The Effects of Repeated Readings on the Development of Lower Identification Skills of FL Readers

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Recent research on reading in a first and a second language suggests the critical role word recognition skills play in the development of fluent reading. In first language research, repeated readings i.e., reading the same text more than one time, have been found to be effective in developing automaticity in word recognition skills of the reader. Repeated readings increase reading rate, accuracy in identifying words, and comprehension.

No study in a second or foreign language has investigated the effects of repeated readings. The aim of this study was to find out if this method would also be effective for slow beginning readers in a foreign language in terms of increasing their oral and silent reading rates.

The subjects of this study were fifteen students enrolled in a university in Eastern Japan. A cloze test and Pre-TOEFL test scores were used to select the subjects. The subjects were assigned to practice repeated readings from textbooks at a level which matched their selection scores.

The repeated reading procedure was conducted three times a week over a ten-week period. Altogether, there were twenty-eight sessions, each lasting approximately thirty minutes. In each session, the subjects read a passage a total of seven times. They first read the passage silently and timed their reading. The next three repeated readings were assisted repeated readings where the subjects read along silently while listening to an audiotaped model of the passage. The last three repeated readings again required the subjects to read the passage silently while recording their reading time.

The results were that, for practice passages, silent reading rates increased significantly even after the seventh reading. However, transfer of practice effects to a new passage was not found to be significant in either oral or silent reading rates. One exception was that the lowest level of readers showed a significant improvement in their oral reading rates.

INTRODUCTION

In first language reading research, the critical role of efficient word recognition skills has received renewed attention among researchers. Recent studies on eye-movement that use advanced technologies have directed the attention of reading researchers to the pre-lexical processes of reading in which readers identify words to access their meanings and phonological representations in their working memory. These eye-movement studies demonstrate that the majority of content words and function words receive direct visual fixation (Balota, Pollatsek, & Rayner 1985; Just & Carpenter 1980, 1987; Perfetti 1985). They also indicate that the absence of even one letter in a word causes considerably slower reading (Rayner & Bertera 1979) and that the visual information extracted through one fixation may be
completely processed at that fixation. These findings demonstrate that the reader's processing of visual information is inclusive, rapid, and accurate.

Reading is a complex cognitive activity in which lower-level and higher-level processing occur simultaneously. Readers extract visual information from the text to identify words while they may integrate the text and monitor comprehension at the same time. Since the cognitive capacity that an individual reader can allocate at a time is limited (Britton, Piha, Davis & Wehausen 1978), some aspects of the reading process must be automated, i.e. conducted with little cognitive effort (Daneman 1991). It is pre-lexical processes that become automatic through practice because a substantial amount of cognitive capacity is always required for the post-lexical processes of reading (LaBerge & Samuels 1974; Perfetti & Lesgold 1976). A large number of studies on reading in a first language (L1) have consistently indicated the critical role of efficient word recognition skills in successful reading. Findings show that differences in word recognition skills are a reliable measure of reading ability in early grades (Perfetti 1985; Stanovich 1991; Stanovich, Cunningham, & Feeman 1984), even among college students (Cunningham, Stanovich, & Wilson 1990; Perfetti 1985). Many studies of context effects have found that good readers are able to capitalize on contextual information to facilitate their comprehension (Baker & Brown 1984; Stanovich & Cunningham 1991).

Although the use of context by poor readers is as frequent as good readers, their use of context is uneconomical and often unsuccessful (Bruck 1990; Perfetti 1985). Poor readers are found to engage in larger uses of context than good readers; unfortunately this does not facilitate their comprehension. Moreover, differences in word recognition skills have been shown to be greater between good and poor readers when words are presented in isolation as opposed to those presented in context (Hogaboam & Perfetti 1978; Perfetti, Goldman, & Hogaboam 1979). The above studies on the use of context indicate that good reading is likely to involve rapid, context-free word recognition. That is, good readers identify most words very rapidly before non-automatic higher-level processing of contextual information influences their word recognition. Poor readers, in contrast, are considerably slower to identify words, and they use context to access meaning, but without much success.

