



# Changes in Metacognitive Knowledge through Extensive Reading

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This qualitative study investigated English-as-foreign-language (EFL) learners' metacognitive knowledge about second language (L2) reading by using Flavell's (1979) framework of person, task, and strategies. Five Japanese EFL participants read graded readers of their choosing for a ten-month period and participated in a pre-task semi-structured interview, a post-task stimulated recall interview for a narrative text after reading and a follow-up semi-structured interview. The results showed that the participants had emerging metacognitive knowledge about L2 reading for general comprehension. The results also revealed that reading strategies varied even within the same participant, depending on the difficulty of texts and their set (sub-)goals for texts.

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## Introduction

This qualitative study investigates English-as-foreign-language (EFL) learners' metacognitive knowledge about reading narrative texts. Metacognitive knowledge plays an important role in cognitive activities such as reading comprehension (Flavell, 1979). In contrast to increasing attention given to reading strategies and metacognition in English-as-second-language learning contexts, little work can be found on metacognitive knowledge in an EFL extensive reading (ER) context. Yet many advantages of ER are advocated by second language (L2) extensive reading authorities (Day & Bamford, 1998; Mason & Krashen, 1997). By using Flavell's (1979)

framework of person, task and strategies, this study investigated EFL beginning readers' metacognitive knowledge about EFL reading.

## Literature Review

### *Metacognitive Knowledge and Metacognitive Awareness*

Metacognition plays an important role in many cognitive activities, such as reading comprehension (Flavell, 1979). Early work on metacognitive knowledge claimed that it comprised learners' knowledge or belief about interactions among three factors associated with cognitive processes: person, task, and strategy (Flavell, 1979).

In this framework, person knowledge includes knowledge about self (e.g., what you are good at), and knowledge about others; task is related to available resources and “task demands or goals” (p. 907); and strategies are concerned with knowledge about effective ways for achieving sub-goals, goals, and other cognitive undertakings. In Flavell’s framework, two or three of these factors interact to constitute metacognitive knowledge. Concurring with the view that self-knowledge is an important component of metacognitive knowledge, Pintrich (2002) noted that self-knowledge could allow learners to adjust strategies for different tasks. Wenden’s (1998) later specification of Flavell’s model defined metacognitive knowledge as learners’ acquired knowledge about learning. Because learners’ approaches to learning and the expectations they hold about the outcome of their efforts are influenced by metacognitive knowledge, Wenden argued that gaining an understanding of language learners’ metacognitive knowledge and beliefs is as important as checking their linguistic proficiency levels. Wenden (1999) also pointed out that what learners know about learning may be stable or yet might change over time. Building on Flavell’s tripartite framework, Wenden (1998) specified person knowledge as “general knowledge learners have acquired about human factors that facilitate or inhibit learning” (p. 518), beliefs about “their effectiveness as learners in general” and “beliefs about their ability to achieve specific learning goals” (p. 518). Task knowledge is defined as “what learners know about the purpose of a task and how it will serve their language learning needs”, knowledge about differentiating task processes in relation to outcome, and what learners know about task demands (p. 518). Strategic knowledge is defined as “general knowledge about what strate-

gies are, why they are useful, and specific knowledge about when and how to use them” (p. 519).

In L2 reading research, metacognition is also regarded as important. Grabe (2009) noted that metacognition is often referred to as “metacognitive awareness (what we know) and metacognitive regulation or control (knowing when, where, and how to use strategies, that is, what we can do)” (p. 222). A good reader’s metacognition or metacognitive awareness functions as a controller for his/her reading process by enabling the reader to choose the right strategies at the right time while reading. Referring to reading specialists’ consensus about metacognition, Koda (2004) noted that comprehension monitoring is the major difference between good and poor readers and, therefore, suggested that systematically observing how skilled readers behave when faced with difficulties in reading would be useful. According to Grabe, a reader with higher degrees of metacognitive awareness can control his/her comprehension by deploying attentional and linguistic resources appropriately vis-à-vis the reading goal. The present study was motivated by consideration of the importance of metacognition in L2 reading and the paucity of research on the use of metacognitive knowledge in L2 reading for general comprehension in an EFL context.

### ***Early Research on Metacognitive Knowledge: Successful vs. Less Successful Readers***

A large body of research on language learning strategies and reading strategies has provided insights into L2 learners’ reading strategies use (Grabe, 2009). In learning research, O’Malley and Chamot (1990) pointed to the importance of meta-

cognitive approaches for learners in planning their learning, monitoring their progress, or reviewing their accomplishments and future learning directions. Empirical evidence has also indicated that metacognitive knowledge has played an essential part in self-directed language learning for Japanese university students (Cotterall & Murray, 2009).

Likewise, in reading research, comparisons of reading performance and reading strategy use between more and less successful L2 readers have indicated that more proficient readers use metacognitive knowledge more frequently than less proficient readers (Carrell, 1989). Similarly, Zhang (2010) found that successful readers and less successful ones differ in their use of reading strategies in an EFL context. Successful L2 readers were more confident in reading and well aware of reading strategies, whereas the less successful L2 readers focused on linguistic dimensions.

Studies on successful reading strategies have provided a foundation for training L2 readers to be better readers (Grabe, 2009). Strategies that are regarded as appropriate can be taught to lower proficiency L1 and L2 readers (Sheorey & Mokhtari, 2001). The general consensus about effective reading strategies is that both knowing about various reading strategies on one hand and metacognitive awareness on the other, i.e., knowing about how and when to use the strategies and monitoring their reading comprehension, are essential (Anderson, 1991; Grabe, 2009; Koda, 2004). For example, Zhang (2001) investigated the relationship between EFL learners' proficiency levels and metacognitive knowledge of reading strategies and found that these two were closely linked. The study revealed that high-English-proficiency learners were more aware of

reading strategies and their use of strategies to facilitate comprehension than their low-English-proficiency counterparts. In the study, monitoring comprehension was reported to be the most conspicuous difference. Similarly, Sheorey and Mokhtari (2001) found a positive relationship between reading proficiency and reading strategy usage for both native-English-speaking readers and ESL learners. Their research also demonstrated that skilled native and non-native readers monitored their own comprehension while reading. In other words, knowing and using appropriate strategies in an orchestrated manner while reading is very important for becoming a successful independent L2 reader (Oxford, 2011).

As for reading strategy use, while there is a growing consensus that successful readers employ both reading strategies and metacognition, reading researchers have raised methodological questions. Few studies have been conducted in EFL contexts, and few have used texts that novice readers typically encounter while reading extended texts silently for general comprehension. Given widespread pedagogical recommendations to have novice EFL readers read extensively, and most typically narrative texts (Day & Bamford, 1998; Nation, 2013; Nuttall, 1996), there is a growing need to empirically evaluate what influence ER might have on the development of reading metacognition. In this sense, studies on novice readers' accounts of reading strategies vis-à-vis metacognitive knowledge, if any, while reading in the EFL context might shed light on the understanding of metacognition on L2 readers who began reading extended texts. To this end, the present study examines how metacognitive knowledge can be after a practice of reading graded readers vis-à-vis their previous experiences of

reading English texts.

