The Effects of a Speed Reading Warm-up Activity in an EFL Writing Class

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Abstract

A 10 minute speed reading activity was given to students at the beginning of their writing class for 10 weeks to see what effect it would have on developing their reading fluency. Previous studies have had success increasing students' reading fluency without hurting their reading comprehension in as little as 15 minutes for 13 weeks in classes with other foci (Chang, 2010), and this study sought to see if students could achieve similar reading speed increases while having more time to spend on the primary writing focus of the course. Over the 10 week period in this study, students not only increased their reading speed by an average of 31 words per minute (33%) but also increased their comprehension by an average of 2.9 (47%).

Introduction

Reading speed is an important skill for language students to develop, as reading speed has been associated with increased motivation (Nuttall, 1996), in addition to increased reading confidence and concentration while reading (Chang, 2010). Reading speed also has the additional practical benefit of helping students attain higher scores on language proficiency tests by helping them deal with time restraints in reading sections. This benefit is especially topical in Japan, where having a higher TOEIC score can increase the chances of successfully finding employment during the job-hunting process in the

years before graduating from university.

In general, students' reading speeds increase as students read more, and this has been shown to be true for both extensive reading and intensive reading. In Bell's (2001) study, one group of learners was exposed to an extensive reading program for 36 hours of class time throughout the year, and one group of learners was exposed to an intensive reading program during the same time. After 36 hours of reading time in class, both groups' reading speed increases were statistically significant, although the extensive reading group's reading speed increased by a larger amount.

A Summary of Research on Speed Reading Supplementary Activities

While developing reading speed naturally is an effective method, it requires a large amount of content to be consumed, and thus can take a lot of time to achieve. As such, there have been activities which have been created to specifically target the development of students' reading fluency so that they may be able to get the benefits of reading fluency more quickly, or with less time dedicated to reading. The most prominent of these are timed reading activities conducted as a supplement during class time, in which students read multiple speed reading texts of equal difficulty and length over the length of a course, but do so as an activity, or as homework, which is secondary to their primary class. During this activity, the students keep a record of the time it took them to read these text as well as a record of their comprehension scores so that they are able to track their improvement as the readings progress. This warm-up activity first started showing results in research in 2006 (Chung & Nation, 2006), and quickly spread to multiple countries and was implemented in a variety of different ways (Macalister, 2008; Chang, 2010; Dalton & Fuisting, 2011; Taferner & Murray, 2013; Tran & Nation, 2014; Robson, 2019).

The Breakthrough Study

As mentioned above, the first breakthrough supplemental reading speed study came

in Chung and Nation's study in 2006, and for this specific study it was included in a Listening Comprehension English class which met twice a week for 50 minutes at a Korean university. This study used texts from the book *Speed Reading* (Quinn & Nation, 1974) which employs readings which are 550 words long at the 1000 word level. Students participated in a combination of in-class and at-home readings over 9 weeks, and the first 20 readings were used to measure student improvement (a cumulative speed reading total of 11,000 words). A total of 49 students were enrolled in the class, and by the end of the class 40 students had turned in sufficiently filled out time sheets.

Since this was a pioneering study, Chung and Nation were unsure how to best measure the students' increase, so instead of choosing one specific method, they presented their results through three different formats: (1) Comparing the average of the first three readings to the last three readings; (2) Comparing the slowest reading to the fastest reading, regardless of when those occurred; and (3) Comparing the first reading to the final reading. Of these methods, the first and third methods became the most used in subsequent research.

The results of this study were that students increased their reading speed by an average of 80% if measured by the first vs. final method, and by 52% if measured by the first three vs. last three method. Unfortunately, comprehension scores were not included in this study so we are unable to know if some of this speed increase came at the cost of comprehension.

Speed Reading in an ESL Context

The next study came two years later with Macalister (2008). Macalister's study aimed to find out if speed reading fluency worked in an ESL setting (pre-university English proficiency classes in New Zealand) instead of the EFL setting in Chung and Nation's study. As it was an ESL setting, the level of readings was also higher, and Macalister opted to use Millet's (2005) 400 word long readings at the 2000 word plus AWL (Academic Word List) level. Research was conducted in four different classes with a total

of 60 different students, and each class went at a pace of 2-4 readings per week for the first 17 readings (a cumulative speed reading total of 6,800 words), which were mostly finished by the first half of the semester, and then every class did the final 3 readings in the final week of the course. It is not mentioned where or how the readings were conducted however, so it is not possible to know whether these were done in class or at home.