Compared to extensive research on the role of word recognition processes in L1 reading, this topic has received scant attention from second or foreign language reading researchers. Koda (1994) attributes this neglect to two causes: the dominant view of schema theory for the past decade in reading research in a second language (L2) (e.g. Barnitz 1986; Carrell 1984, 1988; Hudson 1982) and a mistaken assumption that there is a strong correlation between high levels of oral proficiency and better word recognition skills. However, studies by Segalowitz (1986), Segalowitz, Poulsen, & Komoda (1991) have disproved this assumption. They found that bilinguals with equal listening and reading comprehension skills but slightly slower L2 reading skills are less efficient in letter and word identification tasks in their L2 than in their L1. Even their high levels of oral proficiency are not concomitant with high-levels of processing skills. There are a number of studies on reading in L2 or a foreign language (FL) that demonstrate the importance of efficient word recognition skills. The studies investigating eye movement of L2 readers found that fixation duration of L2 readers is longer than that of L1 readers (Oller & Dubris 1973) and that the same holds true for good and poor L2 readers (Bernhardt 1987). This means that poor L2 readers fixate longer than good readers when reading L2 texts. Since duration of eye fixation presumably represents information processing time (Rayner 1978), L2 reading requires more cognitive capacity for word identification than L1 reading. Likewise, poor readers need more cognitive resources than good readers for word recognition tasks. It has also been found that L2 readers attend to both content words and grammatical function words, such as prepositions equally, whereas L1 readers give more selective attention to content words. L2 readers are more likely to miss graphic cues which carry prosodic information, such as commas and periods (Hatch 1979; McLaughlin 1987). The empirical evidence of these studies indicates that the limited cognitive capacity L2 readers allocate to word recognition tasks may impair their comprehension.

In summary, the above studies demonstrate that efficient word recognition skills are crucial for successful reading. It should be mentioned, however, that developing automaticity in word recognition does not by itself lead to successful reading. Prior knowledge of the topic, higher-level processing skills that aid comprehension, monitoring of reading, and other indispensable components of reading, such as vocabulary knowledge also contribute to success. Taking these components into consideration, the necessity of developing automaticity in word recognition skills needs to be emphasized because slow decoding and successful reading very rarely go hand in hand.

A number of approaches have been presented for developing word recognition skills. They include phonics, whole word and language experience, and other approaches, such as repeated readings. Among these various approaches, the method of repeated readings has been extensively studied as one of the most effective methods in L1 reading research. It is theoretically based on models of information processing: LaBerge & Samuels' automaticity theory (1974) and Perfetti & Lesgold's verbal efficiency theory (1979). Both theories focus upon the critical role of efficient word recognition skills as a prerequisite to successful reading. In repeated readings, repetition through practice is considered a primary factor in developing automaticity in word recognition skills. According to Samuels (1979), there are three stages through which automaticity develops. The first stage is the "non-accurate stage" in which a student is able to recognize words but only with great difficulty. The second is the "accurate stage," where the student is able to identify words with accuracy.
but some cognitive effort or attention is still needed. The final stage is the “automatic stage” during which the student is able to identify most words with little cognitive effort.

According to Samuels (1979), the procedure of repeated readings consists of re-reading a short passage silently or orally until the student is able to read it with ease. As a pretest and a posttest, students read a passage aloud while the teacher records the time and reading miscues. The reading performances between the first and last reading of each student are represented in a graph depicting the gains in reading rates and errors. This procedure is referred to as unassisted or nonassisted repeated readings in the sense that no modelling of the passage is supplied.

Assisted repeated readings, on the other hand, are variations of Samuels’ procedure in which a live or audiotaped model of the text being read is provided for the reader (e.g., Chomsky 1976; Smith 1979; Schaefer 1977). Chomsky, for example, used audiotaped versions of books in her study on repeated readings. Stories in those books were dramatized and sound effects were used. In the Chomsky study, children read books of their own choice while listening to an audiotaped version. They kept re-reading the stories until they were able to read the books with ease.

In L1 reading, a number of studies have provided empirical evidence which demonstrates the effects of repeated readings. Despite differences in the procedures of assisted and unassisted readings, re-reading a passage is found to increase reading rate and accuracy (Carver & Hoffman 1981; Chomsky 1976; Dowhower 1987; Herman 1985; Rashotte & Torgesen 1985; Samuels 1979), and this in turn leads to better comprehension of the passage (Dowhower 1987; Sindelar, Monda, & O’Shea 1990; O’Shea, Sindelar, & O’Shea 1985, 1987). In addition, practice effects of repeated readings are found to transfer to new unpractised passages with regard to reading rate, reading accuracy (Carver & Hoffman 1981; Dowhower 1987; Herman 1985), and comprehension (Dowhower 1987; Herman 1985). Moreover, studies of the role of prosodic features in repeated readings (i.e. intonation, stress, duration, and pause) show that re-reading a passage causes the reader to segment sentences into more meaningful phrases (Dowhower 1987) and that re-reading a passage coupled with some training in sentence segmentation leads to better comprehension (Stoddard 1988). Finally, a study on the role of text characteristics in repeated readings has demonstrated that, unless the degree of overlapping words between the two passages is high, transfer of gains in re-reading a passage to a new passage is minimal in terms of reading speed (Rashotte & Torgesen 1985). This finding implies that using a series of passages that have many words in common may be effective in repeated readings.

