A STUDY OF TWO METHODS FOR DEVELOPING LOWER IDENTIFICATION SKILLS OF EFL READERS: QUANTITATIVE AND QUALITATIVE ANALYSES

Etsuo Taguchi, Miyoko Maass and Greta J. Gorsuch

ABSTRACT

Extensive research on reading in a first language has shown the critical role fluency plays in successful reading. Fluency alone, however, does not guarantee successful reading. Cognitive and metacognitive reading strategies and schemata that readers utilize also play important roles in constructing meaning from text. Most research, however, indicates that good reading ability is virtually impossible in the absence of fast and accurate word recognition skills. Therefore, efficient ways of improving reading fluency must be developed. In answer to this need, repeated reading and extensive reading programs have been established in many EFL settings. While the main objective of the current study is to focus on whether and how repeated reading enhances EFL readers' fluency, some comparisons of Japanese university students' performances in repeated reading and extensive reading programs are also made. Quantitative and qualitative analyses of participants' reading behaviors suggest that repeated reading does work to improve EFL readers' silent reading rate and favorably affects their perception of reading activities. Furthermore, the results indicate the specific role the repetition and listening components of repeated reading play to facilitate reading comprehension. Repeated reading is a promising method for developing weak ESL/EFL readers' word recognition skills, allowing them to read in a sustained manner and helping them become more successful readers as a result.

In the past decade, there has been sustained interest in promoting reading as a significant and viable means of language development for second and foreign language learners (Day & Bamford, 1998; Krashen, 1995). This is especially the case in English as a foreign language (EFL) settings in which sources of L2 input are limited (Gebhard, 1996; Redfield, 1999). A variety of types of reading instruction programs have arisen in FL contexts (Day & Bamford, 1998), one of which is extensive reading (ER) (Donnes, 1999; Paran, 1996). This is an approach in which L2 learners self-select materials from a collection of graded readers (books which have reduced vocabulary range and simplified grammatical structures) with the goal of reaching specified target times of silent sustained reading (Donnes, 1999; Hill, 1997). ER is thought to increase L2 learners' fluency, i.e., their ability to automatically recognize an increasing number of words and phrases, an essential step to comprehension of L2 texts (Perfetti, Van Dyke, & Hart, 2001). Another approach to FL reading instruction is repeated reading (RR) (Blum, Koskinen, Tennant, Parker, Straub, & Curry, 1995; Dlugosz, 2000; Taguchi, 1997; Taguchi & Gorsuch, 2002). In this approach, L2 learners read specified passages from graded readers repeatedly in order to increase learners' sight recognition of words and phrases, resulting in increased fluency and comprehension. In Taguchi and Gorsuch (2002), for example, EFL learners completed 28 RR sessions using contiguous segments from two graded readers. During each session, the learners read the passage seven times, three of those times while listening to the passage read aloud on an audiotape. It is the ultimate hope of RR practitioners that L2 learners' gains in reading fluency and comprehension will transfer to new reading passages.

In the current study, one group of L2 learners engaged in an RR program of reading skills development, while another group of learners engaged in an ER program. This study had three

purposes: 1. To investigate whether and how repeated reading enhances EFL readers' fluency, and 2. To compare the effects of RR and ER in promoting reading fluency and comprehension in EFL learners. If RR were found to be a more powerful method than ER, then RR could be used to build readers' fluency more effectively. The final purpose of the study was: 3. To gain insights from readers in both groups on their perceptions of the effectiveness of the two methods. Few studies call upon students in compared groups to comment on how RR and ER help to improve their reading fluency. This data may provide explanatory evidence for the mechanisms by which RR and ER promote reading fluency and language learning.

A critical role for word recognition skills in fluent reading. Extensive research has been done on eye-movements of monolingual readers of English showing the critical role of automatic word recognition in fluent, skillful reading. For example, readers fixate their eyes on about 80% of the content words but 40% of the function words. When skillful readers do skip, they rarely skip more than one word (e.g., Adams, 1990; Just & Carpenter, 1980, 1987). Readers exhibit extreme sensitivity to letter-level features of text. Rayner and Bertera (1979) masked one letter in foveal vision and found that readers' reading speed was reduced by 50%. Finally, the importance of automatic word recognition skills is underscored by Kuhara-Kojima, Hatano, and Saito (1996), who concluded that accurate, automatic word recognition is a prerequisite for reading comprehension.

Skillful readers seem to execute word recognition tasks automatically and effortlessly, thus allowing them to direct their cognitive resources to comprehending text. This notion is now widely accepted in both first language (L1) learning contexts (e.g., Adams, 1994; Just & Carpenter, 1987; Rayner & Pollatsek, 1989; LaBerge & Samuels, 1974; Samuels, 1994; Perfetti, 1985; Stanovich, 1991, 1992), and second and foreign language (L2 and FL) learning contexts (e.g., Anderson, 1999; Day & Bamford, 1998; Eskey, 1988; Grabe, 1991). It is likely, however, that efficient word recognition is not the sole foundation of good comprehension. Background knowledge and higher-order comprehension skills, such as generating predictions and making inferences also influence readers' comprehension performances (e.g., Anderson & Pearson, 1984; Carrell & Eisterhold, 1983). Still, for either L1 or L2/FL readers, building automaticity in word recognition is essential because "it is highly unlikely that excellent reading comprehension will be observed in the face of deficient word recognition skills" (Stanovich, 1992, p. 4). Good readers should be able to decode words in text through "a kind of automatic identification that requires no conscious cognitive efforts" (Eskey, 1988, p. 94). These comments are particularly relevant to L2/FL reading teachers: Reading in a foreign or second language is usually a slow, laborious process (Jensen, 1986; Segalowitz, Poulsen, & Komoda, 1991). Thus, "to many second language readers, reading is a suffocatingly slow process" (Anderson, 1999, p. 59).

This state of affairs may point to motivational problems for learners in L2/FL contexts in regards to utilizing reading as a significant source of linguistic input. Nutall posits a "vicious circle" to describe readers who cannot develop good reading skills (1996, p. 127). Slow readers do not read much, and if they do not read much, they do not understand. If they do not understand, then they cannot enjoy reading. Day and Bamford (1998) note that it is only through actual reading experience that L2 or FL readers can acquire complex linguistic, world, and topical knowledge needed to improve their reading skills (p. 19). Therefore, for theoretical and pedagogical reasons, L2 and FL researchers and educators are focusing their efforts on finding effective methods to help L2 and FL learners to increase their reading rates (Day & Bamford, 1998; Grabe, 1991; Silberstein, 1994).

Repeated reading in L1 settings. Repeated reading (RR) is one method developed to increase learners' reading rates. RR was devised by Samuels (1979) and consists of re-reading a short passage silently or orally until a reader is able to read it with ease. Learners in an RR program may engage in unassisted RR where no oral reading model of a passage is supplied. Learners may also engage in an assisted RR program in which a live or audiotaped model of reading is given. There has been extensive research on the effects of RR in English as L1 settings. Re-reading passages has been found to increase students' oral reading rates and accuracy (Carver & Hoffman, 1981; Chomsky, 1976; Dahl, 1974; Dowhower, 1987; Herman, 1985; Rashotte & Torgesen, 1985; Samuels, 1979; Young, Bowers, & MacKinnon, 1996). This in turn leads to better comprehension of passages (Dowhower, 1987; Herman, 1985; O'Shea, Sindelar, & O'Shea, 1985; Young et al, 1996). In addition, practice effects of re-reading a passage are carried over to new, unpracticed passages in terms of reading rate and accuracy (Carver & Hoffman, 1981; Dowhower, 1987; Faulkner & Levy, 1994; Herman, 1985; Rashotte & Torgesen, 1985; Samuels, 1979) and comprehension (Dowhower, 1987; Morgan & Lyon, 1979; Young et al, 1996). RR has a positive effect on readers' vocabulary development (Koskinen & Blum, 1984), and seems to enable readers to read in larger and more syntactically and phonologically appropriate phrases (Dowhower, 1987). It has been discovered, however, that unless the degree of overlapping vocabulary between old and new passages is high, transfer of gains to the new passage is minimal in terms of reading rate (Rashotte & Torgesen, 1985).