By the end of the class, 29 of the 60 students had given permission for their data to be used and had filled in sufficiently completed time sheets. The results of this study were that students increased their speed by an average of 28% (with a range of 19%-49% between the different classes) in the first half of the semester through the first three vs. last three analyzation method with readings 1-17. The students were then given no additional speed readings until the final week, which is when readings 18-20 were done. The students' reading speed for readings 18-20 was statistically no different from their times with readings 15-17, meaning that they were able to maintain the reading fluency gains they attained in the first half of the course until the end of the semester. Comprehension scores were not included in this study either, so it is not possible to know if some of the 28% speed increase came at the cost of comprehension.

Speed reading with Comprehension Scores and a Control Group

The next study came after another two-year interval with Chang (2010), and this study is especially notable as it is the first time that comprehension scores were measured alongside reading speed. It is also the first time that a control group was employed. Chang conducted this research with two TOIEC preparation courses at a university in Taiwan. The control group only studied for the TOEIC test, and the test group did readings for the first 15 minutes of the class and then TOEIC study for the remainder of the class. The readings in the test group were from Nation and Malarcher (2007), which contains readings 300 word long readings at the 1000 word level, with 5 comprehension questions per reading.

Students did three of these readings per week for 13 weeks (classes 2-14), all of which were done in class. In addition to this, there was a speed reading pre-test given in the first week of class, and a post-test given in the final (15th) week of the class, and each of these contained 700 words and 13 comprehension questions (a cumulative speed reading grand total of 13,100 words). All 84 of the students in both the control and the test group took both the pre and the post test.

The results of this study were that the test group increased their reading speed from the pre-test to the post-test by 25%, and the control group increased their reading speed by a smaller, and statistically insignificant, 5%. In addition, both the test and control group had small increases in comprehension scores, but neither of these increases were statistically significant. It does show, however, that neither of the groups' reading speed increases came at the cost of comprehension.

Speed Reading in Japan

Timed reading studies have been done in Japan even before Chung and Nation's breakthrough study in 2006, and Utsu (2003, 2005) conducted three courses in which speed reading was the primary focus of the course and saw gains in both reading speed (17%, 44%, and 37%) and in comprehension (9%, 1%, and 6%), although a statistical analysis was not run on these results so it cannot be confirmed if these increases are statistically significant or not.

In addition, there have been multiple studies in Japan which have been conducted with speed reading as a supplemental activity that have shown statistically significant reading speed increases, although these have all been done within the confines of reading courses (Dalton & Fuisting, 2011; Taferner & Murray, 2013; Robson, 2019). Since students had additional readings for their reading course after their speed reading warm-up activity for these studies, and since Bell (2011) has shown that reading quantity increases reading speed naturally even without focusing on speed in both extensive and intensive reading situations, it becomes impossible to know how much of the reading speed increase in

these studies was caused by the speed reading warm-up activities, and how much of it was caused by the primary reading courses.

Methodology

The goal of this study was to see if reading speed could be increased without sacrificing comprehension in an EFL classroom while (1) being done as a warm-up activity in the first 10 minutes of class in order for the primary class to be minimally affected, and (2) the primary focus of the class was not a reading class so there would be no ambiguity as to what was causing any possible reading speed gains.

The participants in this study were 23 first year university students enrolled in a writing class in a university Japan. The students took a CASEC test before the class began to confirm their level, and they had an average score of 562, which according to CASEC is an average TOEIC score of 493. In accordance with this score, speed reading texts at the 1000 word level were chosen, and each text contained exactly 550 words and had 10 comprehension questions (Quinn et al., 2007). Classes met once a week for 15 weeks, and speed reading activities were conducted once per class in the first 10 minutes of the class from week 2 through week 11 for a total of ten times.

Before each activity began, the teacher reminded students that they should aim for a comprehension score of 7 out of 10, and that if they had received a higher score the previous week, that they should push themselves to read faster this week. Likewise, if students received a score of 6 or lower the previous week, they were encouraged to read slower.

