

A TOEIC Bridge over Troubled Waters: How ER can Statistically Improve English Test Scores

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Abstract

During their first academic year, freshman students at a Japanese four-year university employed Extensive Reading (ER) as their main, outside-of-class, supplemental English activity. TOEIC Bridge tests were given at the beginning and end of the year in order to assess their overall language skill improvement. The students showed a strong statistically significant level of improvement between the two tests. There was also a weak statistically significant correlation between the number of words that were read by the learners and the amount of improvement between test scores. These findings suggest a positive correlation between ER and their final scores.

Keywords: extensive reading, TOEIC Bridge test

Introduction

Extensive reading (ER) has gained credibility in recent years as powerful tool for improving learners' reading fluency. ER is a methodology that encourages learners to read "quickly and enjoyably with adequate comprehension so they don't need a dictionary."¹ The effectiveness of ER has been demonstrated numerous times.² However, it has been found that it does not always show statistically significant results under all conditions.³

One way to motivate learners to employ extensive reading is to incorporate Information and Communication Technology (ICT) into the English curriculum and make ER compulsory. Learners are required to read books within the

framework of the curriculum, and thus their motivation is extrinsic. Robb et al. showed that the implementation of ER resulted in higher test scores when they used a plug-in module for Moodle called MoodleReader.⁴ However, although the effectiveness of ER supported by ICT has been demonstrated, little attention has been paid to raising the intrinsic motivation of learners.

This paper will show that statistically significant improvement in the TOEIC Bridge test scores can be credited directly to the use of MReader, an ICT tool for extrinsic motivation. MReader is a website which only gives the students credit for having finished a Graded Reader after they have passed a series of quizzes. In addition, this paper will also present a set of self-

help study tips for motivating learners intrinsically. The combination of using MReader for extrinsic motivation, and the self-help study tips for raising intrinsic motivation in all probability resulted in statistically significant improvement on the final test.

Method

Methodology

The current investigation involved analyzing the scores of two separate TOEIC Bridge tests. An analysis was made to measure the degree of score improvement between the two TOEIC Bridge tests. A separate analysis was made to ascertain any correlation between the language development rates and the total number of words read by the subjects.

Research subjects

Fifty-eight male and female (54 male and 4 female) first-year students at a science and technology university in Japan were the subjects of this study. The students were all 18 and 19 years old and their native language was Japanese. As is often the case with science majors in Japan, their English level was relatively low, ranging from false beginner to low intermediate. Their baseline proficiency level was established by the initial TOEIC Bridge test scores. These tests were given at the beginning of the school year.

Procedures

This research was conducted at a university where taking TOEIC Bridge tests at the beginning and end of the first year was mandatory for all freshmen, and the results were used to assess basic communicative competency. ER was required for the subjects of this research as part of their English credits. Three types of data were

collected during the semester: the total number of words read in Graded Readers, as recorded by MReader; the score of the first TOEIC Bridge test; and score on last TOEIC Bridge test. Microsoft *Excel* was used for the analysis of all statistical data.

MReader-- <https://mreader.org/>-- is the website where students can take quizzes after finishing a graded reader. If they pass a quiz, they can receive credit for the number of the words they read in their MReader account. One advantage to this system is that they cannot receive credit for reading the book if they fail to pass the quiz. Of course, there is the possibility of cheating by using such websites as Wikipedia for answering the quizzes without reading the actual books. There is also the possibility that they are familiar with the story, and thus they might be able to pass the quizzes without reading the book. To prevent this, Japanese folktales and children's stories were banned.

The TOEIC Bridge test is a simplified version of the regular TOEIC test. It is designed to assess learner levels from beginner to intermediate, and was given at the beginning and at the end of the school year.

During the academic year, the subjects of this study were enrolled in three different English courses. Two of the courses met twice a week and the other course met once a week. The courses were aimed at improving basic English skills. One of the authors of this paper was in charge of the twice-a-week courses.