Furthermore, questions have been raised about the effect of text difficulty and text type on the strategies that learners use. Although the readability levels of the texts used in the previous studies on reading and metacognition appeared to have been controlled, the texts might have been too difficult for less successful readers. The difficulty of the texts might have forced them to consult a dictionary too often instead of using other strategies such as guessing words from context. Although Liu and Nation (1985) and Nation (2001) have advocated that 95~98% vocabulary coverage is needed for learners to guess words from context, few studies of strategy use in reading reported the text coverage that participants had or controlled for the text coverage. Accordingly, the question of task effect remains. Namely, if the less successful learners are to read an English text appropriate for their level, they might use the reading strategies as well as metacognitive knowledge in a different manner from what was described when they read a text with many unknown words. In this regard, Grabe (2009) pointed out that distinguishing good readers from poor readers by the criteria of global vs. local strategy use might be misleading because strategy use is more bound to the text or task difficulties and not necessarily bound by good/poor readers. In addition, texts used in L2 studies on metacognition (e.g. Zhang, 2010) were, in general, expository texts and short in length. Few researchers have used long narrative texts to investigate L2 learners' reading strategies. Using longer narrative texts could yield data that might enhance present understanding of L2 reading in light of metacognition and reading strategies. In this study, a narrative text was chosen over an expository text because stories are thought to be

more interesting (Grabe, 2009), relevant to students' background knowledge (Koda, 2004), and level-appropriate (Min, 2008) for improving students' vocabulary (Pellicer-Sánchez & Schmitt, 2010). Narrative text was also most representative of the type of texts that they had been reading extensively.

### *Incidental Vocabulary Learning through L2 Reading*

Following Zhang's (2001, 2010) work on metacognition in reading, this study examined readers' strategies used to deal with and potentially learn vocabulary incidentally. Evidence suggests that L2 learners acquire vocabulary while reading (Waring & Takaki, 2003; Webb & Chang, 2015). Webb and Chang (2015) investigated vocabulary learning of L2 learners with varying vocabulary sizes who read 20 graded readers over the course of 37 weeks. The findings provided strong evidence that through extensive reading participants with higher vocabulary sizes developed more additional vocabulary than those whose vocabulary sizes were smaller at the outset. In their case study on incremental vocabulary learning, Pigada and Schmitt (2006) found that incidental vocabulary acquisition occurred more than had been suggested by previous studies, especially in the realm of spelling. Investigating how L2 learners perceive their vocabulary development while engaging in reading graded readers can be useful. In this study, I explored the process of how reading strategy execution is initiated, maintained, and evaluated while reading a text. More specifically, I examined how metacognitive knowledge was used to cope with L2 reading and how the use of reading strategies led to successful comprehension and possible vocabulary learning from reading.

### *Stimulated Recall Methodology*

Finally, there has been a growing call for a careful examination of the quality of strategy use through qualitative research methods. Tseng, Dörnyei, and Schmitt (2006) pointed out that, according to learning strategy theory, the quality of the strategies is more important than the quantity and that few studies examined the quality of learners' strategy use. Furthermore, Gu (2014) has called for more studies that qualitatively examine the quality of strategy use with respect to the effectiveness. To address this issue, a stimulated recall methodology (Gass & Mackey, 2000) was employed in this study to find out how Japanese EFL readers use metacognitive knowledge while reading a narrative text; and also how Japanese EFL readers deal with unknown words.

Based on the putative importance of using metacognitive knowledge while reading, this study aimed to address the literature by using qualitative methods and by looking at learners' metacognition involving a narrative text in the EFL context. This study therefore attempted to investigate the following questions:

1. In what way do EFL learners' metacognitive knowledge as a L2 reader change after engaging with reading graded readers for ten months?
2. How do Japanese learners use metacognitive knowledge for general comprehension while reading extensively?
3. In what way, if any, do EFL learners see incidental vocabulary learning through reading graded readers?

### **Methodology**

#### *Context of the Study*

This study was conducted in the context of a first-year required English course in which extensive reading played an integral part. In the first class meeting, students were introduced to graded readers, and spent ten minutes silently reading a level-three Penguin Reader (Pearson Education Limited). The level is described as containing 1200 headwords, according to the indication written by the series editors at the back of the books. Subsequently, participants were told to read books of their own choosing, and assigned to read as many books as they pleased for ten months. The participants also had access to a university language lab where they could read English journals and magazines, check out extensive reading materials, and practice speaking English with native speakers.

Four of the five participants were doing extensive reading for the first time. Because of their unfamiliarity with extensive reading, they started by reading level 2 graded readers and advanced their levels at their discretion.

#### *Participants*

The five participants, all female, were taking two required 90-minute English classes per week throughout a year at a four-year national university in eastern Japan. All the participants' names are pseudonyms. They were not majoring in English. All of the participants had studied English for six years in middle and high school. In addition, Aki studied phonics for three years as a child, and Fumi and Emi had taken some conversation lessons as primary school students. Four of the participants

went to cram schools to prepare for university entrance examinations. The participants were at an intermediate level with high vocabulary sizes, which ranged between 6000 and 8400 word families based on the monolingual Vocabulary Size Test (VST) (Nation, 2012) administered in the middle of the year.

The participants were described as novice readers because they said that they had not been engaged with reading long texts for general comprehension, such as narrative stories, or extensively. Table 1 shows their general background, scores of VST and the levels of graded readers that they were reading.

**Table 1**

*Participants' experiences with English reading, VST, ER and current English studies*

Participant	Learning History		Lexical Test	ER	Voluntary English Learning
	Age started	Cram school	VST	Level	Outside Course Studies
Aki	5	Yes	6000	3 and 4	Not much
Beni	12 (Junior high school)	Yes	6200	3 and 4	Weekly 1 hour conversation
Chika	12 (Junior high school)	No	6000	5 and 6	Join a debate club to discuss various issues, such as nuclear and environment
Emi	10	Yes	7600	3 and 4	Not much
Fumi	7	Yes	8400	4	Not much

Note. Level of the ER column indicates the level of graded readers that participants perceived to be their level because they found books at that level comfortable reading at the time of the study.

Based on class placement, participants' TOEIC Institutional Program (IP) scores were around 650 at the beginning of their university studies and their English proficiency was assumed to be similar to each other.

