experience automaticity in lower-level processes (Grabe, 2002). Accordingly,

the advanced readers in the present study could execute lower-level processes almost automatically when reading the Eiken Pre-First Grade passage, whereas the intermediate readers lacked this ability. However, even the intermediate readers could process simple sentences automatically, indicating that some degree of automaticity is accessible even without advanced proficiency. Readers learn to automatically process the simple phrases, clauses, and sentences that they frequently encounter; and as they repeat this experience, the complexity of the sentences they can process automatically gradually increases. Advanced readers store a large quantity of phrases, clauses, and sentences in their long-term memory, where they can be processed automatically and used when needed; intermediate readers are able to store much less. Researchers have noted that repetition facilitates automaticity in lower-level processes. Accordingly, the advanced learners were those who had repeatedly performed accurate syntactic parsing while reading; the accumulation of these experiences led to automaticity.

CONCLUSION

This study investigated the reading processes of English language learners through interview data and discovered three differences between advanced and intermediate learners, respectively related to 1) vocabulary size, 2) knowledge of syntactic structures, and 3) automaticity in lower-level processes. To become fluent readers, learners must acquire the former two. In turn, the acquisition of lexical and grammatical knowledge facilitates automaticity.

In Japan, junior and senior high school English classes currently spend little time teaching syntax. Since English education in Japan shifted in focus to the cultivation of communication skills, time dedicated to learning grammar has been reduced. This is disturbing given that many learners have not mastered grammar, which is the basis of the four English skills: listening, speaking, reading, and writing. More importantly, grammar education often focuses on individual forms, such as the perfective aspect, the subjunctive mood, or the

passive voice; students are not taught sufficiently about the hierarchical syntactic structures and relations necessary to read English sentences. The three advanced learners in this study had sufficient ability to supplement their inadequate classroom instruction as they prepared independently for their university entrance exams; this experience, in turn, allowed even deeper knowledge and understanding of sentence structures. In order to become a fluent reader, it is important to build up syntactic structures and other knowledge, to make conscious use of the knowledge, and to make its use automatic. In teaching environments, therefore, teachers should teach reading methods based on analyses of sentence structure that use knowledge of grammar and encourage an understanding of the structures of the English language.

Although the findings of a qualitative study with a small number of participants cannot be generalized, the present study can provide teachers with useful ideas for implementation in reading classes. In the future, it will be necessary to study the differences between the reading processes of beginners (who likely account for the majority of Japanese English learners) and intermediate learners. To maximize the benefits that learners might receive from English language teaching, further quantitative and qualitative studies should be conducted.

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