How fluency may develop through repeated reading. As noted above, one of our purposes for the present study is to gather explanatory data focused on learners' gains in fluency. Researchers have not agreed on how reading fluency develops through repeated reading, and how these gains in fluency transfer to a new, unpracticed passage. According to psycholinguistic perspectives on reading (e.g., Goodman, 1970), facilitation of a reader's fluency through repeated reading may be due to his or her reduced attention to the text by sampling it based on memory representations available from earlier readings. Readers then test their hypotheses about the text against what they have sampled in "the psycholinguistic guessing game" (Goodman, 1967).

Levy, Nicholls, & Kohen (1993) investigated whether fluency facilitation occurs as the psycholinguistic model proposes or whether facilitation can be explained by the combined effects of improved word recognition and comprehension through repeated reading. In their study, poor and skilled native English readers in the 3rd, 4th, and 5th grades silently read stories repeatedly while crossing out 20 misspelled words in each passage. The misspelled words consisted of ten pronounceable nonwords and ten visually similar words which did not make sense in a given context. Participants' reading performance was measured by silent reading times and the number of nonwords and contextually inappropriate words detected. The results indicated that both poor and skilled readers increased silent reading rates across repeated readings. At the same time, their detection of misspelled words was stable or even improved across repetitions. This last piece of evidence suggested that participants' fluency gains from repeated readings were not a result of attenuated attention to a text. If the children had merely been sampling the text, their detection of nonwords and contextually nonsensical words would probably have declined. Levy et al convincingly demonstrate that readers actually read closely in repeated readings, and reject the notion of readers sampling the text and then rejecting or accepting internally posed hypotheses. Levy et al also suggest that higher-order postlexical processing may be engaged in repeated reading. The detection of higher-order word errors (the words which are visually similar but contextually inappropriate) requires deeper text processing. For nonword detection, Levy et al argue that readers only process such errors at an early stage of

word recognition. But for higher-order word errors, readers most likely process them deeply in their lexical systems; they must engage their parsing and semantic knowledge, for example.

An eye-movement study provides additional clues as to how fluency facilitation occurs during repeated reading. In two experiments with Finnish university students, Hyönä and Niemi (1990) examined students' eye-movements when they re-read a Finnish text three times. They found a general facilitation effect reflected by shorter fixation durations, fewer fixations, fewer regressions, and longer saccades. The length of progressive saccades became longer by one character space per sentence on average from the 1st to the 3rd readings of a passage. This suggests that text familiarity makes it possible for readers to process familiar texts further to the right (longer forward saccades). That is, the readers were increasingly able to read the text in larger chunks. Thus longer saccades suggest the engagement of higher-order processing during re-readings. This is significant in that increased single word recognition skills are not solely responsible for increased reading fluency in re-readings of texts.

On readers' use of context in repeated reading. Research on RR in L1 reading settings has also suggested a need to consider readers' use of context while engaged in RR. Automaticity Theory (LaBerge and Samuels, 1974; Samuels, 1994) assumes that, to perform a complex skill such as reading, a portion of this skill should be executed with little attention. That is, word recognition skills such as feature extraction, orthographic segmentation, and phonological coding should not take up much in the way of cognitive resources. The concern here is that higher-order postlexical comprehension processes are highly resource-demanding. As readers develop automaticity in word recognition skills, they can direct more cognitive resources to comprehension, and achieve better comprehension as a result. However, some research findings are not consistent with Automaticity Theory. Dahl (1974) gave three types of word recognition training to 32 poor readers in the 2nd grade over an 8-month period. The first engaged readers in identifying unknown words from the context, and the second was isolated word recognition training using a carousel projector to flash words at ever shorter durations. The third was repeated reading, which engaged the readers in reading words embedded in the context of the passages being used in the training. Dahl found that while isolated word recognition training did not improve the readers' reading rate and comprehension on new passages, repeated reading did improve their reading rate and comprehension on new passages.

A later study by Fleisher, Jenkins, and Pany (1979) investigated whether increased decoding speed of isolated words improved comprehension. Their study had three groups: one group of poor readers with training in decoding isolated words presented in a list, and another group of poor readers and one group of good readers without any training. All three groups were then tested on single word recognition using randomized lists of words and also on word recognition in context using passages that included the words on the list. Fleisher et al found that increased decoding speed in single words did not result in dividends in comprehension. Furthermore, skilled readers who did not receive any training always outperformed poor readers with isolated word training. Both Dahl and Fleischer et al suggest that automatic decoding in meaningful contexts is crucial to facilitating comprehension.

Repeated reading in L2/FL settings. Somewhat less attention has been paid to research on RR in L2 or FL settings. Blum, Koskinen, Tennant, Parker, Straub, & Curry (1995) investigated whether home-based repeated reading with an auditory model (audio cassettes) is an effective supplement to an L2 literacy program. They concluded that repeated reading improved the readers' ability to read fluently and accurately books of increasing difficulty. Significantly, readers also reported through a survey that repeated reading enhanced their motivation to read.

Taguchi (1997) examined the effects of RR on English oral and silent reading rates of 15 Japanese university students. The ten week study stipulated 28 in-class RR sessions. In each session readers read a passage silently seven times; three of those times, readers read while listening to an audiotaped model of the passage. Taguchi found that silent reading rates increased significantly even toward the seventh reading; there was no apparent leveling off of reading rate increases. However, when readers were asked to silently read or read aloud new passages, they did not seem to transfer their increased reading rates to the new passages. There was one exception: The lowest level readers showed a significant improvement in their oral reading rate of new passages. Motivated by Taguchi's results, Taguchi & Gorsuch (2002) focused on RR transfer effects for silent reading rate and comprehension to new passages. Their results were not conclusive. They found that the ten week RR program facilitated participants' (nine EFL readers) reading rates from a pre-test reading passage done at the beginning of the program to a post-test reading passage done at the end of the program (a different passage). However, the reading rate gains from the first RR session passage to the 28th (the last) RR session passage approached but did not exceed the *p* value set for significance. In addition, control (non-RR) and experimental (RR) group readers showed similar and modest transfer gains for reading comprehension from the pre-test to the post-test passage. Taguchi & Gorsuch speculated that the lack of clear transfer effects for reading rate and comprehension of RR group readers was caused by the shortness of the treatment period.

Purpose and Research Questions

The present study investigates whether and how RR facilitates fluency development and comprehension. The study also compares two reading development methods currently used in FL settings: RR and extensive reading (ER). As discussed above, L2 learners in ER programs self select materials within their "linguistic capabilities" from a collection of graded readers (Bamford & Day, 1998, p. 126). ER has several aims, which include encouraging L2 readers to read for pleasure and information both inside and outside the classroom, to read for meaning, and to engage in sustained silent reading (Bamford & Day, 1998). Hill recommends that graded readers be purchased for ER programs that are a "good read" and "interesting," and help develop in learners a "literary appreciation" of the original works of literature the graded readers are based on (Hill, 1997, pp. 58-59). Taking an ER approach requires the establishment of libraries of graded readers, in order to provide L2 readers with a variety of texts with different content and difficulty levels (e.g., Bamford & Day, 1998).

Both ER and RR programs are thought to increase L2 readers' automatic word recognition. However, RR differs from ER in that simplified texts, chosen by the teacher, are read repeatedly by L2 readers both in and out of class (see Dlugosz, 2000, for her description of home based RR for L2 children learners). By re-reading texts, the effects of repetition on readers' automatic word recognition ability may be intensified. Assisted RR also allows for the systematic use of simultaneous audio recordings, which engage readers in "two channels of perception" and may increase L2 learners' "retention of words and grammatical constructions in long term memory" (Dlugosz, 2000, pp. 288-289). Responses to a series of open-ended questions about the advantages and disadvantages of the two methods were collected from RR and ER group participants. Such data may offer explanatory evidence as to how ER or RR facilitates reading fluency. This study was also done to follow up on previous work done by Taguchi (1997) and Taguchi and Gorsuch (2002). The RR treatment period for the current study was extended from 10 weeks to 17 weeks, and the total number of RR sessions from 28 to 42. It was

believed this would result in an intensification of the positive effects of RR. The research questions are:

(1) Is repeated reading effective in developing fluency in FL readers?