The materials consisted of a single page handout, with one side containing the reading, and one side containing the comprehension questions. At the beginning of the activity, students were given the handout with the question side up. When all the students had the handout, the teacher started the timed activity and the students were allowed to turn their pages over and start reading the text. Once the students finished reading, they

immediately marked down their time and started answering the comprehension questions. Students were not allowed to turn the paper over and consult the text while answering the questions, and this was strictly enforced. After all the students had finished reading and answering the questions, the teacher gave the students the answers to the questions, and the students recorded their comprehension scores. The students then put their reading speed and comprehension score on the attendance sheet for the week and gave this data to the teacher. The teacher then returned the focus of the class to developing writing skills from then until the end of the class, and the teacher did not assign or encourage additional reading outside of the class.

Results

Only students who read at least 8 of the 10 texts were included in the study. There were 5 students who missed three or more texts due to absence from class or tardiness, so the final data includes 18 students. The results of these 18 students will be presented in both the first vs. final and the first three vs. last three analyzation methods in order to best compare it to other studies.

First vs Final Analyzation

The data of the students' reading speeds for their first text and final text are presented in Table 1. Readings Speeds are measured in words per minute (WPM). Out of the 18 students who had read at least eight readings, 16 of them increased their reading speed, and one student more than doubled their reading speed. The class read their first text at an average of 94.5 words per minute and their final text at an average of 125.9 words per minute, which is an average improvement of 31.4 words per minute (33%). A paired t-test was conducted on the comparison of the students' readings speeds for their first text and the students' reading speeds for their final text, and this reading speed increase was shown to be statistically significant with $p < 0.001$.

Table 1 *First Text vs. Tenth Text Ordered by Percentage of Increase*

Student #	First Text (WPM)	Final Text (WPM)	Total Increase	Percent Increase
17	65	138	73	112%
15	61	110	49	80%
3	75	132	57	76%
14	87	150	63	72%
2	66	110	44	67%
7	79	127	48	61%
16	73	110	37	51%
10	94	138	44	47%
9	89	127	38	43%
1	94	132	38	40%
11	85	114	29	34%
20	106	132	26	25%
18	110	132	22	20%
13	118	132	14	12%
4	110	122	12	11%
6	122	127	5	4%
12	110	106	-4	-4%
5	157	127	-30	-19%
Average	94.5	125.9	31.4	33%

In addition, the students also increased their comprehension scores in their final reading compared to their first reading, and this data is shown in Table 2. Students had an average comprehension score of 6.2 on their first text and an average comprehension score of 9.1 on their final text, which is an average score increase of 2.9 (47%). There was a large variation of score improvement, and students' score increases ranged from 0 to 7 points (none of the students' scores decreased), and this is reflected in the large standard deviation for the percent increase. A paired t-test was conducted between the students' comprehension scores for their first text and their final text, and their comprehension score increase was shown to be statistically significant with $p < 0.001$.

Table 2 *Averages of Students' Comprehension Scores for the First and Final Text*

	First Text	Final Text	Percent Increase
Average Score	6.2	9.1	47%
Standard Deviation	1.6	1.0	

First Three vs. Final Three Analyzation

The data of the students' average reading speeds for their first three texts and last three texts are presented in Table 3. By averaging the students' first three and final three reading speeds, the range of the students' increases was considerably dampened. Students' reading speed increases showed a range of -19% to 112% with the first vs. final analyzation method, but only showed a range of 1% to 56% with the first three vs. final three analyzation method. None of the students' reading speeds decreased with the first three vs. final three analyzation method, but also none of the students doubled their reading speeds either.

Students read their first three texts at an average of 96.8 words per minute and their last three texts at an average of 121.8 words per minute, which is an average improvement of 25.0 words per minute (26%). A paired t-test was conducted on the comparison of the students' readings speeds for the averages of the first three texts and their their last three texts, and this average reading speed increase was shown to be statistically significant with $p < 0.001$.

Students increased their comprehension scores when using the first three vs. last three analyzation method as well, and this data is shown in Table 4. Students had an average comprehension score of 7.6 for their first three texts and an average comprehension score of 8.9 on their last three texts, which is an average score increase of 1.3 (17%). Using the first three vs. final three analyzation method reduced the large variation of score improvement found in the first vs. final analyzation method, and students score increases ranged from -0.3 to 3.3 points (one of the students' average score decreased). A paired t-test was conducted between the students' comprehension scores for their

Table 3 *First Three Texts vs. Last Three Texts Ordered by Percentage of Increase*