### **Materials**

The text for the participants to read in this study was selected from Chapter 1 of a 4000 level mid-frequency reader entitled *More William* adapted by Nation (Nation & Anthony, 2013). There were 1,300 running words in the selected text. The text had a Flesch-Kincaid reading ease of 83.2

and Flesch-Kincaid grade level of 4.5. It was thus deemed appropriate for the participants' vocabulary size (6000~8400), enabling them to draw on their metacognitive abilities (See Koda, 2004 on choosing text levels). The story is about a young school boy who—without bad intentions—gets himself and his younger cousin into trouble early on Christmas Day. Six open-ended reading comprehension questions created for this text asked for factual information (e.g., “Was there anybody else who woke up early, apart from William, on the Christmas day? If so, who?”), and required the ability to inference and integrate information across the text (e.g.,

“What motivated him to buy presents for his family?”). The questions were written in Japanese and were piloted with an advanced Japanese learner of English (TOEIC 980), using an appropriate (i.e., 8000 word-level) version of the story. The Advanced Japanese learner found the text to be readable and questions to be intelligible. The entire procedure was then piloted with two English speaking boys, 5th and 8th graders. They finished reading the text in approximately 14 minutes. A post-task stimulated recall interview indicated that the young native speakers primarily used paraphrasing and summarization strategies and comprehended well. The Year 5 boy used a guessing strategy to infer the meaning of the unknown words, such as *donor* and *ammunition* successfully; the Year 8 boy did not report encountering any unknown words in the text.

#### ***Data Collection and Interview Protocol***

The data were collected at the end of the course after participants experienced reading graded readers for ten months. After the final class meeting at a university, interviews and the verbal protocol were conducted in the same classroom. Following an explanation of the study, written consent was obtained from the participants. The participants were then each interviewed for approximately 20 minutes about their experience with reading graded readers and other readings such as news articles outside of class. Special focus was placed on asking how they usually dealt with unknown words while reading.

They then read the narrative text, which they all reported seeing for the first time. After finishing, they were asked to respond in writing to the six comprehension questions in Japanese. They were given

as much time as needed to complete the reading comprehension task. The participants were allowed to refer back to the text, and told that it was acceptable to write whatever they thought appropriate and to leave questions unanswered. After they finished this task, a post-task stimulated recall interview (Gass & Mackey, 2000) was conducted to assess the participants' use of metacognitive knowledge in relation to their reading strategies.

Finally, a semi-structured interview was conducted to document their general English learning and reading experience in middle and high schools with the aim to compare their previous reading with their current ones in terms of strategy use and metacognition. The interviews and the verbal protocol were conducted in Japanese, the language chosen by the participants (see Gass & Mackey, 2000 and Oxford, 2011 on language use for interview). On average, the entire procedure took about one hour for each participant.

#### ***Analysis***

For each participant, three interviews were transcribed: (a) the pre-task semi-structured interview; (b) the post-task stimulated recall interview for the text after reading and writing their answers to the reading comprehension questions; and (c) the follow-up semi-structured interview. I used thematic analysis (Braun & Clarke, 2006) that enabled me to pay analytic attention to the content of the participants' responses. The data were first coded inductively: I went through the transcriptions and coded by key words, such as various reading strategies, aspirations, perception about EFL reading and strategy uses. I then coded them deductively, using Flavell's (1979) framework of metacognitive knowledge, person, task

and strategy.

## Results

The main purpose of this study is to describe how EFL learners use reading strategies and metacognitive knowledge while reading by using Flavell's dimensions of metacognition; person, task and strategies. Under each variable, salient themes that were reported most frequently by the participants and that also varied somewhat by participant are described in this section.

### *Metacognitive Knowledge of Person*

The results of the pre-task semi-structured and follow-up semi-structured interviews suggested that all of the participants had metacognitive knowledge (person) as EFL learners but not necessarily as EFL readers before exposure to ER. They recalled and described what they did in the framework of English learning at high schools. The common themes were hard work for entrance examinations, cram school, vocabulary development, syntax parsing and support they cherished from peers and teachers. They talked about themselves in the context of interactions with other individuals who seemed to have influenced how they studied English for the purpose of passing the entrance examinations. For example, in Emi's case, her high-school teacher's recommendation and support about English study, especially vocabulary development, motivated her to work harder. They reported reading using a *chobun-dokkai* approach, which constitutes a reading passage followed by reading comprehension and translation questions. In Beni's case, she followed her teacher's recommended ways of studying, such as reading aloud and syntax parsing. They reported that they were not familiar with

pleasure reading in English.

After they began extensive reading at university, the participants appeared to have emerging metacognitive knowledge about themselves as EFL readers. All of them expressed their aspiration of becoming a competent EFL reader who can read English books fluently. Aki enjoyed reading Japanese books and described herself as a fast reader. She described her aspiration to read English books smoothly and fast eventually, just like when she reads Japanese books. She said that she tried to read graded readers without stopping for unknown words to read faster. She recognized that she cannot read English as smoothly as Japanese, which was fairly frustrating to her. She attributed this to a lack of vocabulary.

There was some variation in terms of their perception about EFL reading experiences and Japanese reading. Similar to Aki, Beni and Emi thought that their reading in English was very slow and taxing, compared with their fast reading of Japanese. They also attributed this to their lack of vocabulary. This is supported in Aki's and Beni's cases by their lower VST scores. Beni and Emi also reported on their aspiration to become a capable and fluent readers of English books. In contrast, Fumi, whose VST was the highest, reported that she gradually found reading graded readers similar to reading Japanese books for general comprehension. She described herself as a book-worm and loved reading Japanese books. When she was a junior high school student, she read an English novel translated in Japanese. Because she loved the story so much, she attempted to read it in English, but failed dismally because of many unknown words. Since then, she had shied away from reading English books. After she was introduced to graded



readers, she said, "I gradually removed my psychological wall I felt towards English books." She came to like English graded readers that "are easy to read, easy to comprehend and easy to visualize story scenes while reading" whereas she "preferred a challenge to an easy stuff when reading Japanese books." She reported changing her perception about reading English books from a non-pleasurable experience to a pleasurable one.

### **Excerpt 1**

When I started reading graded readers in April, I was under tremendous pressure because I had never read stories written in English before and thought that I must understand every bit of words precisely in order to get a full picture of the story. I was nervous. But now that I have read several books, my thinking and feelings about reading books in English changed. I am more relaxed towards reading English graded readers because I can think this way: Even if I don't get it at the first time, I can skip the parts that I did not understand and read on because I think it is alright to reread later. I think that I am more tolerant of leaving the parts that are a bit unclear to me. I feel that the way in which I read English books now is becoming similar to the way in which I read books written in Japanese. It was not until recently that I have come to enjoy reading a book in English (Fumi, pre-task semi-structured interview).

Fumi's experience is supported by Zhang's findings (2010) that successful EFL students find reading in their L1 and English "qualitatively similar", even when the two languages have different orthographies (p. 335). It seems that as EFL readers become more adept at reading in English, they might find some similarities in read-

ing between English and their L1.

