COMBINATION OF EXTENSIVE READING PROGRAMS AND OTHER LEARNING ACTIVITIES FOR JAPANESE EFL LEARNERS

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Abstract

Extensive reading (ER) has proven to be a promising approach to improving English as a Foreign Language (EFL) learners' language skills. However, it needs a longer duration for the students to improve in standardized tests, such as the TOEIC. In this paper, we would like to propose a few combinations of ER with other learning activities such as an overseas study program or a Content and Language Integrated Learning (CLIL) course. Based on our experience and the analyses, we could also determine why the students' improvements could not be measured in the past decades.

Keywords: *Extensive reading*, *Duration, TOEIC, Overseas Study Program, CLIL*

1. INTRODUCTION

Low English proficiency of the students has been a long-standing issue of the National Institute of Technology (NIT) or KOSEN since its foundation sixty years ago. This has hindered KOSEN graduates from working as engineers in the international setting. If we measure the students' English proficiency with the TOEIC, a standardized test widely used in Japan, the average TOEIC score of the eldest, seventh-year KOSEN students was 439 in 2020, which stayed in Basic User (CEFR A1) level. Even though the average score had increased from 377 in 2007, it was still lower than the average TOEIC score of Japanese senior university students in engineering & natural science majors in 2020 (517) (IIBC 2021) or the expected TOEIC score from new employees by their Japanese employers (545) (IIBC 2019). Thus, KOSEN students' English proficiency should be improved to 550, the minimum TOEIC score of the CEFR B1 level (Tannenbaum & Wylie 2008).

A possible reason behind KOSEN students' low language proficiency is traditional English lessons in KOSEN, as the other Japanese educational institutions focus on grammatical knowledge and vocabulary but not fluency. Stephens (2015) had observed the mental struggle of her students when responding to her in English and speculated that this was because of the predominance of the *yakudoku* (grammar-translation) method in their formative years of learning English. Sakurai (2015) examined the influence of translation on Extensive Reading (ER) of 70 Japanese university students and found that less translation accompanied by higher comprehension, faster reading rate, and more total words read extensively. The lower reading rate of the students who translated English texts into Japanese was understandable because of translating. In contrast, reading was a demanding activity that needed concentration to handle two languages simultaneously and consumed a large part of the reader's mental resources. As a result, many Japanese adults could not use the language even if they had enough knowledge. Exposure to the English language must be increased to recover the balance of knowledge and fluency. The necessary exposure could be gained if a Japanese student would study in an English-speaking country for ten months without using Japanese during the stay (Nishizawa, Yoshioka & Ichikawa 2018). They would get about 600 in the TOEIC, the lowest border of CEFR B1 level, just after studying abroad.

As it is not feasible to send all the students abroad for ten months, other types of exposure were necessary, and extensive reading (ER) was a promising alternative. Grabe (2009: 311-312) described the ability to read extended texts for long periods as "a hallmark of fluent reading. No other set of reading activities or reading practice can substitute for reading a longer text with reasonable comfort and without needing to stop constantly, and without feeling fatigued or overwhelmed". For Japanese EFL learners, Sakai (2002) made epoch-making proposals to read a million words of English texts and start ER from very easy-to-read books according to his three golden rules: dispose of dictionaries when you read, skip

unknown words, and stop reading the texts you cannot enjoy. Inspired by Sakai's proposals, Furukawa et al. (2005) started practicing the Starting with Simple Stories (SSS) method and composed a book guide (Furukawa et al. 2005). They defined a readability scale for Japanese EFL learners.

An ER program at NIT Toyota College (also known locally as Toyota KOSEN) following Sakai's proposals and Furukawa's method provided insights into the benefits of extensive reading. In addition to traditional English lessons for six years, ER lessons improved average students' English proficiency to CEFR B1 level (Nishizawa, Yoshioka & Ichikawa 2018). However, a shorter 2.5-year-long ER program at the same college, which substituted some parts of traditional English lessons with ER lessons, did not increase the students' average TOEIC score (Nishizawa, Yoshioka & Nagaoka 2018). Among six groups of students, who had read different amounts of English texts extensively during the 2.5 years, only the group of students who had read 600,000words in total had significantly higher average TOEIC scores (350), while the average scores of the other five students groups were from 288 to 323. It is possible that TOEIC scores lower than 350 cannot accurately gauge a test-takers English proficiency because the scores conflict with the teachers' subjective evaluations of the same students. We felt that a dictation test (Cziko 1982) might be better for students of lower proficiency. On the other hand, TOEIC scores of 400 or higher seemed to evaluate the students' English ability properly. Thus, achieving a TOEIC score of 400 is a good milestone for KOSEN students.