In the twice-a-week courses, the learners were provided with self-help study skills through Moodle. Moodle is a course management system (CMS) that has a variety of functions. It has many small programs called modules that provide micro-environments for such things as quizzes to

reinforce learning points from the text, bulletin boards, wikis, etc. The subjects of this study were given information about self-help study skills through a Book module. The Book module is designed to pass on information quickly and smoothly to the learners, so they were able to read the self-help tips at their convenience. The following is the table of contents. These items were randomly arranged in the table of contents because the tips were constantly being revised:

1. You will understand other people's feelings better if you read fiction.
2. Record the results of your homework in the Moodle blog.
3. A comparison table of English levels: TOEIC Bridge and CEFR.
4. How to use English Firsthand audio
5. How many days does it usually take to form a habit?
6. How to login to Moodle
7. MyMobileWorld
8. How to read graded readers as library-provided, digital ebooks.
9. Have you ever heard of a *To-Do* list?
11. CEFR (Common European Framework of Reference for Languages)
12. Always carry a calendar, as this allows you to view the entire month.
13. The Syllabus of this course.
14. The reading record items.
15. How to write a notebook.
16. Shadowing.
17. What is extensive reading?
18. The items to be found on the mid-term tests.
19. The URL for *Quizlet*.
20. How the number of words read will be converted into a grade.
21. How to spend the initial 20 minutes of the class-hour.
22. You need to be a book-lover in order

to read books.

23. The ability to identify and solve problems.
24. FAQ

The details were readily available for the learners in the Book module, so that the learners could read the self-study tips at any time. Thus they could familiarize themselves with the tips by frequently re-reading them.

Results

The first research question of this study was to determine whether or not there was a statistically significant difference between the first and the last TOEIC Bridge test. The second research question was to determine whether or not there was a statistically significant correlation between the number of words read by the subjects and the amount of improvement. The improvement rate of the test scores was calculated as follows: $F(x) = A - B$. "A" is the score of the second test and "B" is that of the first test. For example, if the subject's scores were 128 in both tests, the improved rate is zero and the scores were 100 in the first test and 112 in the last test, the improved rate is 12. Overall, the average improved rate was 9.55 and the standard deviation was 10.45. There was no statistically significant correlation between the number of words read by the subjects and the improvement rate. (Table 1 and Table 2)

As can be seen in Table 3, partial correlation coefficient was calculated. The partial correlation coefficient in this case means the correlation coefficient between the second TOEIC Bridge test score and the number of words with no influence from the first TOEIC Bridge test score.

The calculated value was 0.27. With the number of 58 subjects, the result shows that there was a statistically weak correlation between the second TOEIC Bridge score and the number of words the subjects read. (Figure 1)

In previous studies, researchers (O'Neill, 2012; Storey et al., 2006) reported that there was weak or no statistical significance between those groups of learners who utilized extensive reading and those who did not. Unlike previous studies, no comparison was made between the extensive reading group and non-extensive reading group in this study because no control groups were available. Instead, comparison was made between the two TOEIC Bridge scores, between the two TOEIC Bridge scores and the number of words that learners read, and between the number of words and the rate of improvement. Table 2 shows the results: strong statistical significance was seen between the first and the last TOEIC Bridge scores; there was no statistical significance between the TOEIC Bridge scores and the number of words that learners read; there was also no statistical significance between the number of words and the improved rate of TOEIC Bridge scores. As can be seen in Table 1, the number of the subjects was 58 and their average score improved 10 points. Average number of words that learners read was over 170,000 words. These figures tell that the learners had more than enough comprehensible input to produce the results in an academic year.