After engaging in extensive reading, Fumi suggested that she had become aware of reading strategies, such as skipping unknown words, guessing, rereading and comprehension monitoring, to deal with reading difficulties. Using these strategies regularly helped improve her comprehension and confidence. Furthermore, the results suggested that she became metacognitively aware of the goal or task of reading for general comprehension. Aki and Chika, whose vocabulary size is lower, also reported on the use of strategies such as guessing and skipping unknown words.

In keeping with Flavell's (1979) claim, the participants' accounts suggested the interaction of person (story content that could stimulate their interest as in "I like the story"), task (easy-reading) and strategy (visualize scenes) seemed to promote reading. Beni remarked, "Reading easy books is for pure pleasure." The genre also seemed to be considered an important criterion for choosing a book, more so than the level of difficulty. In that sense, the participants were confident in choosing graded readers that were not only appropriate for their reading levels to ensure easy-reading, but also compatible to their interest. In short, they were confident enough to engage in sustained reading independently, provided that the above-mentioned conditions were met.

### ***Metacognitive Knowledge of Task***

Task means knowledge about what one is expected to do with the task in relation to its goals (Flavell, 1979). One theme that emerged from the pre-task semi-structured and the follow-up semi-structured interviews was that all of them were read-

ing graded readers in a manner that was different from how they did intensive reading. Aki, Beni, Emi and Fumi recognized that their reading experiences with graded readers were qualitatively different from what they used to do when reading the English passages for the purpose of answering reading comprehension questions. They described their former EFL reading as *chobun-dokkai* and realized that it would not constitute EFL reading for general comprehension, pointing out that their goal of *chobun-dokkai* was to answer questions as quickly as possible, as a sort of training for English entrance exams. They therefore read the questions first and went straight to the relevant parts in the given text to answer each question without comprehending the whole passages. Emi, whose VST was the second highest commented in the follow-up semi-structured interview that “if the comprehension questions were given beforehand, I might have read the text differently, using the *chobun-dokkai* way of reading. I might have read reading comprehension questions first and then go straight to the relevant part in the text.” This suggested that the participants became aware of the differences between EFL reading for general comprehension and their former way of reading with a purpose of answering reading comprehension questions. The results suggested that they appeared to know how they read in relation to their goals. In other words, they were metacognitively aware of reading for general comprehension without resorting to translation or exam-oriented methods.

Fumi, whose VST was the highest reported that her perception about reading novels in English and how to choose a book changed as she read graded readers. Although the level took precedence in the beginning, she soon realized that she

was not enjoying mysteries of the lower graded readers. She moved to the higher level and read a novel, *Pride and Prejudice*, with great satisfaction and pleasure. She became aware that criteria for choosing books should not be limited to the levels; but other factors, such as her own preferences and interest, were important. Because of this, she added a genre to her criteria:

#### **Excerpt 2**

I have changed my genres. I started reading graded readers at level 3 and chose mainly mysteries but found them not so interesting. I raised the level of graded readers to level 4 and read some novels, which I found very interesting and even finished reading a book in one go over one weekend. This experience made me think that genres might also be important when choosing a book. I have come to grasp what is reading in English is like, too (Fumi, pre-task semi-structured interview).

In addition, the participants appeared to consider vocabulary knowledge to be essential for reading and to have a task-specific belief about vocabulary acquisition. They reported that vocabulary could be learned only through deliberate efforts, such as memorization and practice. They appeared not to believe that incidental vocabulary learning could happen while reading. A comment made by Beni during the pre-task semi-structured interview was representative of their perceptions about vocabulary and reading:

#### **Excerpt 3**

Even if I read many books, I don't think that I can learn vocabulary. I don't think reading English books will lead to vocabulary development. My belief about learning new words is that I meet the

words which I was taught in a class. Then on a different occasion, when I re-read the textbook, I realize that I know the meaning of the words, saying to myself, "I know the meaning of this word. I learned it in the class and remember it." This is the way I can learn and remember new English words. I don't think that I can learn new words just by seeing them or encountering them while reading a text without knowing their meanings (Beni, pre-task semi-structured interview).

Although Fumi also shared the above view, she reported on having her own heuristic experience about a word while reading:

#### **Excerpt 4**

Come to think of it, I noticed that the word, "learn", was used in a sentence like "She learned that someone married to someone". This usage was a revelation to me because I had not known before that "learn" could also mean "become aware of" and be used casually in a daily conversation. My understanding of its meaning had been only one aspect. After this discovery, I thought next time I had a chance in the classroom, I would like to venture into using "learn" in this way. I was all excited about the thought of using it in that context (Fumi, pre-task semi-structured interview).

Fumi's above remark appears to suggest that her semantic knowledge of the word that had been partial was expanded and solidified from reading graded readers and encountering it in the different context.

Common thinking about vocabulary learning among them, however, was that vocabulary development and reading

were two separate undertakings. They believed that developing vocabulary should come first in order to read fluently and accurately. "Commercially sold vocabulary textbooks" was a recurring term in their accounts of their efforts about learning new words. They reported that if they are determined to study vocabulary, they usually do it specifically by buying recommended or advertised textbooks targeted for vocabulary learners preparing for a test such as *Eiken*.<sup>©</sup>

#### ***Metacognitive Knowledge of Strategy: Dealing with Unknown Words***

In marked contrast to their beliefs about not learning vocabulary incidentally, an examination of their reading strategies suggests that the participants applied a variety of decoding strategies and were able to learn new vocabulary from context. The results of the pre-task semi-structured interview suggested that all participants guessed and skipped unknown words while reading graded readers. Aki, Beni, Chika and Emi used similar strategies for unknown words. If their guessed meaning made sense in the context, they kept on reading without checking it in a dictionary. They appeared to prioritize seamless reading instead of stopping. Aki, who expressed a belief that vocabulary should be memorized by using a vocabulary book, did not usually use a dictionary for graded readers. In contrast, Beni, Chika and Emi commented that if the same unknown word appeared several times and it seemed to be a key word, they were anxious to know the meaning and checked it in a dictionary. It is interesting to note that they described learning some of the words from their reading by guessing the meaning of words in context or dictionary use although they claimed that they do not learn new vocabulary through reading.

Also, rather than use a dictionary, Fumi chose a ladder series that included a word list at the back that enabled her to check the word right away. She commented on the convenience of knowing the meaning quickly on the spot, saying "This quick access to the word list reduces my psychological burden tremendously. Using a dictionary is bothersome. I would like to read a book at any time and anywhere without carrying a dictionary."

Fumi further reported using her background knowledge for guessing unknown words, abstract ideas and/or unclear parts. If she did not have background knowledge and/or if the book was slightly difficult, she browsed the Internet to find the summary of corresponding stories in Japanese or synopsis written in English at the back of the book beforehand to get the gist. She described reading a summary as her usual practice when reading Japanese books. Similarly, Emi also said that she looked up the synopsis before choosing a graded reader.