These empirical studies, however, raise a question at the same time about the theoretical foundations of repeated readings. Automaticity theory suggests that through practice in recognising words rapidly and accurately, readers become able to reduce the cognitive burden of word recognition and direct more of their attention to comprehension. Thus, they can achieve not only a faster reading rate but also better comprehension. However, a study by Fleischer, Jenkins, and Pany (1979) investigated the effects of training in recognising words in isolation and disproved the above assumption. The findings of Fleischer et al. were that training in recognising all the words specific to a passage in the form of a list resulted in a faster reading rate, but that it did not lead to better comprehension. That is to say, though a considerable amount of attention was freed from the word recognition task, it did not bring about better comprehension as automaticity theory had presumed. If this is true, then why do repeated readings in L1 turn out gains in reading rate and better comprehension concomitantly as was reported in the empirical studies mentioned above? Readers in these studies re-read entire passages in the repeated reading procedure. This means that they invariably practised recognising words in context rather than in isolation. Moyer (1982) suggests that repeated reading of entire passages makes it possible for readers to maximise the redundancy found in written language. That is to say, using the context to recognise words in repeated readings, readers may also become familiar with the semantic and syntactic redundancy in the text. By capitalising on this semantic and syntactic information, readers become able to comprehend some words in chunks. Reading in large, meaningful units is a characteristic of fluent readers and serves to facilitate better comprehension (e.g., Cromer 1970; Smith 1978). There are several studies that have demonstrated the importance of reading in large and meaningful units in order to improve comprehension. Good readers read sentences in larger syntactic units than poor readers do (e.g., Clay & Inglis 1971). Good readers are likely to read in phrases, clauses, and sometimes even in whole sentences (e.g., Kowal, O’Connell, Brien, & Bryant 1975; Gibson & Levin 1975). They also read in more meaningful units than poor readers (e.g., Clay & Inglis 1971). (A meaningful unit consists of a group of words that are considered to be syntactically or phonologically related (Dowhower 1987)). To summarise, recognising words in isolation and recognising words in context seem to be totally different processes. Practice in recognising words in context may be the key to facilitating comprehension in repeated readings. In the above-mentioned studies that demonstrated the effectiveness of repeated readings, the use of context by having the subjects re-read entire passages may have enabled the readers to read in larger and more meaningful units and consequently enhanced both their reading rate and their comprehension.

This being the case, the efficiency of the repeated reading method is surely an interesting research topic to explore in FL or L2 reading. This method may be effective in developing reading fluency not only in beginning-level readers struggling at word-level recognition but also in intermediate- and possibly even advanced-level readers who still have trouble reading in chunks. Even FL or L2 readers with higher comprehension skills often read in a slow, word-by-word fashion.
Compared to the extensive research on the effects of repeated readings in L1 reading, scant attention has been paid to the use of this instructional method in L2 or FL reading research. Using repeated readings has been suggested as a promising means of developing automaticity in word recognition skills in L2 or FL readers (Grabe 1991). Few studies, however, have even attempted to explore the possibilities. Therefore, the present study is an attempt to investigate the effects of repeated readings on FL readers.

There are three main issues which need to be considered when repeated readings are to be implemented in L2 or FL reading. The first issue is to determine how effective it would be to provide a reading model for L2 or FL readers while they are reading a text. In L1 repeated readings, repeated readings assisted by a model of reading have enabled readers to read in more meaningful and larger phrases than nonassisted repeated readings (Dowhower 1987). Some instructional studies in L2 or FL reading, although not intended to investigate the effects of repeated readings, also found that using a reading model, either in the form of the teacher reading the text aloud or an audiotaped version, led to better comprehension of the text as opposed to readers merely reading the text on their own (Dhaif 1990; Strauss & Knaffle 1984).

Another issue to consider before beginning repeated readings is to find out how best to match L2 or FL readers with appropriate textbooks for the procedure of repeated readings. In most L1 studies, readers and textbooks were matched with the reading ability expectations and the grade they were in the American school system. However, since most L2 or FL readers are not a homogeneous group in terms of age and experience in the language they are learning, some measures need to be developed to place these readers at their appropriate level so as to facilitate the effects of repeated readings.