Table 1
The Statistics of the First and the Last TOEIC Bridge Tests, the Number of Words, and the Developed Rate

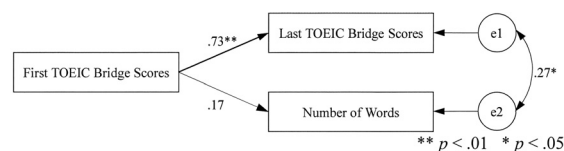
	<i>n</i>	<i>Mean</i>	<i>SD</i>
The first TOEIC Bridge Scores	58	126.38	15.38
The last TOEIC Bridge Scores	58	135.93	11.69
The number of words	58	173397.24	127914.89
The developed rate of TOEIC Bridge Scores	58	9.55	10.45

Table 2
Relationships among the Two TOEIC Bridge Test Scores, the Number of Words, and the Developed Rate

	F	L	N	D
First TOEIC Bridge Scores	1.00			
Last TOEIC Bridge Scores	.73**	1.00		
Number of Words	.17	.31*	1.00	
Difference between Two Scores	-.65**	.05	.10	1.00

** $p < .01$ * $p < .05$

Figure 1
The partial correlation coefficient without the influence of the first TOEIC Bridge test score



Clearer statistical significance emerged when the subjects were divided into two groups. The first consisted of the most avid readers, i.e. those who read more than 150 thousand words in an academic year. The second group read considerably less than that in the same length of time. A comparison was made between several combinations. The baseline was a simple comparison between the two TOEIC Bridge scores. Then the two TOEIC Bridge scores were compared along with the Number of Words variable for the two groups. Finally the rate of improvement variable, i.e. the difference between the first and last TOEIC Bridge Scores for each of the two groups was compared with the Number of Words variable. Table 4 shows the results for avid readers: a strong statistical significance was seen between the first and the last TOEIC Bridge scores; and a weak statistical significance was seen between the last TOEIC Bridge score and the number of words that students read. As can be seen in Table 5, the reluctant readers showed no statistically significant improvement among the items, except for the correlation between the first and last TOEIC Bridge scores. These figures imply that the weaker learners remained weak and the

stronger learners remained strong. This also implies that 150 thousand words seemed to be the tipping point for making a difference in the TOEIC Bridge score.

Table 4
Relationships among the Two TOEIC Bridge Test Scores, the Number of Words, and the Developed Rate of the Avid Readers (n=29)

	F	L	N	D
First TOEIC Bridge Scores	1.00			
Last TOEIC Bridge Scores	.62**	1.00		
Number of Words	.09	.38*	1.00	
Difference between Two Scores	-.53**	.34	.30	1.00

** $p < .01$ * $p < .05$

Table 5
Relationships among the Two TOEIC Bridge Test Scores, the Number of Words, and the Developed Rate of the Reluctant Readers (n=29)

	F	L	N	D
First TOEIC Bridge Scores	1.00			
Last TOEIC Bridge Scores	.79**	1.00		
Number of Words	-.04	.00	1.00	
Difference between Two Scores	-.73**	-.16	.07	1.00

** $p < .01$

Conclusion

Previous studies have proven the effectiveness of ER. For example, Nishizawa (2010) reports that a long-term (4 years) ER program for engineering students was effective because their TOEIC scores improved significantly. As in the case of previous studies, the subjects of this research did their reading mostly out of class. In addition to that, the first fifteen minutes of each class was spent reading graded readers. They were required to answer MReader quizzes after reading each graded reader and they were guided by the tips of self-help study skills that were stored in the Book module of Moodle. They were able to access graded readers during the summer and winter vacations because the university library had licensed a series of ebooks that could be accessed from home. Of course, MReader was available even on their mobile devices. Similar to previous

studies, the subjects of this study showed improvement on the standardized test. Even though ER was not the only activity during the academic year, it was their primary outside-of-the-class activity. Therefore, this study indicates that the successful improvement of the test scores can be attributed to extensive reading. It is worth noting that this is the first study to investigate the effect of extensive reading on the results of a TOEIC Bridge test, rather than the much higher-level, regular TOEIC test. The results of this study provide empirical evidence for the effectiveness of ER. However, there are some noticeable limitations: the extensive reading variable cannot be separated from other activities, such as speaking, listening, and writing in the classroom. Still, it can be concluded that extensive reading was a major factor in the score improvement of the avid readers, but it cannot be considered to be the only activity that contributed to the improved score. Further research should be done to investigate whether these results can be consistently replicated in the future.

Footnotes

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