The participants reported that they were aware of changing their reading strategies in accordance with what they read, for what purposes and for what goal they set for reading for general understanding. When they read graded readers, they read for general understanding and pleasure. Visualization of story scenes was another strategy on which they reported although they used occasionally, depending on the difficulty of books. On the other hand, when they read a newspaper article of their choice for the purpose of presentation in a class, they checked every unknown word to make sure that they not only knew them well but also remembered their meanings to deliver them appropriately in their presentation. In this way, all five participants demonstrated metacognitive

knowledge with respect to person, task and strategy about reading. Before engaging in ER, they had certain metacognitive knowledge about EFL reading: They had read English passages to answer questions pertaining to reading comprehension and translation (task); They thought that they cannot read an English book because of lack of vocabulary (person).

### *Stimulated Recall Methodology*

The main focus in the post-task stimulated recall session was to investigate participants' use of metacognitive knowledge (person, task, strategy) of actual reading. All participants finished reading the English text as instructed. The English text and their written responses to the question were used as prompts for the post-task stimulated recall. Table 2 (p. 13) is a summary of the reading task.

The time of reading differed by participant. The strategies and the purposes that they reported to have employed differed. After reading, participants responded to the six open-ended reading comprehension questions created for this text. The duration of their answering in writing ranged from 2 (Aki) to 8 minutes (Emi). The coverage of the text for all the participants was 99% based on their reports on the number of unknown words. Aki was the fastest reader, but had the lowest comprehension. She reported that she wanted to read fast. In contrast, Chika was the slowest reader. On the other hand, she employed several strategies, such as using a dictionary and monitoring her comprehension. Chika reported that she wanted to comprehend and did not mention reading speed. Similar to the findings of Uden, Schmitt and Schmitt's (2014) study that "the participant with the slowest overall reading rate (Angelina) actually performed best overall

on the comprehension measures" (p. 19), Chika comprehended the story best and maintained her desire to read the story's sequel. Similar to the findings of Luppescu and Day (1993), a time difference was

observed even with an electronic dictionary in the present study: using a dictionary, Chika took twice as long to read the text as Aki did without one.

**Table 2**

*Participants' time on reading and answering reading comprehension questions details and VST*

Participant	VST	Text	Questions	Unknown Words	Questions (6 items)	
					Answered	Correctly answered
		Reading Time (minutes)	Answering Time (mins)			
Aki	6000	11	2	22	1	1
Beni	6200	20	4	8	5	3
Chika	6000	24	5	18	6	5
Emi	7600	16	8	18	5	3
Fumi	8400	15	7	20	6	5

Note. Unknown words were the number of unknown words based on the account of the participants. VST is vocabulary size test.

All the participants correctly answered the question that asked for factual information, but had difficulty in answering the one that required them to infer and integrate information in the text. All of the participants reported that the text was rather difficult, especially the first page. Aki, Emi and Fumi said that they did not follow the story line and expressed that their interest in the text declined as they read on. On the other hand, Beni and Chika, whose VST scores were lower than Emi and Fumi, reported that they maintained their interest because they perceived that they adequately comprehended.

Similarity among the participants was found in the manner of dealing with unknown words: All the participants guessed the meaning and skipped them on their first encounter, irrespective of correct or wrong guessing, and kept

reading. This was in line with their accounts of their reading strategies for graded readers. The same word, however, could be guessed in different ways, depending on the participants. For example, Aki used guessing, skipping, and paraphrasing based on her accounts on the instance of guessing a word, *leapt* as in *He leapt lightly out of bed and dressed*. She elaborated on how she came to understand:

**Excerpt 5**

I didn't know the word, *leapt*, so I underlined and skipped it. When I read "out of bed and dressed", I kind of guessed the meaning of the *leapt* and thought that he jumped out of bed and got dressed.

In contrast, Chika used a different strategy to guess the same word, *leapt*, explaining "I knew the word *leap*, but not

*leapt*. I thought these words were connected because they looked similar.”

Another strategy for guessing was using background knowledge. As for the following sentence, “*Numerous damp shining trails shone over hats, and coats, and umbrellas, and wall-paper*”, Chika referred to the slash mark that she wrote between *trails* and *shone* for syntax parsing when reading. She said, “I was not sure about this ‘*shone*’, but I guessed from snail trails, which are usually shiny, and grasped that snail trails were all over, shining. I understood what was going on, but only vaguely”. Other participants had difficulties in guessing the word “*shone*”. Apparently, it never occurred to them that *shone* is the past tense of *shine* that they were familiar with.

To tackle unknown words, another strategy the participants used was dictionary use. They did not use the electronic dictionary that was provided for every unknown word, but only for some self-selected unknown words that they thought were crucial to their comprehension instead of checking all the unknown words that the participants reported to have encountered in the text. They decided to use a dictionary strategy on their own. This was also in line with their accounts of dealing with unknown words in case of several encounters or key words. Sometimes dictionary use helped them and other times it did not. Some words, such as *snail* and *garment*, were straight forward in their meanings whereas others had multiple meanings and often had definitions that they found difficult to fit in the context. All of them commented that seeing back-to-back unknown words, such as *muffled groans*, was the cause for inhibiting comprehension. This was probably the cause for their perceived difficulty in the text with high coverage. Dictionary use in this case did

not help them enhance comprehension. This suggested that they were bound by the meaning of the words at a lexical level, not at an across-sentence level of comprehension.

Successful comprehension occurred when the participants analyzed the definitions of the words to try to make sense of the context. This process also involved asking questions to oneself and confirming their interpretation in Japanese. Dictionary use in combination with analysis in the form of asking oneself and confirming strategies led to text comprehension. As for the following passage, “*It was Jimmy who conceived the exquisite idea of dipping his brush in the bucket and sprinkling William with water. A scrubbing-brush is in many ways almost as good as a hose. Each had a bucket of ammunition*”, Chika explained how she reached comprehension:

#### **Excerpt 6**

Jimmy and William were cleaning up the hall...But gradually cleaning up changed to a playful thing. Because of the part “*dipping his brush in the bucket and sprinkling William with water*”, I thought that Jimmy started splashing water towards William. Then I checked “scrubbing” and “ammunition” in a dictionary. “Scrubbing-brush” was a brush for cleaning, which was easy to understand, but when I checked the “ammunition”, the definition included *dangan* or *danyaku*, which are military supplies. I thought it was odd and didn’t get it first. Then I asked myself, “Is that used metaphorically? Isn’t a bucket of ammunition a bucket of water?” Then I said to myself, “That’s it because it makes sense.”