For the past decades, the cloze test has been considered a good measure to determine reading ability in L1 and has also become popular in L2 or FL to assess not only reading ability, but also overall language proficiency. The cloze procedure, however, has been criticised as to its validity in L1, L2 and FL research (e.g. Alderson 1979; Carrell 1987; Stanovitch 1981). Despite critical reviews, cloze tests still remain one of the primary measures of assessing reading ability of students because they provide a measure which approximates to the reading ability of students even if the information provided through administering the test is not thorough enough to determine the exact reading level of students. The cloze procedure can be used as a rough measure of reading ability to match the students with appropriate textbooks. To obtain a more reliable assessment, cloze tests should be used in conjunction with other measures. In this study, the subjects' Level 2 Pre-TOEFL (Preliminary Test of English as a Foreign Language) reading section scores were used to help place them at an appropriate level. This test was administered to measure overall proficiency of the students prior to this study. Level 2 Pre-TOEFL is intended to evaluate the proficiency in English of non-native speakers as does the regular TOEFL, but is more suitable for students at a lower level of proficiency. Compared to the regular TOEFL test, the Pre-TOEFL has fewer and easier questions and less testing time is given to the examinees in answering questions. The total score of the Pre-TOEFL falls within a range of 220 to 500, while that of the regular TOEFL ranges from 200 to 677.

Finally, one more issue to be considered in regard to repeated readings in L2 or FL is how to evaluate the effects of repeated readings in L2 or FL. Most of the subjects of L1 repeated readings were young children in elementary schools. They were measured in terms of reading rate and accuracy in word recognition which were determined by analysing their oral reading. The underlying assumption was that the speeds of oral and silent reading are approximately equal for young beginning readers. However, in L2 or FL reading this analysis technique may not be appropriate except for readers at the very beginning level. One reason could be that oral reading is unnatural for many mature L2 or FL readers because they already have some reading experience and rarely read orally in their L2 or FL. Moreover, a gap is often observed in the speed of oral and silent readings even in skilled L2 or FL readers. This is probably because speech production mechanisms in L2 or FL readers are not fully developed or automatized even in skilled readers. Therefore, the present study differentiates between oral and silent reading of the subjects. That is, reading rate was calculated for both oral and silent reading of passages.

This study was designed to investigate the effects of repeated readings in FL on reading rate. It focused on answering four main questions:

**Silent reading**

1. How many repeated readings are necessary to facilitate the repeated reading procedure?
2. Do assisted repeated readings, in which an audiotaped version of a reading model is provided, increase reading rate?
3. Do gains in reading rate resulting from the repeated reading procedure transfer to reading a new passage?

**Oral reading**

4. Do gains in silent reading rate resulting from the repeated reading procedure transfer to the oral reading of a new passage?
METHOD
Screening Procedure

Three different cloze tests were developed to determine the appropriateness of the subjects for participation in this study. The passages used in the cloze tests were taken from three books in the Heinemann New Wave Readers Series, each of which represented different levels from Level 3 to 5. The books were Sheela and the Robbers (Escott 1989), Countdown to Midnight (Laidlaw 1988), and Lost in London (Granger 1991). These books were used only for screening and not used in the procedure of repeated readings in the present study.

To make the cloze tests, two passages were taken from each of the three books. The first two sentences of each passage were left intact, and 50 blanks were created in each of the three tests. Every seventh word was deleted. All of the cloze tests were administered to all students; for each of the tests, they were given 30 to 40 minutes to read the passage and fill in the blanks. The time allocation was based on a pilot study using the same tests with different students who did not participate in this study. These tests were marked as follows: students were only given credit for supplying the exact words deleted from the passages.

Subjects

The subjects were chosen from a population of 24 male and female first-year students at a university in Eastern Japan. At the time of the study, they had only been studying for one month as first-year students at the university. Their major was Japanese linguistics, and all courses other than English ones were taught in their native language of Japanese. They had four 90-minute English classes a week, two each of reading and writing. They had studied English in junior and senior high schools for a total of 6 years. Based on their performance on the cloze tests, 16 of the 24 students were selected for participation in the study. All of the subjects except one were female. According to guidelines for assessing text difficulty (Allerson & Grabe 1986), students who score more than 50% by the exact scoring method in a cloze test can be considered at the independent reading level. In other words, they should be able to read without help from the teacher. Based on this guideline, three students were assigned to Level 3, six students to Level 4, and seven students to Level 5 of the Heinemann New Wave Readers Series. The subjects’ reading scores on the Pre-TOEFL test were also checked to further assess their suitability for participation in the study. The maximum attainable score on the reading section was 50. The three subjects assigned to Level 3 fell into the 38 to 39 range with a mean score of 38.3; the six subjects assigned to Level 4 scored between 37 and 41 with a mean score of 39.3; and the seven subjects assigned to level 5 ranged from 40 to 43 with a mean score of 41.3. The average score of all subjects was 40.0.