(2) Which of the two methods, repeated reading or extensive reading, is more effective to develop reading fluency for beginning-level FL readers?

(3) Which of the two methods is more effective to improve comprehension of the FL readers?

(4) How do FL learners perceive the effectiveness of each method?

Method

Participants

The participants were drawn from a class of 29 Japanese students who were learning English as a foreign language at a university near Tokyo. Twenty students volunteered to participate in this study; five of them were males and fifteen were females. All were first-year Japanese linguistics students, and as part of their academic program, had five 90-minute English classes a week designed to improve reading, writing, speaking & listening, and grammar. Most of the participants were 18 years old with two exceptions; one was 19 and the other was 60. Three of the participants had traveled abroad for pleasure for up to two months.

Materials

The texts used for the RR program. These were two graded readers from the Heinemann New Wave Readers series, Level 5: *The Missing Madonna* (McLean, 1991) and *Away Match* (Axbey, 1991). The average readability estimate for the Flesch-Kincaid, Fog, and Fry formulas was 4.80 (*SD* = 0.43) for *The Missing Madonna*, and 4.83 (*SD* = 0.39) for *Away Match*. Both books were therefore estimated at about the 4th grade level in the U.S. These books were deemed the appropriate level for the RR groups' reading development based on the investigators' empirical observations. These books were also suitable because they were accompanied by audiotapes in which the stories were dramatized with different characters, music, and sound effects. These tapes were used to provide reading models for the RR group. Each of the two stories in the textbooks was segmented into portions of between 334 and 608 words for the total of 42 RR sessions. Out of 42 RR sessions, 24 were from *The Missing Madonna* and the remaining 18 were from *Away Match.*

Pretest and posttest. Two test forms of the *Burns/Roe Informal Reading Inventory* (Burns & Roe, 1999) were used as the pretest and posttest measure to investigate differences between the RR and ER groups at the end of the treatment period. These two test forms were considered to be suitable to measure reading fluency of U.S. 4th graders: The readability scores of Flesch-Kincaid, Fog, and Fry formulas for the pretest and posttest passages suggested they were at a 4th to 6th grade level (See Table 1 below). The passages were also roughly matched for length with the RR treatment passages: The pretest was 309 words and the posttest was 208 words. The original ten comprehension questions in the inventory were altered to include eight questions, and participants had to answer them without referring to the passages. The questions on both the pretest and posttest were open-ended and designed to elicit readers' comprehension of the main ideas, specific details, and inferences that could be drawn from the text, e.g., *What is this story about? How heavy was the blue and white ship? Was the bookmobile crowded?* and *Was the*

librarian friendly? What did the story say that made you think that? The participants' answers were scored by the two Japanese investigators, with an interrater reliability of .93. Each answer was given a score of 2 points for a correct answer, 1 point for a partially correct answer, and a zero for a wrong answer or no answer. One point was subtracted from the assigned score for answers with redundant information. The maximum score for each test was 16. Participants were allowed to answer in either Japanese or English.

Table 1
Readability Estimates for Repeated Reading Treatment Passages, and Pretest and Posttest Passages

Passage	Flesch-Kincaid	Fog	Fry	*M*	*SD*
The Missing Madonna	4.20	5.20	5.00	4.80	0.53
Away Match	4.30	5.20	5.00	4.83	0.47
Pretest	4.00	6.80	4.90	5.23	1.43
Posttest	4.00	6.50	4.80	5.10	1.28

The degree of word overlap was measured for the pretest, posttest, and RR treatment passages. The total number of words was 309 for the pretest, 208 for the posttest, and 16,963 for the accumulated RR treatment passages. Vocabulary overlap was determined by counting each word only once despite its multiple appearances in the passages. Further, based on two studies on L1 repeated reading that measured the degree of word commonality (Rashotte & Torgesen, 1985; Young et al, 1996), we counted a different form of a word as a different word. For instance, *be, is, was,* and *were* all counted as different words. Given this method of estimating vocabulary overlap, the number of different words in each passage was 144 for the pretest, 136 for the posttest, and 1,984 for the RR text. The amount of word overlap between the pretest and posttest passages was 25% for the pretest, and 17.14% for the posttest. The number of shared words was 36. The degree of vocabulary overlap between the pretest and RR texts was fairly high at 75% with 108 shared words. However, the overlap between the posttest and RR texts was lower at 54.51% with 74 shared words.

Questionnaire. At the end of the study, participants in both the ER and RR groups were asked to freely respond, in Japanese, to an open-ended item: What do you think are the advantages and disadvantages of the reading method you used? Participants' responses were categorized by two native Japanese speakers into themes which emerged from participants' responses (see Analyses section below). For this report, the two native Japanese speaking researchers translated relevant and illustrative participant responses into English.

Procedure

This project was conducted for 17 weeks from the middle of May to the end of November, 2001. About one-third to half of each regularly scheduled English class was spent on the project. Half of the participants (n = 10) were assigned to the RR group, and the other half to the ER group (n = 10). Table 2 (see below) shows descriptive statistics for participants' scores on the reading section of the TOEFL, total TOEFL scores, and word per minute (WPM) scores for five silent readings of the pretest passage. To ensure that RR and ER group participants were not statistically different at the outset of the treatments, seven Mann Whitney U tests were conducted.

There were no significant differences between the RR and ER groups on any of the seven measures at a *p* value of .00714 (.05 divided by 7 for seven comparisons).

Table 2
Descriptive Statistics for RR and ER Group Comparisons

Repeated Reading (RR) Group

Measure	*M*	*SD*	Min	Max	Skewness	Kurtosis
TOEFL reading	36.80	4.39	31.00	44.00	0.17	-0.91
TOEFL Total	381.70	31.18	313.00	417.00	-1.23	1.55
WPM 1	84.84	19.38	56.52	107.79	-0.06	-1.85
WPM 2	78.11	20.67	45.78	109.06	-0.22	-0.66
WPM 3	97.38	13.53	74.76	116.60	-0.21	-0.83
WPM 4	104.65	19.14	63.28	126.12	-1.06	1.19
WPM 5	117.22	17.93	95.08	142.62	0.04	-1.54

Extensive Reading (ER) Group

Measure	*M*	*SD*	Min	Max	Skewness	Kurtosis
TOEFL reading	36.90	3.70	31.00	42.00	-0.02	-1.22
TOEFL Total	383.70	29.93	323.00	433.00	-0.54	1.17
WPM 1	80.88	19.14	48.79	114.44	0.03	-0.09
WPM 2	80.21	22.73	57.58	128.75	1.23	0.95
WPM 3	105.01	32.21	62.64	165.54	0.38	-0.22
WPM 4	103.89	40.41	66.21	206.00	2.08	4.86
WPM 5	119.45	46.25	62.64	213.10	0.77	0.24

The Repeated Reading (RR) treatment. The implementation of RR treatment was based on Taguchi (1997), and Taguchi and Gorsuch (2002). The RR group in the current study followed the procedure described below for the 42 treatment sessions:

1. Students read the previous passage to remember what they had read in the last session. This step was skipped only when they started a new textbook.

2. Students timed their first reading of a passage with a stopwatch.

3. Students read the passage two times while listening to the exact audiotaped version with headphones.

4. Students read the passage silently two more times and timed each of their readings with a stopwatch.

5. Students wrote a book report about what they had read in the story passage.

Participants were encouraged to read fast, but not to sacrifice their comprehension just to read fast. Participants checked off the number of repetitions they made and recorded the time they took to read each passage on a record sheet. When participants missed a session, makeup sessions were set up.