Student #	First Three Text Average (WPM)	Last Three Text Average (WPM)	Total Increase	Percent Increase
14	108	169	61	56%
15	74	114	40	54%
3	84	126	42	50%
16	74	108	34	46%
17	78	113	35	45%
7	88	117	29	33%
10	101	133	32	32%
1	105	137	32	30%
2	86	108	22	26%
4	107	131	24	22%
12	98	116	18	18%
11	88	104	16	18%
20	109	127	18	17%
18	110	127	17	15%
6	106	120	14	13%
9	101	111	10	10%
13	121	126	5	4%
5	104	105	1	1%
Average	96.8	121.8	25.0	26%

Table 4 *Averages of Students' Comprehension Scores for their First Three and Final Three Texts*

	First Three Texts	Last Three Texts	Percent Increase
Average Score	7.6	8.9	17%
Standard Deviation	1.1	0.6	

first three texts and their final three texts, and their average comprehension score increase using this analyzation method was also shown to be statistically significant with $p < 0.001$.

Discussion

Although students only read 5,500 words during their speed reading activities for this study, the students' reading spread increases of 33% with first vs. final analyzation and 26% with first three vs. last three analyzation were very comparable to increases found in other studies with speed reading warm-up activities that had students read more words. To summarize, Chung & Nation (2006) had students read 11,000 words over 9 weeks in-class and at home, and students improved their reading speed by 80% with first vs. final analyzation and 52% for first three vs. last three. It had no mention of comprehension scores however. Macalister (2008) had students read 6,800 words in mostly the first half of the semester, although where the students read is unknown, and students improved 28% with first three vs last three analyzation. Their comprehension scores are unknown. And Chang (2010) had students read 13,100 words over 15 weeks with a 25% increase with first vs. final analyzation, and students did not sacrifice comprehension to realize these gains.

The speed reading increases of students in this study were even within the range of increases found with Utsu's (2003, 2005) three dedicated speed-reading classes, in which students increased their reading speed by an average of 17%-44% with first vs. final analyzation and where the students, at a minimum, maintained their comprehension scores.

In addition, the students in this study also had a comprehension score increase of 2.9 (46%) by first vs. final analyzation and an increase of 1.3 (17%) by first three vs. last three analyzation. This comprehension score increase is considerably larger than the increases found in other studies, especially since most other studies either did not mention comprehension score data or the students did not have statistically significant comprehension score increases (Chung & Nation, 2006; Macalister, 2008; Chang, 2010; Robson, 2019).

However, there are examples of speed reading studies which did have statistically

significant comprehension score increases. In Taferner and Murray's (2013) study, the students comprehension scores increased by a statistically significant 11% in both treatment groups using first vs. final analyzation. And in Tran and Nation's (2014) speed reading study, the students comprehension scores increased by 7% and 8% in the two treatment groups using first three vs. last three analyzation. Although the authors of that article did not specifically mention the statistical significance of this increase, the author of this article was able to calculate the probability of statistical significance of their students comprehension scores using the average score, standard deviation, and group size data listed in their article. Calculation through this process lead to the conclusion that both treatment groups in Tran and Nation's (2014) study had a statistically significant comprehension score increase with $p < 0.01$.

One of the possible reasons why the students in this study had such high comprehension scores is that they only increased their reading speed within a comfortable range of comprehension. The teacher of this class did remind them to read faster if they scored a comprehension score of 8 or higher on the previous text before each new text, but perhaps this reminder was not enough to push them out of their comfort zone. It is also possible that even though the students had no additional reading in the writing part of their class, that the writing class had some influence on their increased comprehension. Whatever the reason, as the closest comparable study had less than half of the comprehension score increase as was found in this study, more research will need to be done to figure out why this result occurred.

Conclusion

The results of this experiment have confirmed that it is possible for students' reading speeds to be increased with a minimal 10 minute reading speed warm-up activity in an EFL course with a different focus of study without sacrificing comprehension. Not only that, but the students in this study achieved comparable reading speed increases to

students in other studies which had more speed reading practice than this one did, and they did so while increasing their comprehension scores considerably more than students in other studies. This suggests that an even larger reading speed increase may have been possible if the students had been more enthusiastically encouraged to read faster.

Over a decade ago, Chung and Nation came to the conclusion that "a speed reading course should be included in every reading class" (2006, p. 198), and with the results of this study, this suggestion has become even easier to achieve not only in reading classes, but as a warm-up activity in classes with other foci as well.

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