Materials

The textbooks used in the repeated reading procedure were selected from the Heinemann New Wave Readers. The stories in this series are controlled with regard to level of vocabulary difficulty and grammar structures. The textbooks included four books at Level 3, two books at Level 4, and two books at Level 5. The texts were:

Level 3
(1) Born to Run (McLean 1989)
(2) Murder at Mortlock Hall (Dallas 1989)
(3) One Pair of Eyes (Laidlaw 1989)
(4) The Smiling Buddha (Palmer 1989)

Level 4
(1) The Colombian Connection (McLean 1988)
(2) Poor and Little Rich Girl (O’Reilly 1988)

Level 5
(1) The Missing Madonna (McLean 1991)
(2) Away Match (Axby 1991)

Fry’s Extended Readability Graph (Fry 1977) was applied to ensure that all books at each of the three levels fell into a similar level of reading difficulty. To evaluate the readability of the books, two passages were taken from each book and analysed. The results showed that all the passages at Level 3 used in this study fell within the same range of readability as that of textbooks used in the first grade in U.S. elementary schools. The passages at Level 4 fell within the readability range of fourth graders, while those at Level 5 were comparable to textbooks used in the fifth grade. Audiotaped versions of these stories were dramatised with each character having their own voice, and sound effects were also used.

Procedure

Prior to the present study, a pilot study had been conducted to determine the number of assisted and unassisted repeated readings and the working time for the cloze tests. In this pilot study, nine subjects simulated the procedure of the present study using the same cloze tests and texts that were used in the present study. The students were first given the cloze tests and then assigned to one of the three levels of the textbooks based on their scores. Among these subjects, five students were assigned to Level 3, two students to Level 4 and two students to Level 5. In the pilot study, they were told to re-read each passage until they reached the criteria of 180 words per minute (wpm). They first read each passage along with the tape as many times
as they liked and recorded the number of re-readings. They then read the passage without using the tape and again recorded the number of re-readings needed to reach the criteria of 180 wpm. The subjects averaged 2.52 times reading along with the tape and 2.88 times reading without the tape. Based on these results, the number of assisted repeated readings was determined to be three and that of nonassisted repeated readings was also three.

For this study, repeated readings were conducted for ten weeks from the beginning of May until the middle of July in 1994. Thirty to forty minutes of each English class time were spent on the procedure. All students in the class did the repeated readings, including some who did not participate in the study because they did not meet the study's requirements. Since the students were to do repeated readings three times a week, totalling 28 times, stories for each of the three levels were segmented into 28 portions. Each portion was 330 to 400 words long, which took roughly two minutes if read at the rate of 180 words per minute. A tape recorder and headphones were provided for each student to use while doing their repeated readings.

For each session of repeated readings in the present study, the students were required to follow the subsequent procedure exactly:

(a) They read the previous passage to remember what they had read in the last session. This step was skipped only when they started a new story.
(b) They timed their first reading of a passage with a stopwatch.
(c) They read the passage three times while listening to the exact taped version with headphones.
(d) They read the passage silently three more times, and timed each of their readings with a stopwatch.

In every session, they read each passage seven times (see Table 1 for the summary of the research design).

During a session, they were encouraged to read quickly but were told to maintain their comprehension at the same time. The students were given a record sheet, and they were asked to record their reading time and also checked the number of repetitions they did while reading along with the tape. By doing this, it was hoped that they could avoid getting confused and making mistakes with the procedure.

There were only three cases of a subject missing a session of repeated readings during the course of the study. When this happened, they were asked to make up the session on the weekend at home. They took the textbook, tape, and their record sheet home and followed the exact procedure of repeated readings there. The researcher asked the subjects how they liked doing repeated reading at home and checked their record sheets.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description of the task</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRETEST</td>
<td>The first session of repeated readings served as the pretest. The subjects' oral reading of the passage was also recorded.</td>
</tr>
<tr>
<td>SEQUENCE OF A REGULAR SESSION (The passage was read silently 7 times for a total of 28 treatment sessions.)</td>
<td></td>
</tr>
<tr>
<td>Reading of a Previous Passage</td>
<td>The subjects read a previous passage to remember what they had read in the last session. This step was skipped when they started a new story.</td>
</tr>
<tr>
<td>Reading I (Unassisted Reading)</td>
<td>The subjects read silently a new portion of the story, and recorded their reading time.</td>
</tr>
<tr>
<td>Readings II, III, &amp; IV (Assisted Reading)</td>
<td>The subjects read the passage silently while listening to its audiotaped version.</td>
</tr>
<tr>
<td>Readings V, VI, &amp; VII (Unassisted Reading)</td>
<td>The subjects read the passage silently without the aid of the audiotape, and recorded their reading time.</td>
</tr>
<tr>
<td>POSTTEST</td>
<td>The final or 28th session of repeated readings served as the posttest. The subjects' oral reading of the passage was also recorded.</td>
</tr>
</tbody>
</table>

Table 1: Research Design

Data
In this study, the first and last sessions of repeated readings worked as the pretest and posttest respectively. The average readability of texts was computed using formulas of Flesch-Kincaid, Fog, and Fry, to ensure that each of the three pairs of passages at Levels 3 to 5 represented the same level of difficulty (see Table 2).