Chika first visualized the context, and used a dictionary look-up strategy accompanied with analysis and evaluating the

word in the context to make sense. That she explained these words, which were unknown to her, without relying on her notes on the Japanese definitions suggested that she retained the meanings of these new words immediately after reading. Moreover, her account suggested that she recognized other aspects of words: For example, the military-related word that was found in a dictionary could be used in a non-military context.

The five participants thus employed various strategies in order to comprehend. Guessing was a common strategy. One salient difference in terms of successful comprehension was whether dictionary use was accompanied by analysis and confirmation. Using these strategies required more time to read. Chika's reading time was the longest among the participants because she used a dictionary, analyzing and confirming more often than others. This yielded adequate comprehension in that she appeared to have comprehended the text best. The next longest reading time was Beni, who reported that the conversation part between the two boys comprising short sentences was easy to comprehend. Similar to Chika, Beni also used a dictionary, analyzing, asking self-questions and confirming for unknown words, such as *investigation*, which seemed to have enhanced her comprehension. She also reported that she was happy with not full but 70% comprehension of the text and that she would read the sequel.

## Discussion

The first goal of this study was to investigate in what way EFL learners' metacognitive knowledge changed as a result of reading extensively. The results of the pre-task semi-structured and follow-up semi-structured interviews suggested that prior

to exposure to ER, all the participants had perceived the purpose of reading as solving chobun-dokkai and translation questions with an aim to pass the entrance examinations. They had emerging metacognitive knowledge about person, task and strategy for EFL reading and as EFL readers through reading graded readers. They recognized that reading graded readers was different in nature from how they read English passages for other purposes (e.g., chobun dokkai, translation). They gained confidence in selecting texts, which is the basis for ER (Day & Bamford, 1998), and in reading in English for general comprehension without translating or consulting each unknown word in a dictionary (Mason & Krashen, 1997; Nishino, 2007). They appeared to read with a focus on meaning and enjoyment (Day & Bamford, 1998). Their interests and preferences seemed to be more important criteria for choosing books than their reading levels (Nishino, 2007). All the participants also appeared to feel a sense of achievement upon finishing a book.

All the participants used word-level strategies, such as guessing from the context, and text-level strategies (Barnett, 1988), such as skimming, scanning, and using background knowledge. The common strategy they reported was a guessing strategy for unknown words, which was also used by the successful readers in previous studies (Carrell, 1989; Zhang, 2010). They seemed to prefer reading on and avoiding stopping and interruptions, even if they encounter unknown words. Encountering new lexical items three times or more, however, seemed to be their perceived criterion that prompted them to consult it in a dictionary. Use of dictionary when learners feel it necessary was also observed in Nishino's (2007) case study with the two Japanese students, who also checked the

meaning after repeated encounters during ER. Nishino (2007) suggested that using a dictionary while reading might be useful for some learners. Likewise, using glosses provided at the back of the books appeared to be a useful strategy. Fumi's account of the quick and handy access to the meaning of unknown words indicated that glossaries enabled her to minimize the interruption of reading, compared to dictionary use (Nation, 2013). As many studies indicated that glossaries can have a positive effect on comprehension (Jacobs, 1994; Watanabe, 1997) and on vocabulary learning (Watanabe, 1997), glosses seemed to have helped her comprehend better quickly and even learn some unknown words along the way. It could be inferred that her highest VST scores could be a result of her taking advantage of glosses while reading (Watanabe, 1997) and partly the result of explicit attention given to the semantic aspect of vocabulary (Ellis, 1994; Nation, 2013).

Some of the learners, such as Fumi and Emi, also had effective strategies for building background knowledge to assist their reading (Schmitt, Jiang, & Grabe, 2011), both by reading summaries on the book covers and by consulting the Internet. They found it comfortable to have transferred this L1 strategy to EFL reading. This affirms research indicating that background knowledge helps comprehension (Schmitt, Jiang & Grabe, 2011). Their L1 strategy transfer is supported by research stating that once L2 learners surpass the proficiency threshold, they can manage to transfer L1 reading strategies to L2 reading strategies (e.g., Bernhardt & Kamil, 1995). In sum, the participants used reading strategies at their discretion and had appropriate metacognitive knowledge about reading for general comprehension.

The second goal of this study was to investigate how Japanese learners used metacognitive knowledge for general comprehension while reading extensively. The results of the stimulated recall interview on their use of strategies for reading the English narrative text with a high level of lexical coverage suggested that they used metacognitive knowledge to comprehend the text. Although the coverage is a vocabulary benchmark for adequate comprehension to occur, this alone is not a guarantee because other factors, such as cultural differences, and pronouns and their referents, are involved in reading comprehension (Gillis-Furutaka, 2015; Hu & Nation, 2000; Schmitt, Jiang, & Grabe, 2011). It can be inferred from the data that two consecutive unknown words or two closely distanced unknown words were problematic for the participants to guess the meaning from context. Lexical density appeared to be a reason why guessing was impossible (Nuttall, 1996). However, reading with adequate or large amounts of comprehension (Uden, Schmitt & Schmitt, 2014) was achieved. The data suggested that the participants frequently employed a guessing from context strategy before using a dictionary, which was in line with their report during the pre-task interviews and shared by the successful readers in Zhang's (2010) study. In general, they used not only one reading strategy but multiple strategies in an orchestrated manner to comprehend.

After they used guessing and dictionary strategies, a distinct difference in their strategy use was observed between when the participants comprehended the text and when they did not. It happened that the same person who successfully comprehended some parts of the text, and comprehended other parts less well. The data indicated that analyzing and evaluating the definitions and adapting them



in the wider context seemed to be a next required step to lead to comprehension of the text. Because applying the dictionary definition directly to the unknown words might not work at times, it was necessary to adjust the meanings in a wider context to make sense (Nation, 2013). Beni and Chika, whose VST scores were lower than Fumi, used this strategy for coming to terms with *investigation* and *ammunition*, respectively. When they employed this strategy, they also used background knowledge to confirm their adaptation in the context. When the participants looked a word up, the comprehension was not necessarily forthcoming because of its complex process (Luppescu & Day, 1993). Furthermore, Chika and Beni demonstrated their retention of the meaning of unknown words, albeit for that moment, immediately after reading as it was postulated that unknown words must be noticed and sufficient attention should be paid for the word to be retained and that deeper processes involved lead to more retention (Schmidt, 1990; Laufer & Hulstijn, 2001). Their process of making sense of the meaning in the context can also support Webb's (2008) claim that the quality of the context matters for gaining semantic knowledge. However, their metacognitive knowledge about vocabulary learning was still rigidly rote learning as mentioned next.