The Extensive Reading (ER) treatment. The ten participants in the ER group engaged in ER during the same time frame the RR sessions were held. The ER library was comprised of graded readers from Heinemann New Wave Readers (Level 5--the same as the two texts used for the RR treatments) and from Heinemann Guided Readers from elementary to intermediate levels. The participants read books of their choice progressively from easier to more difficult. They were told that they could change the book they were reading if it was not interesting to them. There was no reading aloud of a common reader to ER participants. The number of books they finished reading during the research period was three to six, and the number of pages they read ranged from 147 to 337 with an average of 205 pages. The total amount of time the ER group spent for sustained silent reading was between 733 minutes and 901 minutes.

Analyses

To answer research question #1, the average silent reading rates of RR participants for the first and fifth readings for all forty-two RR sessions were calculated. Standard deviation, skewness, and kurtosis were also calculated for the first readings of the first and forty-second sessions to check for normality to determine whether parametric or non-parametric comparisons should be used. During this part of the analyses, one case of the RR group data was found to be an outlier with a silent reading rate for the last RR treatment passage at 27.79 WPM, far lower than even the second smallest WPM of 50.46. This case was deleted and excluded from the analysis for RQ #1. To show average change for the RR group from the first to the forty-second sessions, the average reading speed for the first reading of the first and the forty-second sessions were compared using a paired t-test with the alpha level set at .05. To investigate whether there were facilitation effects for RR *within* each session of five re-readings, the average reading rates for the first and fifth readings of all 42 sessions were calculated, along with standard deviation, skewness, and kurtosis. To determine whether average gains from the first to the fifth sessions were statistically significant a non-parametric Wilcoxon Pairs Signed Rank Test was conducted with the alpha level set at .05.

To answer research question #2, the average words per minute for the RR and ER groups on the first, second, third, fourth, and fifth readings of the pretest and posttest passages were calculated. To check for statistically significant differences between the two groups, the following comparisons between the RR and ER groups were made: The average WPM for first readings (RR and ER) and fifth readings (RR and ER) of the pretest, and the first (RR and ER) and fifth (RR and ER) readings of the posttest. Four Mann Whitney U tests were used with the *p* value set at .0125 (.05 divided by 4 for four comparisons).

To answer research question #3, descriptive statistics for the pretest and posttest comprehension questions were calculated. For the pretest, both RR and ER groups read the pretest passage five times. Following the first, third, and fifth readings, both RR and ER groups answered the eight pretest comprehension questions. For the posttest, this process was repeated. Two types of comparisons were made: One type focused on gains in comprehension pretest and posttest scores *within* RR and ER groups, and the other type focused on differences in gains *between* RR and ER groups. To determine whether gains within groups were significant, four comparisons were made: For the RR group, first and fifth pretest scores and first and fifth posttest scores; for the ER group, first and fifth pretest scores and first and fifth posttest scores. The Wilcoxon Matched-Pairs Signed-Ranks Test was used with the *p* value set at .0125 (.05 divided by 4 for four comparisons). To determine differences between the RR and ER groups, four comparisons were made: RR and ER first pretest scores, RR and ER fifth pretest scores, RR

and ER first posttest scores, and RR and ER fifth posttest scores. Four Mann-Whitney U tests were used with the *p* value set at .0125 (.05 divided by 4 for four comparisons).

To answer research question #4, the prose responses of both ER and RR participants were categorized by the following themes: 1. changes in participants' willingness to read long passages; 2. learning to deal with unknown words in a text; and 3. extended exposure to reading input. The researchers noted some themes that were unique to RR participants. Thus, RR participants' data was further categorized into two themes: 4. The role of repetition in developing reading fluency and comprehension; and 5. The effect of RR simultaneous audio recordings on participants' comprehension of narrative and dialogic texts, motivation to read the texts, and comprehension of new words through pronunciation models provided by the audio recording. To check for reliability of the categorizations, a native Japanese speaker (an author) was given the themes and the data and asked to categorize the data. Any differences were resolved through discussion.

Results

Research question #1: Transfer of reading fluency gains for the RR group.

The results of the present study seemed to support the hypothesis that RR is effective in developing fluency in FL readers. See Tables 3 and 4 below:

Table 3

Average silent reading rates (WPM) of the first and fifth readings of the RR group from the first to forty-second session

	1st Reading		**4th Reading**		**5th Reading**	
	M	*SD*	*M*	*SD*	*M*	*SD*
1	78.20	14.63	91.96	43.41	103.52	43.42
2	82.46	13.83	109.10	49.84	116.81	51.29
3	86.09	13.78	104.70	27.99	123.99	31.57
4	89.28	13.31	118.58	35.94	127.50	43.65
5	89.84	21.42	117.98	45.18	143.32	69.46
6	88.50	32.07	114.96	44.17	127.59	41.76
7	89.72	13.55	112.09	30.08	128.55	50.03
8	89.68	16.91	115.08	37.45	133.60	61.48
9	94.42	19.44	110.63	25.80	132.22	45.50
10	102.13	18.64	126.88	43.64	131.76	36.37
11	98.47	17.26	107.26	23.89	130.88	35.29
12	97.98	17.01	116.49	31.03	125.70	33.11
13	97.68	16.22	110.16	31.10	121.06	30.08
14	96.19	15.78	121.97	24.37	133.19	28.15
15	98.39	23.18	111.05	31.59	135.12	50.47
16	103.95	24.03	105.13	29.21	128.17	53.16
17	92.56	13.46	106.55	23.03	110.40	24.22
18	93.64	22.62	125.99	51.66	122.25	53.00
19	93.97	14.20	113.04	35.78	129.51	54.02
20	96.78	11.82	105.53	19.58	118.31	35.42
21	102.03	12.87	111.61	29.46	115.99	36.75

22	96.53	13.57	106.75	19.71	116.72	21.22
23	92.96	15.94	110.47	24.64	111.61	25.65
24	105.88	16.06	113.42	25.44	122.53	33.83
25	87.69	20.30	120.34	47.93	142.82	80.44
26	94.99	18.41	115.56	36.59	128.41	57.34
27	89.55	22.66	117.56	50.79	139.83	59.56
28	91.14	18.98	111.44	17.24	116.87	16.44
29	99.91	28.67	130.81	74.37	139.24	73.49
30	95.95	20.66	115.15	18.39	130.55	33.71
31	90.16	22.39	124.54	26.82	129.67	22.40
32	102.27	15.57	117.38	27.51	122.52	26.48
33	104.40	14.64	121.58	32.41	133.92	38.46
34	107.63	19.80	120.05	21.21	132.85	35.97
35	110.71	23.50	135.61	26.61	137.83	35.02
36	110.23	27.11	137.39	27.58	148.63	32.15
37	107.16	19.77	126.57	21.99	142.79	30.94
38	113.08	17.06	127.04	21.28	144.43	36.72
39	105.14	22.42	117.91	32.63	143.33	40.51
40	116.43	28.00	127.45	24.94	136.68	29.70
41	104.21	23.10	118.88	24.09	128.04	42.03
42	101.87	23.87	115.05	17.63	120.88	27.06

