

TOEIC Bridge and ER in remote classes

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Abstract

The purpose of this paper is to show the effect of extensive reading (ER) on English proficiency in remote classes. First, how English proficiency influenced the result of ER will be presented. After that the effect of ER on English proficiency will be discussed. The participants in the study were 57 Japanese university-level engineering students who studied remotely in one semester and face-to-face in another semester in the academic year of 2020. The study employed a method of dividing samples into three groups: low (less than 60,000words/yr), middle (60,000-150,000), and high (more than 150,000) amount of reading. The relationships and interactions of the two variables (ER and proficiency test scores) over a one-year treatment, using ANOVA were examined. The number of words students read was counted with MReader, and TOEIC Bridge tests as pre-test/post-test were administered. The results of a one-way ANOVA revealed significant differences. In the result of the pre-test, the low group and the middle group were significantly different. This result suggests that initial English proficiency was the cause of the difference in the amount of reading. On the other hand, ANOVA revealed no differences in the result of the posttest. It is suggested that the gap between the middle group and the low group disappeared and that ER was effective for the improvement of English proficiency.

Keywords: ER (extensive reading), TOEIC Bridge, MReader, ANOVA,

Introduction

Starting on May 11th, all of our English classes were online during the first semester in 2020. During the second semester, we met face to face in our classrooms, but we had to split a big class into half to keep social distance. In this learning environment, I was afraid that the proficiency level of our students would not improve so much compared with the students of previous years. On the contrary to my expectation, our freshmen in 2020 left interesting

results in TOEIC Bridge test and the amount of reading in ER.

The purpose of this study is to examine whether students could improve their English skills under the semi-distance-learning environment in 2020. To be more exact, we might need to compare the record of this particular year with those of previous years. Such research of comparison would elucidate the relationship between English proficiency and the amount of reading. However, it is my immediate goal to give an analysis of the students of

this particular year in this paper.

Research Questions

The research questions of this study were as follows:

1. Did the word counts in ER influence the scores of the TOEIC Bridge test?
2. Did the scores of the TOEIC Bridge test influence the word counts?

Method

Previous studies of ER and TOEIC test indicated that there were both gains and no gains in the proficiency tests. For instance, according to Carney (2016), significant relationship was found between extensive reading and TOEIC reading score increases. The data was obtained during 2020 in my classes. The subjects were required to read graded readers (GR) mainly as an out-of-class activity. They also read GR for 15 minutes in every class hour in the first semester. In the second semester, they read GR for 45 minutes in every class.

Research subjects

The participants in the study were 57 Japanese university-level engineering students who studied remotely in one semester and face-to-face in another semester.

Procedures

ETS renewed the TOEIC Bridge test in 2019. The TOEIC Bridge that we administered in 2020 was the new institutional program test. The new scores range from 30 to 100. The TOEIC Bridge IP tests were administered twice in a year in 2020: first at the beginning of April and second at the end of December.

The number of words students read was counted and recorded by MReader.

MReader is a website where students answer quizzes after reading GR. A one-way ANOVA and Turkey test were used to analyze the relationships among the TOEIC Bridge test scores and the number of words. The statistic software SPSS 26.0 was used as the analytic tool for data.

The present research employed a method of dividing samples into three groups. In the first analysis, they were divided according to the number of words students read in an academic year: low (less than 60,000words/yr), middle (60,000-150,000), and high (more than 150,000) amount of reading. In the second analysis, the students were divided into three groups according to the result of the scores of TOEIC Bridge test: over 85 and high level group that is equivalent of B1 in CEFR, between 72 and 84 middle level group that is A2 in CEFR, and under 71 low level group that is A1 in CEFR. The scale of dividing scores into CEFE levels is based on different sources such as MEXT¹ and ETS².

Results

The First Analysis: Contribution of the Number of Words to the TOEIC Bridge Scores

		ANOVA				
		Sum of squares	Variance	Mean square	F value	p value
1st Bridge	Between groups	880.629	2	440.315	6.388	.003
	Within group	3653.3	53	68.93		
	Sum	4533.929	55			
2nd Bridge	Between groups	598.531	2	299.266	2.986	.059
	Within group	5311.969	53	100.226		
	Sum	5910.500	55			
Amount of Words	Between groups	3.932E+11	2	1.966E+11	152.790	.000
	Within group	6.820E+10	53	1.287E+9		
	Sum	4.614E+11	55			

In the first analysis, the whole group was divided by the number of words read in a year. This table is the analysis of variance (ANOVA) of the three groups. The first group read 150,000 words or more, the second group read between 60,000 and 150,000 words, the 3rd group read less than 60,000 words. In the first Bridge test, the *p* value is smaller than

0.05, so there is a significant difference among the groups. On the contrary, there is no significant difference in the second Bridge test. On the other hand, there is a significant difference in the number of words read in a year naturally because the groups are divided by the number of words in reading. Then, in the first TOEIC Bridge test, which specific groups did actually have differences in scores? To see it, we used the Turkey test to identify homogeneous subgroups.

1st Bridge Test

Turkey *B*

		Subgroups ($\alpha=0.05$)	
Groups	number of Students	1	2
3	24	58.54	
1	15	62.80	62.80
2	17		67.94

2nd Bridge Test

Turkey *B*

		Subgroups ($\alpha=0.05$)	
Groups	number of Students	1	
3	24	66.50	
1	15	72.53	
2	17	73.53	

Number of Words

Turkey *B*

		Subgroups ($\alpha=0.05$)		
Groups	number of Students	1	2	3
3	24	25402.50		
2	17		97466.76	
1	15			230631.07

Tukey's *B* test was used to analyze the differences among means. The test shows which pairwise comparisons are significant. In the table of the first Bridge Test, Group 3 and Group 1 under Subgroup 1 are the same subgroup at the 5% level. Group 1 and Group 2 under Subgroup 2 are also the same subgroup. In the first Bridge test, the pair of Group 3 and Group 1 is different from Group 1 and Group 2. On the contrary, there is no difference between the subgroups in the second Bridge test scores. In the table of the Number of Words, each group is a different subgroup.