The third goal of this study was to investigate what relation, if any, EFL learners saw between reading and vocabulary learning. The data suggested that the participants had unique metacognitive knowledge about task and strategy with respect to vocabulary learning. The data suggested that they believed in learning vocabulary only explicitly and intentionally (task), or in other words, mainly through rote learning and memorization (strategy). This

suggested that they persistently associated vocabulary learning only with studying by memorization. In other words, they did not believe that incidental vocabulary learning can happen while reading graded readers. Their account also suggested that commercially sold texts and their popularity in Japan seemed to shape their cognition and metacognitive knowledge about vocabulary learning. The participants' beliefs are contrary to literature claiming that incidental vocabulary learning happens while reading (e.g., Leung, 2002; Mason & Krashen, 1997; Webb & Chang, 2015). Incidental vocabulary learning did not appear to cross their minds as a benefit that they could reap from ER. However, they did appear to be learning from their reading (e.g., *leapt* and *learn*). Their belief is also considered to be metacognitive knowledge because as Dunlosky and Metcalfe (2009) noted that "incorrect beliefs" might also be included in metacognitive knowledge (p. 2). Zhang (2010) suggested that it is desirable for an instructor to correct students' metacognitive knowledge if it is "faulty" (p. 345).

In sum, the results suggested that all participants appeared to have emerging metacognitive knowledge about person, task, and strategy as L2 readers and still maintained unique metacognitive knowledge about task and strategy for vocabulary learning. Because they had metacognitive knowledge in L1 reading, they were able to transfer some of the strategies they employed when reading L1, such as use of background knowledge. They used appropriate metacognitive knowledge when reading graded readers in that they felt confident in coping with the linguistic problems they encountered while reading graded readers, were more tolerant for unknown words, and prioritized read-

ing smoothly rather than being stuck with unknown words if any. In this regard, the participants in this study shared both the common features of the successful EFL students in the previous studies (Carrell, 1989; Zhang, 2010). However, when they read an excerpt from a mid-frequency reader, which was higher than their normally accustomed levels (level 3 to 4), they took advantage of using reading strategies but tended to fail comprehension often because guessing was not successful. They occasionally shared common features of less successful EFL students in previous studies (Carrell, 1989; Zhang, 2010) in that the participants were lexically bound and bogged down in decoding when they encountered perceived difficulties, such as two unknown words in a row or a close proximity. On such occasions, comprehension usually failed. Successful readers in one context became less successful readers, depending on texts and/or even the part of the text they were reading. With the effective use of metacognitive knowledge (e.g., comprehension monitoring, recognizing failed guessing strategy, using a different strategy, such as an effective use of a dictionary, comprehension monitoring), however, lexical burdens were mitigated and sometimes a deeper comprehension was achieved.

### Limitations

The results of the present study should be viewed by considering its limitations. The results reported here are most applicable to intermediate learners of English in a Japanese EFL context. Learners with different L1 and lower/higher proficiency might have different results. Another limitation is that the data collected was retrospective verbal report, which often invites criticism because of concerns over its validity and reliability. Stimulated re-

call methodology and retrospective semi-structured interviews were thus conducted with much care as Gass and Mackey (2000) recommended. An important limitation is that the study was not longitudinal, which might provide more insight into the dynamic nature of metacognitive knowledge. I recommend that future research consider investigating the changes and development of their reading strategies and metacognitive knowledge if not only reading strategy but also metacognitive knowledge instructions are provided.

### Implications for Pedagogy

First, the findings suggested that having metacognitive knowledge about task, person, and strategy, might have helped learners use reading strategies appropriately to their advantage, enhance self-efficacy and facilitate reading comprehension. Raising awareness of their reading strategy use and how to use them in an effective manner vis-à-vis their reading goals set specifically for a short-term and a long-term might be beneficial to EFL readers.

Secondly, this study suggests that it might be useful to teach students how to check an unknown word in a dictionary when necessary, and more importantly, to analyze and evaluate the definition of the word in the context. Because the principles of extensive reading include reading easy material, reading quickly and reading a great deal (Day & Bamford, 1998; Day, 2015), suggesting using a dictionary for better comprehension is antithesis to the suggestions to the L2 learners. More appropriate instructions might be to guess the meaning of unknown word, skip it and keep reading without needing a dictionary or to choose another book at a lower level if the learner finds encountering unknown words far too frequent. It might be help-

ful, however, to teach appropriate ways to use a dictionary if the L2 learners want to use it as the last resort because the participants of this study sometimes used a dictionary to help them comprehend the storyline even when they were reading a graded reader of their own choosing. The instruction of using a dictionary might also be useful to the L2 learners who want to read a complex text on their own. The participants of this study were successful in comprehension if they evaluated the meaning of the unknown words in the context. On the other hand, they were unsuccessful if they were swayed by the meaning defined in a dictionary and attempted to rigidly adopt it without consulting the context surrounding the unknown word. Therefore, it might be helpful to inform learners to go back to a couple of previous sentences and think about the checked meaning of the unknown word in the context, which might require them to depart from the dictionary definition to adjust it to fit in the context.

Thirdly, the participants of the study tended to believe that vocabulary acquisition should solely occur through explicit and intentional learning, such as memorization, and not from reading extensively. The EFL learners who had been accustomed to reading English passages in such a way might stand a good chance of profiting from instruction in this type of knowledge. It might help them become aware of the benefits of vocabulary development from ER (e.g., Waring & Takaki, 2003) not only at the beginning of the year but regularly throughout the year. Furthermore, raising awareness of the benefits of ER, which might not be known to learners, might motivate them to engage more in reading extensively.

## Conclusion

The current study investigated how L2 learners use reading strategies and metacognitive knowledge for reading English books for general comprehension.

The findings suggested that after ten months of extensive reading, the participants were able to demonstrate metacognitive knowledge in the form of their beliefs, strategy use, comprehension monitoring and goals set for reading both for a short-term period, which can be comprehension, and for a long-term period, which can be becoming a fast EFL reader. Though reading a large number of low frequency words is a major difficulty that advanced ESL learners face in reading as they progress, EFL learners who are motivated to read ungraded readers might inevitably face a situation where they will have to deal with unknown words and ambiguities in the text independently and autonomously. Knowing about various strategies to deal with loads of unknown words as well as other difficulties embedded in reading texts is very useful. At the same time, it is important to develop metacognitive knowledge because aspirational learners should be encouraged to train themselves to monitor comprehension and utilize various reading strategies in effective ways to facilitate reading comprehension.