As the two-year ER program did not improve the students' TOEIC scores to 400 or higher, we started to examine a few combinations of ER with other educational activities in which the students used English as the language for communication in and out of their lessons. One alternative educational activity considered was participating in overseas study programs conducted in non-English speaking countries. English is not the native language but is taught in high schools as a foreign language and used in actual communication within the class. Another educational activity examined was a Content and Language Integrated Learning (CLIL) course where fundamental physics and chemistry topics were taught using English as the language of instruction. Originating in Europe, CLIL is a flexible approach that combines content and language education (Coyle et al., 2010). CLIL in Japan is still relatively new and is called "weak" CLIL because the emphasis is on language learning. This is in contrast to the "strong" CLIL in Europe, where the foreign language (usually English) is used to learn a content subject (Ikeda 2013).

The research questions in this study are:

1) How many ER years do KOSEN students need to score 600 on the TOEIC test?
2) Are the TOEIC scores not sensitive to the English proficiency of the learners of Basic User (CEFR A1) level or lower? If so, can a dictation test be an alternative to the TOEIC test?
3) Which educational activities can be combined with a 2-year ER program to effectively achieve a score of 400 or 600 on the TOEIC test?

2. METHODS

2.1. Participants and Research Locale

The participants of this study are Japanese students at Toyota KOSEN. Toyota KOSEN has 1,000 students in its five-year foundation courses and 40 in the two-year advanced courses. The youngest KOSEN students are the same age as senior first-year high school students, while the second-year advanced course KOSEN students are the same age as fourth-year university students in Japan. Toyota KOSEN offers five specializations: Architecture, Civil Engineering, Electrical, and Electronic Engineering, Information and Computer Engineering, and Mechanical Engineering. All students at Toyota KOSEN join the ER program during the first and second years of the foundation course. After this, Electrical and Electronic Engineering (E-dept.) students can continue the ER program until they finish the second year of advanced course by taking elective ER subjects. This allows E-dept. students to be part of the ER program for seven years.

Toyota KOSEN also supports overseas study programs. For 37 years, from 1982 to 2018, 789 students studied in 40 countries (Kamiya 2019). Yearly, about 41 students, mainly in the 3rd year, suspended their studies in the middle of the year and went overseas for ten months to experience different cultures. Approximately half of these students go to English-speaking countries, while the others go to countries where English is a second language. Data from students who joined overseas study programs were analyzed separately because their English proficiency after studying abroad usually differs from usual KOSEN students who stayed in Japan.

2.2. Methods

In this paper, the authors tried to find effective methods to improve the students' English proficiency in and out of the class during the past 15 years in Toyota KOSEN by measuring the effect of the TOEIC tests and other locally adopted, such as dictation tests.

2.2.1. The influence of ER duration

We sought the optimum duration of ER program for KOSEN students. Data from 131 KOSEN students who took the TOEIC test while reading around a million total words (0.8 – 1.2 million) were analyzed. They were among the 301 students of E-dept. who had read more than a million total words of English texts in the ER program from 2004 to 2021? Students who joined overseas study programs for more than half a year were excluded from the analysis to avoid the influence of overseas study programs. Sixty students read further and took the TOEIC test while reading around two million words (1.6 – 3.0 million). Their TOEIC scores were classified by their ER duration into four categories; 2 – 3 years, four years, five years, and 6 – 7 years, and the average TOEIC scores of the groups of students among the categories were compared.

2.2.2. Insensitivity of the TOEIC scores to the proficiency of basic-level learners

We analyzed the correlation between the TOEIC scores and dictation test scores. The English text for the dictation test had 94 words, 88% belonging to 1,000 essential words of JACET800 (Someya 2006), and the text was divided into eight clauses. The text was first to read aloud in 35 seconds and then reread aloud by inserting silent periods of 28 seconds between the clauses so that the students could write down the text on paper during the quiet periods. We wanted to confirm our hypothesis that TOEIC scores lower than 350 are not sensitive to the English fluency of elementary-level Japanese EFL students.