In addition to the data gained from both sessions, recordings of the oral reading of these same passages were also analysed. The students recorded their oral reading of the passages after they had finished the first and last sessions of repeated readings. Before recording the passages, they did not practice reading them out loud. For the
<table>
<thead>
<tr>
<th>Level</th>
<th>Title of the Test Passages</th>
<th>Flesch-Kincaid Formula</th>
<th>Fog Formula</th>
<th>Fry Formula</th>
<th>Average Readability</th>
</tr>
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<tbody>
<tr>
<td>3</td>
<td>Born to Run</td>
<td>1.50</td>
<td>3.00</td>
<td>1.00</td>
<td>1.83</td>
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<tr>
<td>3</td>
<td>The Smiling Buddha</td>
<td>0.80</td>
<td>3.10</td>
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<td>The Colombian Connection</td>
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<td>4</td>
<td>Poor Little Rich Girl</td>
<td>3.30</td>
<td>5.30</td>
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<td>4.20</td>
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<tr>
<td>5</td>
<td>The Missing Madonna</td>
<td>4.20</td>
<td>5.20</td>
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<td>5</td>
<td>Away Match</td>
<td>4.30</td>
<td>5.20</td>
<td>5.00</td>
<td>4.83</td>
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</table>

Table 2: Readability Data for the Pretest and Posttest Passages Used in the Repeated Reading Experiment

recording, they were encouraged to read aloud quickly, but maintain their comprehension. The data in the pretests and posttests were analysed in terms of reading rate. Rate for silent reading and oral reading both was defined as the number of words read per minute. For oral reading, the rate was calculated by timing the recorded passages on the tape with a stopwatch. This was done twice to check for accuracy. The rate for silent reading was calculated for each of the first, fifth, sixth, and seventh readings using the subjects' reading time on their record sheets.

Design and Analysis

For the analysis of the silent reading data, the experimental design was a $3 \times 2 \times 4$ (Level $\times$ Tests $\times$ Number of readings) factorial design, with one between-group factor (Level), and two within-group factors (Tests, Number of readings). For the analysis of the oral reading data, a $3 \times 2$ (Level $\times$ Tests) factorial design was used, with one between-group factor (Level), and one within-group factor (Tests). The mean wpm were analysed through ANOVAs. Tukey's Studentised Range Test was used to determine the significant differences among marginal means.

RESULTS

Before reporting the results of the study, it should be mentioned that the silent reading data of one subject at Level 5 was excluded from the data analyses because her performance on the test passages was considerably different from the majority of the subjects. Her wpm was 95 on the initial reading of the pretest passage, but doubled on the initial reading of the posttest passage. Considering that the mean rate calculated by excluding her data increased by 20wpm from the pretest passage to the posttest passage, her 103wpm gains were thought to have been large enough to be considered an outlier.

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
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<th>F</th>
<th>Pr&gt;F</th>
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<td>2800.73</td>
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<td>0.06</td>
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<tr>
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<td>24843.00</td>
<td>25.00</td>
<td>0.0001</td>
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<td>833.48</td>
<td>0.84</td>
<td>0.44</td>
</tr>
<tr>
<td>Number of Readings</td>
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<td>21065.52</td>
<td>21.20</td>
<td>0.0001</td>
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<td>243.23</td>
<td>0.24</td>
<td>0.96</td>
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<tr>
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<td>385.69</td>
<td>0.39</td>
<td>0.76</td>
</tr>
<tr>
<td>L × T × N</td>
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<td>292.83</td>
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<td>0.94</td>
</tr>
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<td>Error</td>
<td>95391.67</td>
<td>96</td>
<td>993.66</td>
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</table>

Table 3: Results of ANOVA (Silent Reading)

The present study was designed to investigate the effects of repeated readings on the silent and oral reading rates of FL students. For the silent readings significant main effects were obtained for Tests, F(1,96)=25.00, p<.0001, and Number of Readings, F(3,96)=21.20, p<.0001, but not for Level, F(2,96)=2.82, p>.06. No interactions among Level, Tests, and Number of Readings were found (see Table 3).

The results show that reading rates increased significantly within the pretest and posttest passages. Students showed consistent incremental gains in their silent reading rates from the initial to the final reading of the pretest and posttest passages. On the pretest, students averaged 126wpm on the initial reading and 182wpm on the final reading. On the posttest, their mean wpm was 149 on the initial reading and 226 on the final reading. The gains in silent reading rate from the initial reading to the seventh reading was 56wpm on the pretest and 77wpm on the posttest (see Table 4).