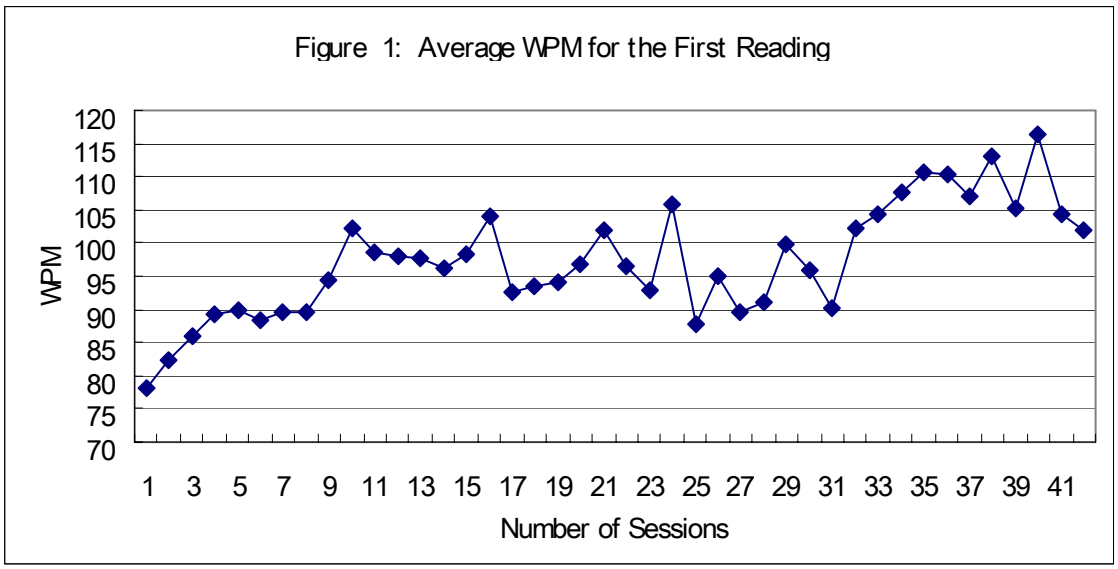
Note. *The first through twenty-fourth sessions were for reading *The Missing Madonna*. **The twenty-fifth through forty-second sessions were for reading *Away Match*.

Table 4
Descriptive statistics for average silent reading rates (WPM) of first readings for the first and forty-second RR sessions

First session	(n = 9)		
M = 78.20	SD = 14.63	Skew = -.03	Kurtosis = -1.36
Forty-second session	(n = 9)		
M = 101.89	SD = 23.88	Skew = -.52	Kurtosis = -.91

Table 3 illustrates the steady increase of reading rate. See also Figure 1 below, which depicts RR participants' increases in average silent reading rate over the entire course of the treatment. As can be seen in Table 3, the students finished the first book, *The Missing Madonna*, at the 24th session and started reading the second book, *Away Match*, at the 25th session. While there was a drop in silent reading rate from 105.88 in the twenty-fourth session to 87.69 in the twenty-fifth session, participants' average reading rates continued an overall increasing movement. Tables 3 and 4 illustrate that for the first reading of each session, RR participants on average increased from 78.02 to 101.87 WPM from the first to the forty second session. This is a gain of 23.67 WPM. A paired samples t-test indicated the RR group's WPM gain was significant at $p < .05$ (t = -2.630, df = 8). The average readability scores of Flesch-Kincaid, Fog, and Fry formulas for the

1st and 42nd session passages were 4.5 (*SD* = 1.61) and 4.9 (*SD* = 1.73) respectively, and thus almost equal.



There is also evidence that participants' reading fluency was facilitated by RR within individual sessions. See Table 5:

Table 5

Average silent reading rates for first and fifth readings for all forty-two RR sessions

Average first readings			
M = 97.38	*SD* = 8.40	Skew = .13	Kurtosis = -.35
Average fifth readings			
M = 130.97	*SD* = 16.32	Skew = 2.80	Kurtosis = 12.72

Overall, participants read faster within individual RR sessions as they read the text repeatedly. The average gain score from the first to the fifth readings within sessions was 31.42. A Wilcoxon Pairs Signed Rank Test indicates this is a statistically significant increase at $p < .05$ ($z = -5.645$).

Research question #2: Comparisons of RR and ER group fluency. The results suggest that RR was slightly more effective than ER in facilitating participants' reading fluency. See Table 6 below:

Table 6

Descriptive statistics for silent reading rates (WPM) of the first through fifth readings of the RR and ER groups on the pretest and posttest

Pretest	RR Group (*n*=10)			
	M	*SD*	skewness	kurtosis
1st	84.84	19.38	-0.063	-1.854
2nd	78.11	20.67	-0.223	-0.660
3rd	97.38	13.53	-0.206	-0.828

4th	104.65	19.14	-1.061	1.193
5th	136.39	62.96	2.745	8.100

Pretest	ER Group (*n*=10)			
	M	*SD*	skewness	kurtosis
1st	80.88	19.14	0.029	-0.087
2nd	80.21	22.73	1.227	0.946
3rd	105.01	32.21	0.375	-0.220
4th	103.89	40.41	2.080	4.861
5th	119.45	46.25	0.772	0.241

Posttest	RR Group (*n*=10)			
	M	*SD*	skewness	kurtosis
1st	82.28	17.11	-0.360	-0.823
2nd	81.76	22.44	-0.261	-0.671
3rd	93.70	18.26	-0.310	-1.036
4th	90.71	24.47	-0.182	-0.771
5th	115.24	22.88	0.133	0.805

Posttest	ER Group (*n*=10)			
	M	*SD*	skewness	kurtosis
1st	64.48	20.30	0.541	1.771
2nd	66.01	22.22	0.801	-0.357
3rd	83.45	27.60	0.228	-0.223
4th	83.36	27.53	0.066	-0.877
5th	108.24	32.88	0.260	-0.638

On the pretest, participants in both RR and ER groups performed similarly. Both RR and ER groups gradually increased in silent reading rate with each repeated reading of the pretest text, with the RR group increasing from 84.84 WPM to 136.39 WPM and the ER group increasing from 80.88 WPM to 119.45 WPM. Pretest similarities between the RR and ER groups are underscored by nonsignificant Mann Whitney U comparisons at $p < .0125$ between the RR and ER groups on the first reading and again on the fifth reading of the pretest. On the posttest, the RR group started out reading faster for the first reading (RR group = 82.28 WPM, ER group = 64.48 WPM). Despite a difference of 17.82 WPM on the first reading of the posttest for the two groups, a Mann Whitney U comparison was not significant at $p < .0125$. Both RR and ER groups improved over repeated readings, although the RR group's silent reading rate remained slightly higher than the ER group's. At the fifth reading of the posttest passage, the RR group averaged 115.24 WPM while the ER group averaged 108.24 WPM. However, a Mann Whitney U test indicated that this difference was not significant at $p < .0125$.

Research question #3: Reading comprehension of the RR and ER groups. Within themselves, both RR and ER groups increased their comprehension scores on both pretests and posttests as the number of reading multiplied. However, in terms of comparisons between groups, the RR and ER groups performed similarly on pretest and posttest comprehension measures. Table 7 below gives descriptive statistics for the comprehension scores on the first, third, and fifth readings of the pretest and posttest passages for the RR and ER groups.

Table 7
Descriptive statistics for RR and ER groups' comprehension scores on the pretest and posttest

Pretest

RR Group	*M*	*SD*	Min	Max	Skew	Kurtosis	*n*
First	1.60	2.32	0	6	1.14	-0.18	10
Third	4.00	3.06	0	9	0.23	-0.76	10
Fifth	6.50	4.60	2	15	0.70	-0.64	10

ER Group	*M*	*SD*	Min	Max	Skew	Kurtosis	*n*
First	1.90	2.51	0	8	1.82	3.62	10
Third	6.80	4.87	0	14	0.25	-1.14	10
Fifth	8.30	4.55	0	16	-0.09	0.28	10

Posttest

RR Group	*M*	*SD*	Min	Max	Skew	Kurtosis	*n*
First	3.90	3.35	0	12	1.68	3.66	10
Third	8.40	2.32	4	12	-0.48	0.19	10
Fifth	8.80	2.53	6	12	-0.13	-1.87	10

ER Group	*M*	*SD*	Min	Max	Skew	Kurtosis	*n*
First	4.50	3.50	0	12	0.76	1.51	10
Third	7.80	3.16	2	12	-0.57	-0.34	10
Fifth	10.10	2.38	6	12	-1.14	-0.11	10

For the pretest and posttest, the average comprehension scores of both RR and ER groups increased as the number of re-readings and re-testings grew. The RR group's gain of 4.9 points from the first to fifth pretests were statistically significant using the Wilcoxon Match Pairs Signed Ranks Test at $p = .0051$, $z = -2.803$; the ER group's gain of 6.4 was also statistically significant at $p = .0077$, $z = -2.666$. The RR group's gain of 4.9 points from the first to fifth posttests was statistically significant at $p = .0077$, $z = -.2666$; and the ER group's gain of 5.6 points was significant at $p = .0077$, $z = -.2666$. In addition, the first reading comprehension scores for both groups were somewhat higher on the posttest than on the pretest (2.3 points higher for the RR group, from 1.60 to 3.90), and 2.6 points higher for the ER group, from 1.90 to 4.50). However, as far as comprehension scores are concerned, the RR and ER groups were not distinctly different from each other. On both the pretest and posttest, the ER group seemed to outperform the RR group slightly. The ER group scored .3 points and 1.8 points higher than the RR group on the first and fifth pretests; and .6 points and 1.3 points higher on the first and fifth posttests. However, none of the comparisons between the RR and ER groups were statistically significant using Mann Whitney U test.