2.2.3. The combination of ER with overseas study programs

The effect of ER before and after studying abroad was analyzed using the TOEIC scores of the 5th year students from 2010 to 2020 who had studied abroad in non-English speaking countries for ten months and had read English texts from 0.8 to 1.5 million total words extensively before and after studying abroad. The non-English speaking countries did not include Spanish-speaking countries in the middle and South America because the TOEIC score distribution of the students who stayed in Spanish-speaking countries was significantly lower than those who stayed in European or South-East Asian countries. The TOEIC scores were compared with the 3rd year students from 2005 to 2009 who had studied abroad in English-speaking countries or non-English speaking countries for ten months but had not read English texts extensively.

2.2.4. The combination of ER with CLIL lessons

We calculated the students' total exposure to the English language in all the lessons from the 1st to the 4th year for each cohort (Figure 1). The whole exposure time for the students in the other four departments aside from E-dept. (4-depts.) consisted of 50% of English conversation lessons in the first year, all classes in extensive reading lessons from the first to third years, and 25% of other English lessons in the first and second years from 2018 to 2021, where the teachers started to use English for the explanation and communication in the classes, and Content and Language Integrated Learning (CLIL) lessons in the third year (2021). In CLIL lessons, English is used as the instruction and communication language. Materials used in the class did not contain any Japanese translation, and the topics discussed were selected from the physics and chemistry lessons that the students had studied in their first year. The total exposure time for the students in E-dept. includes additional extensive reading lessons from

the second to the fourth year, which were conducted as specialized lessons for the department. We analyzed the relation between the total exposure time and the number of 4th-year students who had scored more than 400 on the TOEIC tests.

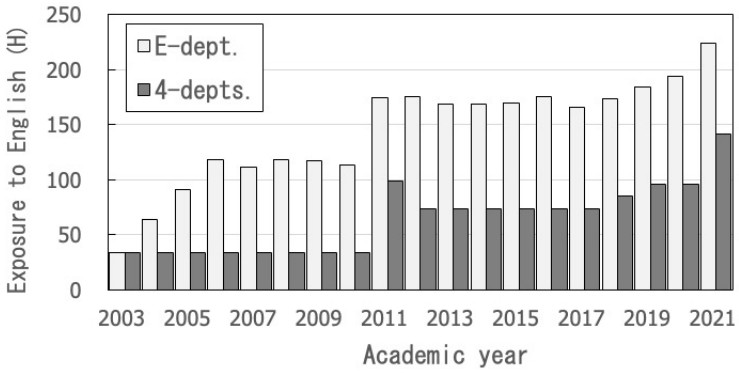


Fig. 1. Estimated total exposure time of the 4th-year students to English in all the lessons

3. RESULTS

3.1. The influence of ER duration

The average TOEIC scores of the students, who had read around a million words, depended on the ER duration, as shown in Figure 2. While the average TOEIC score of the students who had read a million total words in the period from 2 to 3 years was 399, the average TOEIC score of those who had read the same amount in 5 years was 516. There was a significant difference of more than 100 points between them, even if the total words read were the same. A similar but milder tendency was observed among the average TOEIC scores of the students who had read two million total words. These tendencies suggested the advantage of the more extended 6-7-year ER program. Figure 2 also showed that only the students who had read two million total words in the 6-7-year ER program achieved TOEIC 600 on average.

