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## Poster Presentation

# A Longitudinal Study of Time on Task and TOEIC Scores

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### Introduction

Demographic change in Japan is compelling many universities to relax admission standards, or even move to an open enrollment policy in order to fill available seats (Kinmonth, 2005). Consequently, teachers are challenged to improve students' TOEIC scores while being supplied with students of continual lower English ability. Krashen (2008) suggests that more exposure to comprehensible input in the form of extensive reading is one way to help students with low levels of English language abilities improve their English. Previous work in Japan has attempted to find correlations between increases in TOEIC scores with extensive reading programs. Nishizawa, Yoshioka, & Fukuda (2010) found "a strong correlation between their [students'] TOEIC scores and the amount of reading" (p. 637) over their 4-year extensive reading program. Mason (2013) followed three adult learners doing voluntary extensive reading. Over a period of several months, the three students showed substantial gains in TOEIC scores. This paper tracks the total time on task that 20 Japanese engineering students at a graduate school spent outside of class involved in the study of English and changes in their TOEIC scores. Time on task was calculated from the use of iKnow!, EnglishCentral, and a local installation of the Moodle Reader Module.

### Rationale

When embarking on an extensive reading program, a central question is how to ensure that students comprehend a majority of the English texts they read. Ideally, students should be able to understand 95% or more of the vocabulary

in these texts, enabling students to incidentally learn vocabulary as they read (Nation, 2001). Unfortunately, it is very difficult to assess individual student's vocabulary comprehension in a timely and economical way. Hence, iKnow! (iknow.jp) and EnglishCentral (www.englishcentral.com) were utilized to allow students to scaffold newly met vocabulary in the texts they were reading. Given that iKnow!, EnglishCentral, and graded readers are all levelled by vocabulary frequency, it is logical to assume that students will meet the same vocabulary multiple times. For example, students reading a Cengage Foundations Level 1 or equivalent book (word count: 525) will also encounter the same vocabulary in the iKnow! Eikaiwa Master 1000 Core 1 list of 200 words and in videos denoted as "easy" in EnglishCentral. Consequently, students could achieve the 95% vocabulary coverage, enabling fluent reading from the sufficient vocabulary support of iKnow! or EnglishCentral, support that is not just limited to meeting a vocabulary item for the first time, but includes regular recycling and expansion of depth of vocabulary knowledge.

## **Methods**

Depending on which class students were enrolled in, they had a choice of two or more online tasks. For the Basic English course, students were encouraged to use iKnow!, a Web-based spaced repetition software, and a local installation of the extensive reading Moodle Reader Module. Students of the Introduction to English course were required to use EnglishCentral, a Web-based, pronunciation and spaced repetition software to collect 2000 points (78 minutes) a week, and also to pass two graded readers quizzes (a minimum score of 70% was required to pass) in Moodle Reader per week. Eighteen of the twenty students in the tracked group completed the Basic English course in 15 weeks and then moved on to the subsequent Introduction to English course for an additional 15 weeks. All students sat a TOIEC IP exam at the beginning of the Basic English course in April and another exam 120 days later.

Time on task was calculated for each online task. Six self-selected students recorded the time required to read one graded reader at their current reading level. From the six students an overall average reading speed (book word count

divided by time) of 65 words per minute was applied to the group of twenty students. The total word count of each student from Moodle Reader Module was then divided by 65 words per minute to determine the total number of minutes spent reading. EnglishCentral displays the percentage of the weekly assignment completed for each student. In this study the weekly assignment was calculated by EnglishCentral for students to need 78 minutes to achieve 100 percent. Similarly, iKnow! tracks student use of the service in minutes. Reports were downloaded from both services for the duration of the study.

## **Results**

Ninety percent of the students that were enrolled completed the two introductory English classes over 3 months. Total time on task was then correlated with the change in TOEIC scores over the same 3-month period. The result of a Spearman Rank Correlation was a non-monotonic relationship with a correlation coefficient of 0.324060. Therefore, the relationship between time on task and change in TOEIC was not statistically significant. However, the average of the two groups suggests that, with a larger sample, statistical significance could be proven. This is supported by the finding that the cohort of 10 students who displayed the greatest improvement in TOEIC score (average 122 points / 71 hours on task) spent twice the time on task as the cohort of 10 students with the least TOEIC improvement (average 33 points, 35 hours on task).

Three students who had completed both courses had unexpected negative changes in their TOEIC scores. Interviews with these subjects revealed that they were extremely fatigued or ill at the time they took the second TOEIC test in August.

## **Discussion**

This paper shows that, with online services, it is possible to find how much time students are spending on the tasks assigned to them outside of class time. It is worth noting that of the 20 students, six spent over 71 hours on task, with two students above 100 hours of study. While there was no correlation between time on task and TOEIC improvement, the cohort with the greatest improvement, 122 points, is encouraging.

Although the sample size of this paper ( $N = 20$ ) was small, the results do

suggest further research with larger groups of students and comparing the different tasks to TOIEC improvement. It would be expected that time on task data at six months and one year later would most likely yield results that are more conclusive. Data is currently being collected on the subjects of this paper who are continuing to self-study.

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## Author's bio

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