Research question #4: Participants' perceptions of the effectiveness of RR and ER. Participants in both RR and ER groups stated that the two reading methods increased their willingness to read long passages. Six out of ten RR participants and six out of ten ER participants mentioned that the reading methods they had used helped them enjoy reading long passages in English. One RR participant wrote: "The stories were really interesting and I enjoyed

every session of reading." An ER participant wrote: "Reading long English passages is no longer difficult or painful." Participants in both groups also noted that they became more able to deal with unknown words by using either contextual clues or simply by skipping words that seemed unimportant. Their responses suggest an interplay between reading fluency and the higher-order metacognitive skills. Four RR and five ER participants mentioned using both strategies more as they continued in the programs. One RR participant noted: "Through re-reading, I became able to guess the meaning of the words I didn't know." Another RR participant wrote: "At the beginning reading in English was difficult, but I gradually got used to it, and became able to guess the meaning of unfamiliar words from the context." In addition, both RR and ER groups noted positive effects on their second language development as a result of being afforded access to large amounts of L2 input through reading: Two RR participants and three ER participants noted this and said it gave them great satisfaction. Also, both groups thought they built vocabulary through reading. For example, one RR participant said: "I was able to review the words and phrases that I had forgotten." An ER participant wrote: "I've learned a variety of sentence structures and new vocabulary words."

RR participants commented on features of the RR reading treatment which set the RR and ER treatments apart. Participants' responses suggest that repetition in RR plays a powerful role in improving FL readers' comprehension. Five RR participants noted that repetition helped them understand story passages better. Repeated reading of the same passage improved their understanding of what was happening in the story passages and even the details. One RR participant wrote, "Repeated reading helped me understand the details of the story I was reading, and this in turn made me wait anxiously for the next portion of the story." Another RR participant wrote that it was reassuring to know beforehand that she could read a given text again. Another advantage the RR group noticed was some positive effects of assisted RR on the development of their listening skills. Four students wrote RR improved their listening skills. Finally, one RR participant suggested that participating in a repeated reading program led her to a stronger metacognitive awareness of her learning, noting: "I became able to distinguish the part of the textbook I haven't understood from the rest of the textbook that I have understood."

Some feedback from the students' free comments on the record sheets. At the end of each RR and ER reading session, participants were asked to write comments freely on the record sheets provided for each session of reading treatment. Participants' voluntary comments revealed some advantages of RR and ER. Many comments were similar to the feedback given in the questionnaire, indicating that both methods enhanced readers' willingness to read long passages, made reading enjoyable, and developed their ability to deal with unknown words. Among the comments, however, was one striking feature that differentiated RR from ER. It is the facilitative role an auditory reading model plays in RR. The auditory model helped students understand stories better. Eight out of ten RR participants commented that listening to the audiotapes while reading the matching passages enhanced their comprehension. Five of them wrote that it was easier to read a story passage while listening to the audiotape. In addition, three RR participants suggested that the use of an audiotaped reading model coupled with RR improved their grasp of conversational dialogs in the texts, stating that reading the conversations with a reading model read by different characters enabled them to understand better. RR participants' reading skills were also improved by the audiotapes that made reading more pleasurable, and more informative of the L2 spoken mode. Three RR participants wrote that listening to the reading model with different characters and sound effects was fun and useful while they read. And, two RR

participants noted that the audiotaped reading model gave them access to the pronunciation of unknown words they encountered in the passages.

Discussion

Research question #1: Transfer of reading fluency gains for the RR group. Repeated reading was clearly effective in increasing the fluency of the FL learners in the RR group in this study. We believe that RR should be considered a significant means for developing reading fluency of second and foreign language learners. Learners' fluency increased not only within RR sessions, but also over the course of the RR treatment. This fluency development reflects the combined facilitative effect of enhanced word recognition skills and better comprehension through RR (Levy et al, 1993). The readers read each new passage closely and increasingly faster as the number of RR sessions progressed. Consequently, the reading gains from practiced passages were transferred to new unpracticed passages.

It is interesting to note that the first reading rates did not grow rapidly for the first several sessions when starting a new story, but that silent reading rate rose sharply for subsequent sessions (see Figure 1 and Table 3). One explanation is that participants may have needed practice in identifying recurring vocabulary words used in the text before they could capitalize on practice gains to facilitate their reading rate later in the text. Although participants read each new passage portion progressively faster overall, the pace of improvement was gradual. This may be due to the limited number of re-readings in each session in the present study. The students read the same passage five times in each RR session. The gains might have been much greater if they were allowed to read a few more times, as in Taguchi and Gorsuch (2002), where participants re-read passages seven times.

Research question #2: Comparisons of fluency of the RR and ER groups. While RR and ER participants read the pretest with the same degree of fluency, RR participants read faster than ER participants on the posttest, suggesting general positive effects from the RR treatment (see Table 6). However, differences between the RR and ER group were not statistically significant. As is discussed later in the limitations section, the pretest and posttest might not have been equivalent in terms of reading time needed for these passages to be read, and that the posttest passage may have required more time, despite roughly the equivalent readability estimates (see Table 1). Another reason for the nonsignificant differences between the RR and ER groups' reading rates on the first and fifth posttest passages may have been due to the testing procedure. For RQ#1, we showed that reading a passage repeatedly was effective for increasing learners' silent reading rate within RR sessions of five re-readings apiece. In the posttest, both the RR and ER group benefitted in the short term from the RR methodology used to conduct the posttest.

Research question #3: Comparison of reading comprehension of RR and ER groups. Automaticity Theory suggests that readers with automated word recognition skills are better comprehenders. The RR group, however, was not able to enhance their comprehension performance even after their word recognition skills improved. One explanation Automaticity Theory can provide is that the enhanced word recognition skills of the RR group reflected in the 24 word gains in WPM from the first to forty-second RR sessions may not have been sufficient to significantly boost their comprehension performance. The amount of attention freed up by improved word recognition was not sufficient to secure better comprehension.

Verbal Efficiency Theory (Perfetti, 1985) and Attentional Resource Emancipation (Reynolds, 2000) offer additional explanations: While Automaticity Theory concerns only pre-lexical processes of decoding, Verbal Efficiency Theory contends that even postlexical processes

used in reading can be automated with practice. Based on Verbal Efficiency Theory, Attentional Resource Emancipation (ARE) explains good and poor reading performances from an attentional resource allocation perspective. ARE assumes a hierarchy of postlexical comprehension processes based on the amount of attentional resources expended. Lower level comprehension processes such as using headings and subheadings to guide understanding and attending to topic sentences and important elements in the text initially need conscious use of attentional resources, but these basic processes become automated over time through practice. On the other hand, some higher level comprehension processes such as monitoring strategies to achieve reading goals always require a considerable amount of attentional resources. The more attentional resources are freed from basic comprehension, the better comprehension readers can achieve. According to ARE, poor readers with reasonably automatic decoding skills but poorly developed comprehension processes are unable to achieve good comprehension. Inefficient basic level comprehension processes require a significant amount of attentional resources, and consequently leave too little attention available for higher level comprehension processes of monitoring comprehension and coordinating reading strategy use. If this scenario holds, the RR group may not have been able to allocate their attentional resources effectively and efficiently in order to achieve better comprehension. Their basic comprehension skills such as identifying important elements in the text, integrating propositions, resolving anaphors, activating relevant schema from memory were possibly underdeveloped. Consequently, their higher level comprehension skills were not used. Some empirical support for the role of postlexical processing in reading and learners' automatization of these processes can be found in various studies (Kintsch, 1993; Pressley & Afflerbach, 1995).