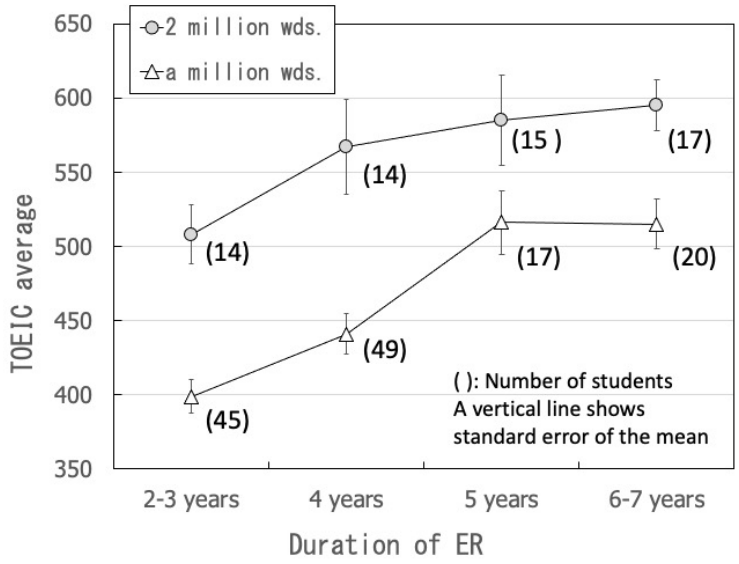


Fig. 2. Average TOEIC scores and the duration of ER

3.2. Insensitivity of the TOEIC scores to the proficiency of basic-level learners

The relation between dictation test scores and the TOEIC scores of the 215 3rd-year students was shown in Figure 3. Both tests were taken by the same students at the beginning of the autumn semester from 2013 to 2017. The correlation of the two scores was nonlinear, and a second-order regression line fitted with the coefficient of determination $r^2 = 0.641$. It can be observed that the TOEIC scores increased with the dictation test scores when the dictation test scores were 55 or higher. On the other hand, the TOEIC scores stayed almost the same when the dictation test scores were lower than 55. In Figure 3, we can see that the TOEIC scores of student B (340) and student C (335) were almost the same. However, the dictation test answers of the two students were quite different. While we could guess the outline of the 94-word narration from student B's answer (54 correct words), we could not from student C's answer (33 correct words). As the TOEIC scores were not sensitive to the English proficiency of CEFR Basic (A1) or lower-level learners, we decided not to use the TOEIC for evaluating the English skills of third-year or younger KOSEN students. We started to use the dictation test instead.