An analysis of the marginal means for the initial, fifth, sixth, and final readings using Tukey's Studentised Range Test was conducted. The results indicate that there were significant differences in reading rate means between the initial reading and
Table 4: Mean Rate in Silent Reading on Pretest and Posttest Passages

any of the fifth, sixth, and final readings. Differences between the fifth and the seventh readings were also found to be significant. Prior to the fifth reading of the pretest and posttest passages, students listened to the audiotaped version of these passages three times while they read along. The results show that three repeated readings assisted by an audiotaped model of reading significantly improved students’ silent reading rates. Moreover, the results indicate that the three more unassisted repeated readings, in which no model of reading was provided for the students, also significantly increased their silent reading rates. These findings show that repeating a passage as many as seven times, as was done in the present study, contributed to significant mean gains in the silent reading rates within the pretest and posttest passages.

For transfer of gains in silent reading rate to a new text, interaction between Tests and Number of readings was not found to be significant. Although there were 21 wpm mean gains in silent reading rates from the initial reading of the pretest passage to the initial reading of the posttest passage, these gains were not found to be significant.

Table 5: Results of ANOVA (Oral Reading)

With respect to oral reading rates, significant main effects were obtained for Level, $F(2, 26)=3.38$, $p<.05$, but not for Tests, $F(1, 26)=0.07$, $p>.05$. And there was no interaction between Level and Tests (see Table 5).

These findings show that the overall rate in oral reading did not increase from the pretest passage to the posttest passage. The mean rate for all levels of students in oral reading was $128$ wpm on the pretest passage and $127$ wpm on the posttest passage. However, Tukey’s Studentised Range Test indicated that the mean rates in oral reading were significantly different between Level 3 students and Level 5 students. There was a $4$ wpm mean rate gain for Level 3 students, but a minus $4$ wpm mean loss for Level 5 students (see Table 6).

Table 6: Mean Rate in Oral Reading on Pretest and Posttest

DISCUSSION

The present study specifically addressed the optimal number of re-readings, the efficacy of using a reading model in the repeated reading procedure, and the transfer of gains in both oral and silent readings to a new passage. The results clearly indicate that repeated readings increased the silent reading rates within practised passages. Rates in silent reading continued to increase even after the seventh re-reading of the pretest and posttest passages. The significant differences in mean rate in silent reading between the initial and the fifth readings showed that assisted repeated readings effectively enhanced silent reading rates. Between the initial and the fifth re-readings of the pretest and posttest passages, students read the passages silently along with the audiotapes and did not try to read fast as their pace was controlled by the audiotape. Thus, this study found that, with the use of a reading model, FL readers at the beginning level can facilitate growth in silent reading rate without actually having to focus upon reading quickly. Non-assisted repeated readings were from the fifth to the seventh re-readings in this study. The significant differences between the fifth and the seventh readings showed that these students were able to increase their silent reading rate while consciously directing their attention to reading quickly. This continual growth from the initial to the seventh readings was the most
The surprising result of this study is that the subjects in this study were ready for significant growth. It may be that the subjects had been taught English by the grammar-translation method at junior and senior high schools in Japan and had been given few opportunities to develop their reading fluency. The English reading of many Japanese students is often observed to be slow, with frequent halts, and occasional regressions. Based on the results of this study, it is likely that, given plenty of opportunities of re-reading, they are able to show continuous growth in their silent reading rates.

The transfer of gains in reading rate was also considered; however, no significant differences in mean rate for either oral or silent reading were found between the initial readings of the pretest and posttest passages. Silent reading rates progressively increased from 127 wpm on the initial reading of the pretest passage to 148 wpm on the initial reading of the posttest passage. The 21 wpm gains were found to be too marginal to be significant. One theory to explain the lack of transfer effects in silent reading rate to a new passage is that incremental gains in re-reading a series of passages in the stories were not large enough to produce transfer of the practice effects. Perhaps more sessions of repeated readings may have been needed for the gains in silent reading rate to transfer to a new passage.

From the initial reading of the pretest passage to the initial reading of the posttest passage, the oral reading rates only improved for Level 3 students. No gains were achieved for Level 4 and Level 5 students. The overall mean rate for oral reading was minus 1 wpm between the test passages. The result may suggest that the transfer of the effects of repeated readings is more likely to occur for beginning-level readers who read relatively easy passages. Another possibility is that the results may have been influenced to a considerable degree by individual differences because the sample size of Level 3 students was so small (i.e. only three students were assigned to this level). In the light of this limitation, this outcome should be considered with caution. Recording of the oral reading of passages was conducted after the students had practised re-reading both passages silently (i.e. seven times in each session). The students did not practice reading the passages aloud prior to the recording.

Neither did they practice oral reading of the passages in the repeated reading procedure during the course of the study. Therefore, the lack of practice of re-reading passages orally is presumably one of the causes of the inhibited transfer of the practice effects to a new passage. It is also likely that the speech production mechanism in FL readers is not as fully developed as it is in L1 readers. The gap between FL readers' inner speech and their actual speech production is surely much larger than that for L1 readers. Therefore, some oral reading practice in the repeated reading procedure may be needed to produce transfer of practice effects.