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## References

- Anderson, N. J. (1991). Individual differences in strategy use in second language reading. *Modern Language Journal, 75*, 460-472.
- Barnett, M. A. (1988). Reading through context: How real and perceived strategies affects L2 comprehension. *Modern Language Learning, 72*, 150-162.
- Bernhardt, E. B., & Kamil, M. L. (1995). Interpreting relationships between L1 and L2 reading: Consolidating the linguistic threshold and the linguistic interdependence hypotheses. *Applied Linguistics, 16*(1), 15-34.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology, 3*(2), 77-101.
- Carrell, P. L. (1989). Metacognitive awareness and second language reading. *Modern Language Journal, 73*, 121-131.
- Cotterall, S., & Murray, G. (2009). Enhancing metacognitive knowledge: Structure, affordances and self. *System, 37*, 34-45.
- Crompton, P. (1922). *More William*. Retrieved February 6, 2014, from <http://www.victoria.ac.nz/lals/about/staff/publications/More-William-simplified-4000-level-version.txt>
- Crompton, P. (1922). *More William*. Retrieved February 6, 2014, from <http://www.victoria.ac.nz/lals/about/staff/publications/More-William-simplified-8000-level-version.txt>
- Day, R. (2015). Extending extensive reading, *Reading in a Foreign Language, 27*(2), 294-301.
- Day, R., & Bamford, J. (1998). *Extensive reading in the second language classroom*. Cambridge, England: Cambridge University Press.
- Dunlosky, J., & Metcalfe, J. (2009). *Metacognition*. Thousand Oaks, CA: SAGE Publications, Inc.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist, 34*, 906-911.
- Gass, S. M., & A. Mackey. (2000). *Stimulated recall methodology in second language research*, Mahwah, NJ: Lawrence Erlbaum.
- Gillis-Furutaka, A. (2015). Graded reader readability: Some overlooked aspects, *Journal of Extensive Reading, 3*, 1-19.
- Grabe, W. (2009). *Reading in a second language: Moving from theory to practice*. New York: Cambridge University Press.
- Gu, Y. (2014). To code or not to code: Dilemmas in analysing think-aloud protocols in learning strategies research, *System, 43*, 74-81.
- Hu, M., & Nation, I. S. P. (2000). Vocabulary density and reading comprehension. *Reading in a Foreign Language, 13*(1), 403-430
- Jacobs, G. M. (1994). What lurks in the margin: Use of vocabulary glosses as a strategy in second language reading, *Issues in Applied Linguistics, 5*(1), 115-37.

- Koda, K. (2004). *Insights into second language reading: A cross-linguistic approach*. Cambridge: Cambridge University Press.
- Laufer, B., & Hulstijn, J. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement, *Applied Linguistics*, 22(1), 1-26.
- Leung, C. Y. (2002). Extensive reading and language learning: A diary study of a beginning learner of Japanese, *Reading in a Foreign Language*, 14(1), 66-81.
- Liu, N., & Nation, I. S. P. (1985). Factors affecting guessing vocabulary in context. *RELC Journal*, 16(1), 33-42.
- Lupescu, S., & Day, R. R. (1993). Reading, dictionaries and vocabulary learning. *Language Learning*, 43(2), 263-287.
- Mason, B., & Krashen, S. (1997). Extensive reading in English as a foreign language. *System*, 25(1), 91-102.
- Min, H. (2008). EFL vocabulary acquisition and retention: Reading plus vocabulary enhancement activities and narrow reading. *Language Learning*, 58(1), 73-115.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Nation, I. S. P. (2006). How large a vocabulary is needed for reading and listening? *The Canadian Modern Language Review* 63(1), 59-82.
- Nation, I. S. P. (2012). *The Vocabulary Size Test: Information and specifications*. Retrieved from: <http://www.victoria.ac.nz/lals/about/staff/publications/paul-nation/Vocabulary-Size-Test-information-and-specifications.pdf>
- Nation, I. S. P. (2013). *Learning vocabulary in another language* (2nd ed.). Cambridge: Cambridge University Press.
- Nation, P., & Anthony, L. (2013). Mid-frequency readers, *The Journal of Extensive Reading*, 1, 5-16.
- Nishino, T. (2007). Beginning to read extensively: A case study with Mako and Fumi, *Reading in a Foreign Language*, 19(2), 76-105. ISSN 1539-0578.
- Nuttall, C. (1996). *Teaching reading skills in a foreign language*. Oxford: Macmillan Education.
- O'Malley, J. M., & Chamot, A. U. (1990). *Language strategies in second language acquisition*. Cambridge, New York: Cambridge University Press.
- Oxford, R. L. (2011). *Teaching and researching language learning strategies*. Edinburgh Gate: Pearson Education Limited.
- Pellicer-Sánchez, A., & Schmitt, N. (2010). Incidental vocabulary acquisition from an authentic novel: do things fall apart? *Reading in a Foreign Language*, 22(1), 31-55.
- Pigada, M. & Schmitt, M. (2006). Vocabulary acquisition from extensive reading: A case study, *Reading in a Foreign Language*, 18(1), 1-28.
- Pintrich, P. R. (2002). The role of meta-cognitive knowledge in learning, teaching, and assessing, *Theory into Practice*, 41, 219-225.

- Schmidt, R. W. (1990). The role of consciousness in second language learning, *Applied Linguistics*, 11(2), 129-158.
- Schmitt, N., Jiang, X., & Grabe, W. (2011). The percentage of words known in a text and reading comprehension, *The Modern Language Journal*, 95(1), 26-43. DOI: 10.1111/j.1540-4781.2011.01146.x
- Sheorey, R., & Mokhtari, K. (2001). Differences in the metacognitive awareness of reading strategies among native and non-native readers. *System*, 29, 431-449.
- Tseng, W. T., Dörnyei, Z., & Schmitt, N. (2006). A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition. *Applied Linguistics*, 27(1), 78-102.
- Uden, J., Schmitt, D., & Schmitt, N. (2014). Jumping from the highest graded readers to ungraded novels, *Reading in a Foreign Language*, 26(1), 1-28.
- Waring, R., & Takaki, M. (2003). At what rate do learners learn and retain new vocabulary from reading a graded reader? *Reading in a Foreign Language*, 15, 1-27.
- Watanabe, Y. (1997). Input, intake, and retention: Effects of increased processing on incidental learning of foreign language vocabulary. *Studies in Second Language Acquisition*, 19, 287-307.
- Webb, S. (2008). The effects of context on incidental vocabulary learning, *Reading in a Foreign Language*, 20(2), 232-245.
- Webb, S., & Chang, A. C.-S. (2015). How does prior word knowledge affect vocabulary learning progress in an extensive reading program? *Studies in Second Language Acquisition*, 37, 651-675.
- Wenden, A. L. (1998). Metacognitive knowledge and language learning. *Applied Linguistics*, 19 (4), 515-537.
- Wenden, A. L. (1999). An introduction to metacognitive knowledge and beliefs in language learning: Beyond the basics, *System*, 27, 435-441.
- Zhang, L. J. (2001). Awareness in reading: EFL students' metacognitive knowledge of reading strategies in an acquisition-poor environment. *Language Awareness*, 10(4), 268-288.
- Zhang, L. J. (2010). A dynamic metacognitive systems account of Chinese university students' knowledge about EFL reading. *TESOL Quarterly*, 44 (2), 320-353.