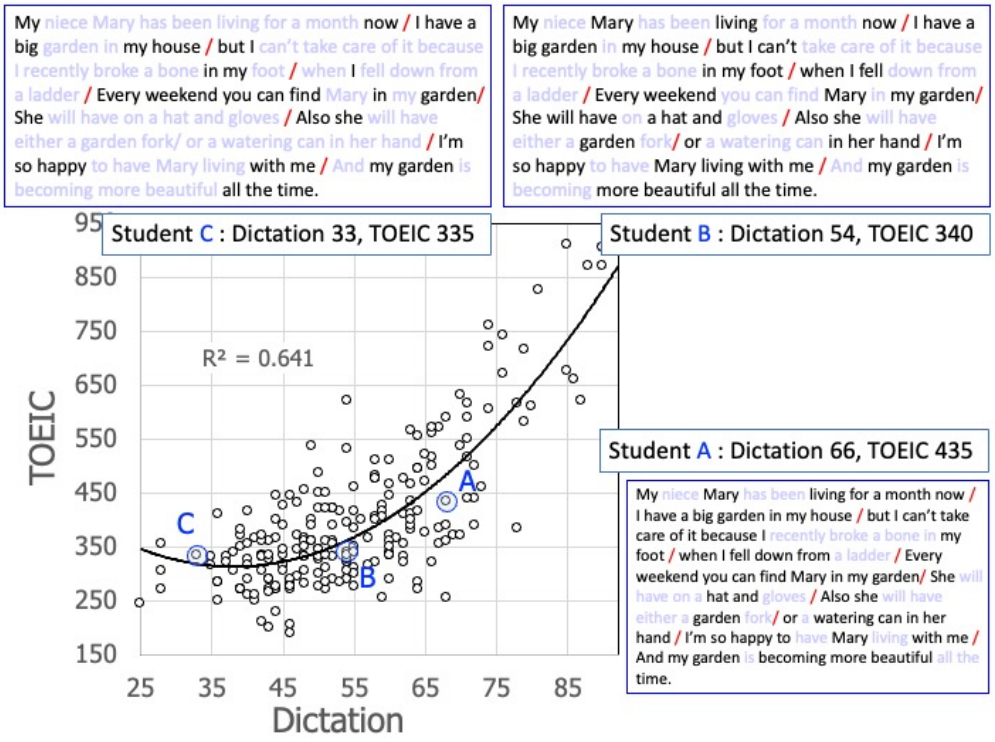


Fig. 3. Correlation between a dictation test score and the TOEIC score

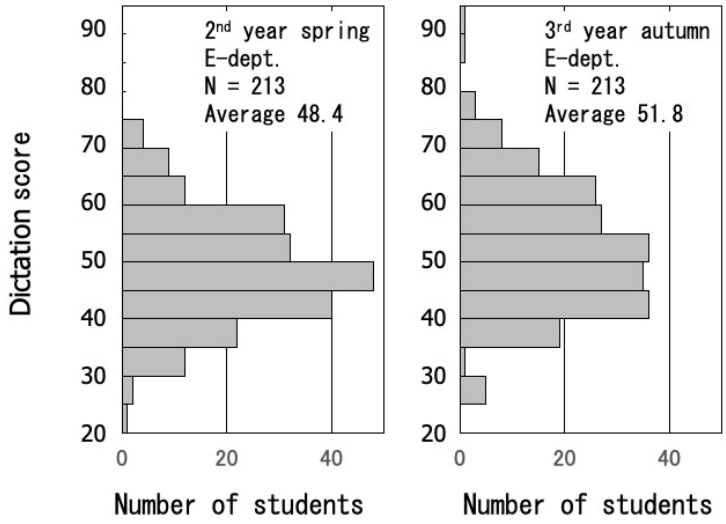


Fig. 4. The change of the dictation test score distribution after 1.5 years of ER

Figure 4 shows two score distributions of the same dictation tests conducted in the spring semester of the 2nd year and the autumn semester of the 3rd year from 2013 to 2017. During the 1.5 years between the two dictation tests, the students of E-dept had 2.5 units (56 h) of ER lessons. The average number of correct words of 213 students increased from 48.4 to 51.8 words, the students' ratio who answered 55 words or more correctly rose from 26% to 38%, and the students' percentage answered correctly 39 words or less decreased from 17% to 12%.

3.3. Combination of ER with the overseas study program

The average TOEIC score of the 5th year students, who had stayed ten months in non-English speaking countries and had read English texts from 0.8 to 1.5 million total words extensively before and after studying abroad, was 593 (Group B in Figure 5), which was almost as high as the average TOEIC score of the 3rd year students, who had stayed ten months in English speaking countries but had not read English texts extensively (Group C). It was also 140 points higher than the average TOEIC score of the 3rd year students who had stayed ten months in non-English speaking countries but had not read English texts extensively (Group A). While 78% of the students' scores in Group A were lower than 500, 73% of the student's scores in Group B were higher than 550. Although one-million-words ER didn't improve the usual students' English proficiency to the level of studying in English-speaking countries, it did enhance the students' proficiency to that level if combined with studying in non-English speaking countries. It also implies that ER similarly affects the students' English ability with studying abroad. Thus, we could call it a virtual study abroad experience.

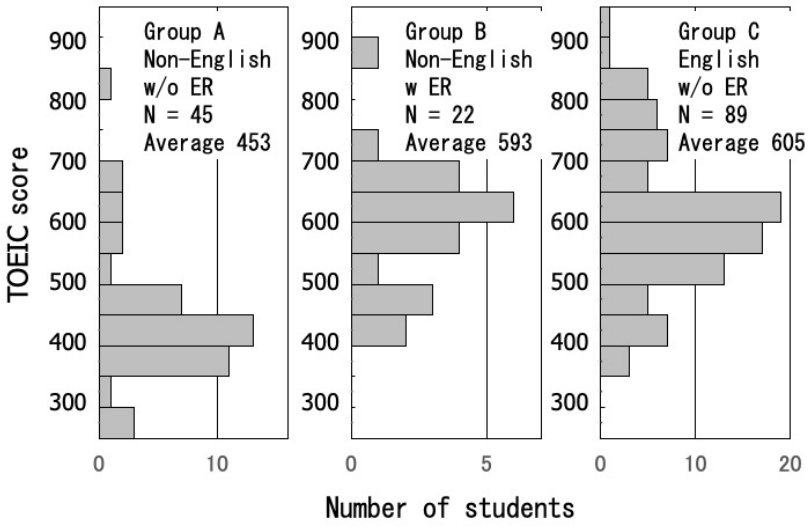


Fig. 5. Comparison of the TOEIC score distributions of the students who studied abroad with or without ER