Analysis of variance (ANOVA) revealed

that there was a significant difference in average academic achievement among groups divided by the number of words. When divided into subgroups, there was a statistically significant difference between Group 2 (60,000 or more and less than 150,000 words) and Group 3 (less than 60,000 words). It can be inferred from this result that better students read more number of words because their English proficiency level was already higher at the beginning of the year.

On the other hand, in the second test, there was no significant difference between the three groups. It is presumed that extensive reading eliminated the differences in the reading proficiency among students.

The Analysis of Correlation: Correlation between the Number of Words and the TOEIC Bridge Scores

Correlations Between Two Bridge Test Scores and Number of Words

	1st Bridge	2nd Bridge	Number of Words
1st Bridge			
Correlation coefficients	1	.759**	.226
<i>p</i> value		.000	
2nd Bridge			
Correlation coefficients	.759**	1	.280*
<i>p</i> value	.000		.037
Amount of Words			
Correlation coefficients	.226	.280*	1
<i>p</i> value	.094	.037	

***p* < 0.01, **p* < 0.05

The correlations among the two Bridge tests and the Number of Words were analyzed. In the comparison between the first Bridge test and the second Bridge test, a significant difference at the 99% confidence level ($p < 0.01$) was obtained, and in the comparison between the second Bridge test and the Number of Words, a significant difference at the 95% level was obtained ($p < 0.05$). The obtained *p* value would lead us to think that the Number of Words influenced the result of the second TOEIC Bridge test.

The Contribution of the TOEIC Bridge Test Scores to the Number of Words

		ANOVA				
		Sum of squares	Variance	Mean square	F value	p value
1st Bridge	Between groups	2057.314	2	1028.657	22.013	.000
	Within group	2476.615	53	46.729		
	Sum	4533.929	55			
2nd Bridge	Between groups	4239.263	2	2119.634	67.220	.000
	Within group	1671.237	53	31.533		
	Sum	5910.500	55			
Amount of Words	Between groups	4.008E+10	2	2.004E+10	2.521	.090
	Within group	4.213E+11	53	7.950E+9		
	Sum	4.614E+11	55			

In the second analysis, subjects were divided into three groups according to the result of the second TOEIC Bridge test scores: over 85 is higher level group (Group 1), between 72 and 84 is middle level group (Group 2), and under 71 is lower group (Group 3). In the first Bridge test and the second Bridge test, the p value is smaller than 0.01, so there is a significant difference at the 99% confidence level. On the contrary, there is no significant differences among the groups in the number of words. In the first and second Bridge test, which specific groups did actually have differences? To see it, we used the Turkey test to identify homogeneous subgroups.

1st Bridge Test

Turkey B

		Subgroups ($\alpha=0.05$)	
Groups	number of Students	1	2
3	29	56.76	
2	23		68.17
1	4		72.00

2nd Bridge Test

Turkey B

		Subgroups ($\alpha=0.05$)		
Groups	number of Students	1	2	3
3	29	62.21		
2	23		77.39	
1	4			87.50

Number of Words

Turkey B

		Subgroups ($\alpha=0.05$)
Groups	number of Students	1
3	29	76807.41
2	23	128703.09
1	4	138368.75

Tukey's B test was used to analyze the differences among means. In the table of the first Bridge Test, Group 2 and Group 1 under Subgroup 1 are the same subgroup

at the 5% level. Group 3 is different from other two groups. In the second Bridge test, each group is different from each other naturally because these groups are separated according to the result of the second Bridge test scores. On the contrary, there is no difference between the subgroups in the Number of Words. In other words, the three groups are statistically considered to be the same group.

For the present paper, I asked two research questions. The first one dealt with the influence of the number of words over the TOEIC Bridge test scores. The second question is related to the influence of the TOEIC Bridge test scores over the number of words.

The amount of explained variance (R^2) of the correlations is relevant here. 11% of the TOEIC Bridge test score could be explained for by the number of words in 2020. In the previous years between 2014 and 2019, the R^2 values were only between 1.9% to 5.6%. The R^2 value in 2020 supports the argument that the TOEIC Bridge test scores owe a lot to the number of words in this particular year.

As presented earlier, there was a statistically significant difference between Group 2 (60,000 or more and less than 150,000 words) and Group 3 (less than 60,000 words) when we analyzed the difference of means in the first Bridge test. We also observed that there was a statistical difference between Group 3 (under 71 is lower level in the Bridge test) and other two groups. As for the second question, the initial scores of the TOEIC Bridge test could be the cause of this statistical difference. Therefore, the result of the analysis shows that the TOEIC Bridge test scores influenced over the number of words.

Conclusion

In this paper, the two TOEIC Bridge test scores and the number of words were analyzed in two ways. In the first analysis, the whole group was divided into three groups by the number of words they read in a year. In the second analysis, the students were divided into three groups according to the second TOEIC Bridge test scores. The result shows that the number of words in ER positively influenced the English proficiency of the students. The result of the analyses also shows that the initial English proficiency positively influenced the number of words.

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Notes

1. MEXT. https://www.mext.go.jp/b_menu/houdou/30/03/__icsFiles/afieldfile/2019/01/15/1402610_1.pdf
2. ETS. http://www.iibc-global.org/library/redirect_only/library/toeic_data/bridge/pdf/data/Comparison_BridgeandTOEIC.pdf <https://www.iibc->