If repeated readings are to be introduced to L2 or FL classrooms, there are several issues which need to be considered. First, the study shows that using a model of reading a passage in the repeated reading procedure in L2 or FL has some advantages. One advantage is that a reading model can facilitate the success of repeated readings by providing L2 or FL readers with the appropriate phrasing of sentences in the passage. Schreiber (1980) emphasises the role of prosodic features which are communicated to readers through a reading model of passages. These prosodic features enable readers to segment sentences into larger, more meaningful units. In L1 research, using a reading model has been found to be an effective method for slower readers, because it helps them to read in meaningful phrases (Dowhower 1987). The results of this research project indicate that it is also effective for many L2 or FL readers whose word recognition skills are not fully developed. Due to their linguistic environments, L1 readers are constantly exposed to the prosodic features of their native language. On the contrary, L2 or FL readers have relatively limited access to the prosody of the language they are learning. This inaccessibility inhibits L2 or FL readers from developing efficient word recognition skills and thus from reading in more meaningful phrases.

It may also be concluded that the use of a reading model in repeated readings can keep students interested in their reading activity (Rasinski 1990). It is often pointed out that reading passages repeatedly may cause students to become bored and unmotivated (Homan et al. 1993). However, readers may find it less difficult to continue reading passages repeatedly with the help of a reading model. In the present study, it seems that the audiotaped models of reading passages made repeated readings an enjoyable experience. The record sheet used in this study included a “Comment Section”, where students could write their comments on the repeated reading sessions they had done. Although it was not required, half of the subjects wrote comments. Most of these students were willing to make predictions about the stories and characters. Some wrote that they couldn’t wait to read the following part of the story they were reading. Their comments directly and indirectly showed that they were enjoying the reading materials.

Secondly, oral reading should not always be required in repeated readings in L2 or FL. In L1 repeated reading research, reading rate has very often been calculated from oral reading of passages. Since reading fluency has been defined in terms of reading rate and accuracy in L1 reading research, it is necessary to identify errors in the oral reading data. In L1 repeated reading procedure, the subjects practised re-reading passages orally in most of the studies (e.g. Dowhower 1987; Herman 1985; Homan et al. 1983; O’Shea, Sindelar, & O’Shea 1985; 1987; Sindelar, Monda, & O’Shea 1990). And the subjects in these studies were elementary students in grades two to six. It may be that re-reading passages orally is not boring or stressful for these young L1 readers; however, such oral readings may be very tiring for...
older, more mature L2 or FL readers. One reason for this would be that oral production in L2 or FL readers is not as well-developed as that in L1 readers. Oral reading practice seems to work better with beginning L2 or FL readers. Their reading is usually an extremely slow activity as that of beginning L1 readers is. However, it is doubtful whether oral reading of passages can be equally effective for older, more mature L2 or FL readers who have already acquired some reading skills, but still share the problem of slow word recognition. Older more mature L2 or FL readers rarely read orally when reading for information or enjoyment. This may cause them to become less interested or motivated if oral reading is always required in the repeated reading procedure.

Finally, practising a series of passages at the same level of difficulty, such as a long story or a whole book by a single author may be more effective in maximising the effects of repeated readings in L2 or FL than practising rather short, different passages. As L1 repeated reading research suggests (Dowhower 1987; Rashotte & Torgesen 1985), redundancy of language facilitates the success of repeated readings through a high degree of overlap in vocabulary. In addition to this kind of redundancy, it is possible that the use of schemata may have played a role in enhancing the effects of repeated readings. The students in this study read one to three long stories and so they may have built up schemata for the stories they were reading. The schemata then provided the students with another type of semantic redundancy which made it easier for them to process new information while reading. According to the results of this research, using whole stories which are long and controlled not only in terms of vocabulary difficulty but also in their grammatical structures, obviously enabled the students to maximise the syntactic and semantic redundancy in the stories and thus resulted in the effective repeated reading performance.

Repeated readings seem to provide L2 or FL readers with a promising method of developing word recognition skills and utilising language redundancy to become able to read in phrases. Since this is an exploratory study with several limitations, further research is needed to explore ways to maximise the effects of repeated readings in L2 or FL. One limitation is that no control group was used in this study, so some growth in silent reading rate may have been due to outside factors in spite of the fact that no specific efforts were made by the students to improve their reading rates other than the repeated readings in English classes for the purpose of this study. In addition, comprehension needs to be measured along with reading rates. Although the students in the study were told to maintain their understanding of the passages while trying to read quickly, their comprehension really needed to be assessed by some other reliable measure.

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