Research question #4: Participants' perceptions of the effectiveness of RR and ER. The participants' responses provided intriguing insights on the effectiveness of both RR and ER. We found that RR and ER share advantages. Both methods increase readers' willingness to read long passages, and develop their ability to deal with unknown words. RR and ER provide learners with a substantial amount of L2 input, and promote their vocabulary growth through reading. However, participants' comments differentiated RR from ER. Five out of ten RR group participants indicated that the repetition of reading improved their comprehension, and that they became able to understand even the details of the story passages. This repetition component of RR possibly provides scaffolding for the beginning level readers in the present study (Vygotsky, 1978; Feitelson, Goldstein, Iraqui, & Share, 1993). It is likely that the high level of comprehension learners achieved in each RR session engaged them in an enjoyable reading experience they may have never experienced before.

The use of an auditory model is the other unique component of RR. The questionnaire did not focus on this aspect of RR, yet eight out of ten RR participants spontaneously commented the positive role of the audio reading model. The auditory model may be another form of scaffolding that students utilized to keep them motivated and willing to read. Furthermore, one response about metacognitive awareness is interesting because it may provide a new perspective on the effects of RR: These responses indicate that the student was closely monitoring her comprehension. Clay (1991) suggests that re-reading familiar text allows readers to develop the ability to coordinate all of their language resources, schemata, and strategic reading behaviors to process print and to become independent readers as a result (p. 184). The repetition of reading can enable readers to free their attentional resources and to engage in higher level comprehension monitoring. These metacognitive skills are definitely needed for the readers to become independent readers.

Why is RR a Promising Method?

There have not been many studies on RR in L2 and FL settings, and even fewer on how RR affects comprehension. Blum et al's (1995) study did not utilize comprehension measures, and Taguchi and Gorsuch (2002) failed to find any significant gains in comprehension. Further research into RR will reveal the elements of this comprehension issue, but RR at least seems to work to improve reading fluency of L2/FL readers. We think RR should receive the attention it deserves because the critical role of fluency in reading success has been so strongly suggested in empirical studies (Stanovich, 1986; Mathes, Simmons, & Davis, 1992). The present study has shown that RR is an effective method for this purpose. It can be more powerful than ER for readers whose reading skills are not well developed. This is because both repetition of reading and the use of an auditory model of RR can provide the readers with a form of scaffolding which is indispensable for beginning readers.

Limitations and Directions for Further Research

Limitations. The first problem with this study is the equivalence of the pretest and posttest. To explore this issue, equivalent forms reliability was estimated by administering the pretest and posttest to two different groups of six students in the same school, whose English language proficiency was similar to the study participants. One group took the pretest first and then the posttest, and for the other group the order was reversed. The reliability estimate was .567 for the comprehension items, and .338 for students' WPM reading rate of the pretest and posttest passages. Thus, the pretest and posttest were not equal for EFL readers even though these tests are considered to be equal using readability formulas designed for English L1 readers. In terms of the comprehension tests, the pretest was slightly more difficult than the posttest (pretest $M = 1.42$, posttest $M = 3.58$). The pretest passage, however, was read faster than the posttest by almost 10 words in WPM, suggesting more easiness the readers felt with the pretest passage than the posttest passage (pretest $M = 75.16$, posttest $M = 65.24$). Inefficient processing of beginning EFL readers is another issue to be considered. As in many studies on repeated reading, the participants in the current study were not allowed to refer to the text when answering comprehension questions. It is likely that the beginning level readers in the present study did not process the test passage efficiently, and it may have been difficult for them to understand and retain the texts before answering comprehension questions. A final problem is the small sample size: The sample size of 20 in the present study is not sufficiently large to eliminate idiosyncratic results.

Directions for future research. Why some readers fail to improve their comprehension even after their decoding skills are enhanced should be investigated. Some findings from RR studies suggest that gains from re-reading text are due to improved postlexical processing. Levy et al (1993) indicated that both good and poor readers in their study may have engaged postlexical processing for their successful higher-order word error detection performances. Also, the eye movement study by Hyönä and Niemi (1990) suggests that the longer forward saccades yielded by re-reading text was due to engagement of higher-order processing of readers' syntactic, semantic, and schematic systems. It seems plausible that some postlexical processing above and beyond simple decoding would be involved in the fluency facilitation effects of RR. If pre-lexical decoding processes are solely responsible for the facilitative effects found in RR studies, why have studies that focused on isolated word recognition practice failed to report significant gains in comprehension (Dahl, 1974; Fleisher et al, 1979)? Furthermore, if attentional resources

freed from more efficient decoding were solely responsible for fluency facilitation using RR, enhanced decoding skills from isolated word recognition practice in these RR studies should have brought about significant increases in reading comprehension. Further research on RR should be done to investigate the relationship between lower decoding and word identification skills, and higher postlexical comprehension skills from the perspectives provided by the Verbal Efficiency Theory and Attention Resource Emancipation. If we can understand how good and poor readers differ in their awareness of reading strategies and allocation of their attentional resources depending on their reading goals, then we will be able to know this missing link.

Conclusion

The results of the present study show that repeated reading is a promising method for enhancing second and foreign language readers' fluency. The RR group steadily and consistently enhanced their initial silent reading rate of new passages over the entire treatment course. Participants' responses to the questionnaire suggest that RR facilitates fluent reading by significantly developing word recognition skills. As participants became able to read faster, they came to enjoy reading. If L2 and FL learners can enjoy reading, their access to language input will increase dramatically, which will further promote their language development.

REFERENCES

Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.

Adams, M.J. (1994). Modeling the connections between word recognition and reading. In R.B. Ruddell, M.R. Ruddell, & H. Singer (Eds.), *Theoretical models and processes of reading* (pp. 838-863). Newark, DE: International Reading Association.

Anderson, N. (1999). *Exploring second language reading: Issues and strategies*. Boston, MA: Heinle & Heinle.

Anderson, R. C., & Pearson, P. D. (1984). A schema-theoretic view of basic processes in reading comprehension. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 255-292). New York: Longman.

Axbey, S. (1991). *Away match*. Oxford: Heinemann.

Blum, I., Koskinen, P. A., Tennant, N., Parker, E. M., Straub, M., & Curry, C. (1995). Using audiotaped books to extend classroom literacy instruction into the homes of second-language learners. *Journal of Reading Behavior, 27*, 535-563.

Burns, P. C., & Roe, B. D. (1999). *Informal reading inventory: Preprimer to twelfth grade* (5th ed.). Boston: Houghton Mifflin.

Carrell, P. L., & Eisterhold, J. C. (1983). Schema theory and ESL reading pedagogy, *TESOL Quarterly, 17*(4), 553-73.

Carver, R. P., & Hoffman, J. V. (1981). The effect of practice through repeated reading on gain in reading ability using a computer-based instructional system. *Reading Research Quarterly, 16*, 374-390.

Chomsky, C. (1976). After decoding: What? *Language Arts, 53*, 288-296.

Clay, M.M. (1991). *Becoming literate: The construction of inner control*. Portsmouth, NH: Heinemann.

Dahl, P. J. (1974). *An experimental program for teaching high speed word recognition and comprehension skills*. Washington, DC: National Institute of Education, Office of Research. (ERIC Document Reproduction Service No. ED 099 812).

Day, R.R., & Bamford, J. (1998). *Extensive reading in the second language classroom*. New York: Cambridge University Press.

Dlugosz, D.W. (2000). Rethinking the role of reading in teaching a foreign language to young learners. *English Language Teaching Journal, 54*(3), 284-290.

Donnes, T. (1999). Extensive reading revisited: An interview with Richard Day and Julian Bamford. *The Language Teacher, 23*(7), 4-7.

Dowhower, S. L. (1987). Effects of repeated reading on second-grade transitional readers fluency and comprehension. *Reading Research Quarterly, 22*, 389-406.

Eskey, D. (1988). Holding in the bottom: An interactive approach to the language problems of second language readers. In P. Carrell, J. Devine, & D. Eskey (Eds.), *Interactive approaches to second language reading* (pp. 93-100). New York: Cambridge University Press.

Faulkner, H. J., & Levy, B. A. (1994). How text difficulty and reader skill interact to produce differential reliance on word and content overlap in reading transfer. *Journal of Experimental Child Psychology, 50*, 1-24.

Feitelson, D., Goldstein, Z., Iraqui, J. & Share, D.L. (1993). Effects of listening to story reading on aspects of literacy acquisition in a diglossic situation. *Reading Research Quarterly, 28*, 71-79.

Fleisher, L. S., Jenkins, J. R., & Pany, D. (1979). Effects on poor readers comprehension of training in rapid decoding. *Reading Research Quarterly, 15*, 30-48.

Gebhard, J.G. (1996). *Teaching English as a foreign or second language*. Ann Arbor, MI: University of Michigan Press.

Goodman, K. (1967). Reading: A psycholinguistic guessing game. *Journal of the Reading Specialist, 6*(1), 126-135.

Goodman, K. S. (1970). Reading: A psycholinguistic guessing game. In H. Singer & R. B. Ruddell (Eds.), *Theoretical models and processes in reading* (pp. 257-271). Newark, DE: International Reading Association.

Grabe, W. (1991). Current developments in second language reading research. *TESOL Quarterly, 25*(3), 375-406.

Herman, P. A. (1985). The effect of repeated readings on reading rate, speech pauses, and word recognition accuracy. *Reading Research Quarterly, 20*, 553-564.

Hill, D. (1997). Survey review: Graded readers. *English Language Teaching Journal, 51*(1), 57-79.

Hyönä, J., & Niemi, P. (1990). Eye movements during repeated reading of a text. *Acta Psychologica, 73*, 259-280.

Jensen, L. (1986). Advanced reading skills in a comprehensive course. In Dubin, F., Eskey, D. E., & Grabe, W. (Eds.), *Teaching second language reading for academic purposes* (pp. 103-124). Reading, MA: Addison-Wesley.

Just, M. A. and Carpenter, P. A. (1980). A theory of reading: From eye fixations to comprehension. *Psychological Review, 87*, 329-354.

Just, M. A. and Carpenter, P. A. (1987). *The psychology of reading and language comprehension.* Newton, MA: Allyn and Bacon.

Kintsch, W. (1993). Information accretion and reduction in discourse processing: Inferences. *Discourse Processing, 16*, 193-202.

Koskinen, P. S., & Blum, I. H. (1984). Repeated oral reading and the acquisition of fluency. In J. Niles & L. Harris (Eds.), *Changing perspectives on research in reading/language processing and instruction*. Thirty-third yearbook of the National Reading Conference (pp. 183-187). Rochester, NY: National Reading Conference.

Krashen, S.(1995). Free voluntary reading: Linguistic and affective arguments and some new applications. In F. Eckman, D. Highland, P. Lee, J. Mileham & R. Weber (Eds.), *Second language acquisition theory and pedagogy* (pp. 187-202). Mahwah, NJ: Lawrence Erlbaum Associates.

Kuhara-Kojima, K., Hatano, G., Saito, H., & Haebara, T. (1996). Vocalization latencies of skilled and less skilled comprehenders for words written in hiragana and kanji. *Reading Research Quarterly, 31*(2), 158-171.

LaBerge, D., & Samuels, S. J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology, 6,* 293-323.

Levy, B. A., Nicholls, A., & Kohen, D. (1993). Repeated readings: Process benefits for good and poor readers. *Journal of Experimental Child Psychology, 56,* 303-327.

Mathes, P.G., Simmons, D.C., & Davis, B.I. (1992). Assisted reading techniques for developing reading fluency. *Reading Research and Instruction, 31*(4), 70-77.

McLean, A. C. (1991). *The missing Madonna*. Oxford: Heinemann.

Morgan, R., & Lyon, E. (1979). Paired reading: A preliminary report on a technique for parental tuition on reading retarded children. *Journal of Child Psychology and Psychiatry, 20,* 151-160.

O'Shea, L. J., Sindelar, P. T., & O'Shea, D. J. (1985). The effects of repeated readings and attentional cues on reading fluency and comprehension. *Journal of Reading Behavior, 17,* 129-142.

Paran, A. (1996). Reading in EFL: Facts and fictions. *English Language Teaching Journal, 50*(1), 25-34.

Perfetti, C. (1985). *Reading ability*. New York: Oxford University Press.

Perfetti, C., Van Dyke, J., & Hart, L. (2001). The psycholinguistics of basic literacy. *Annual Review of Applied Linguistics, 21,* 127-149.

Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading.* Hillsdale, NJ: Erlbaum.

Rashotte, C. A., & Torgesen, J. K. (1985). Repeated reading and reading fluency in learning disabled children. *Reading Research Quarterly, 20,* 180-188.

Rayner, K., & Bertera, J. H. (1979, October). Reading without a fovea. *Science, 206,* 468-469.

Rayner, K. & Pollatsek, A. (1989). *The psychology of reading*. Englewood Cliffs, NJ: Prentice Hall.

Redfield, M. (1999). Massive input through eiga shosetsu: A pilot study with Japanese learners. *JALT Journal, 21*(1), 51-65.

Reynolds, R.E. (2000). Attentional resource emancipation: Toward understanding the interaction of word identification and comprehension processes in reading. *Scientific Studies of Reading, 4*(3), 169-195.

Samuels, S. J. (1979). The method of repeated readings. *The Reading Teacher, 32,* 403-408.

Samuels, S. J. (1994). Toward a theory of automatic information processing in reading, revisited. In R. B. Ruddell, M. R. Ruddell, and H. Singer (Eds), *Theoretical models and processes of reading* (4th ed.). (pp. 816-837). Newark, DE: International Reading Association.

Segalowitz, N., Poulsen, C., & Komoda, M. (1991). Lower level components of reading skill in higher level bilinguals: Implications for reading instruction. *AILA Review, 8*(1), 1530.

Silberstein, S. (1994). *Techniques and resources in teaching reading*. New York: Oxford University Press.

Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21*, 360-406.

Stanovich, K.E. (1991). Changing models of reading and reading acquisition. In L. Rieben & C.A. Perfetti (Eds.), *Learning to read: Basic research and its implications* (pp. 19-31). Hillsdale, NJ: Lawrence Erlbaum Associates.

Stanovich, K.E. (1992). The psychology of reading: Evolutionary and revolutionary developments. *Annual Review of Applied Linguistics, 12*, 3-30.

Taguchi, E. (1997). The effects of repeated readings on the development of lower identification skills of FL readers. *Reading in a Foreign Language, 11*, 97-119.

Taguchi, E., & Gorsuch, G. J. (2002). Transfer Effects of Repeated EFL Reading on Reading New Passages: A Preliminary Investigation. *Reading in a Foreign Language, 14*(1). Available [online]: http://nflrc.hawaii.edu/rfl/April2002/taguchi/taguchi.html

Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Young, A. R., Bowers, P. G., & MacKinnon, G. E. (1996). Effects of prosodic modeling and repeated reading on poor readers fluency and comprehension. *Applied Psycholinguistics, 17*, 59-84.