3.4. The combination of ER with CLIL lessons

The ratio of 4th-year students in 4-depts. who scored 400 or higher on the TOEIC test increased from less than 30% to 40% in 2021 (Figure 6). The change corresponded to the introduction of the CLIL lessons to the 3rd-year students (April 2020-February 2021) and the increased exposure time to the English language from 96 hours to 141 hours. However, this is still lower in comparison to the outcomes of E-dept. students, it is seen as a significant result considering the ratio of 4-depts. students had stayed less than 30% for at least 16 years even after the introduction of the 2-year ER program in 2011. Thus, this change significantly impacted English education in college.

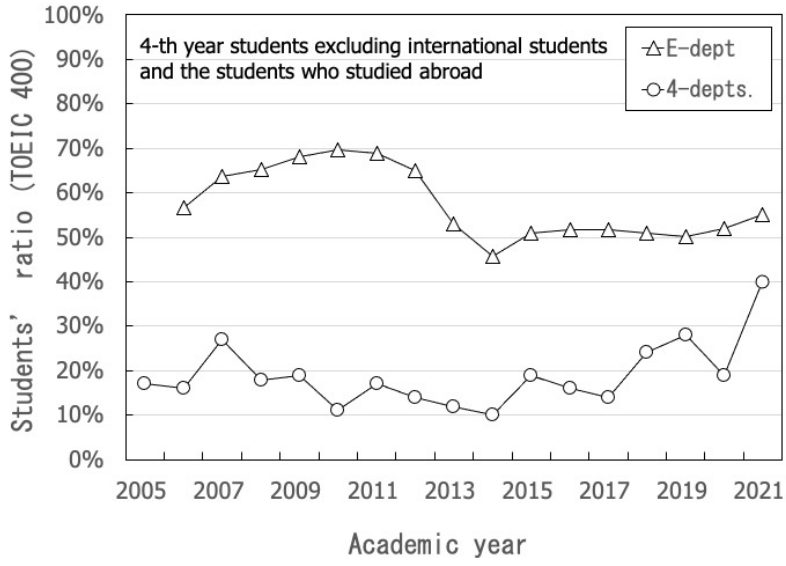


Fig. 6. Ratio of 4-th year students who scored 400 or more in the TOEIC

4. DISCUSSION

The optimum duration of ER for KOSEN students is seven years. The students are expected to get a score of about 600 on the TOEIC test, the lower border of CEFR B1 level, if they read two million words extensively in seven years, as shown in Figure 2. Their annual reading pace is 286,000 words or 39.7 hours if they read the texts with a reading speed of 120 words per minute (WPM). It is achievable with 23 hours of ER, sustained silent reading (SSR) lessons with 77% of additional out-of-the-class reading. Reading two million plus total alpha words in five years was also an option. However, the student's annual reading pace must be increased to a little more than 400,000 words or 55.6 hours with 120 WPM, so the additional out-of-class reading becomes 1.5 times that of in-class reading. On the other hand, to achieve a TOEIC score of 600 in a three-year ER program, the students are required to read a total of three million words, and their annual reading pace becomes a million words or 139 hours with 120 WPM. In this scenario, their additional out-of-class reading requirement becomes five times that of in-class reading.

The reason why a longer duration of ER (>5 years) is more advantageous is not apparent yet. The quantity and quality of the concurrent traditional English lessons in the college have remained the same for a long time, particularly the limited use of English for communication within the class. Positive effects of more extended periods of traditional English lessons are difficult to imagine because the average TOEIC score of 7th-year students of Toyota KOSEN in 2003 was lower than 350 before the introduction of ER lessons. The advantage of longer duration might be explained if language fluency needs time of a few years to improve after continued exposure to the language, such as ER.

Insensitivity of the TOEIC test to English proficiency of CEFR A1 or lower level learners is evident from the analysis of Figure 3. It must be a significant reason the 2.5-year ER program at Toyota KOSEN could not show effectiveness in the TOEIC test (Nishizawa, Yoshioka & Nagaoka 2018). It must be challenging to ascertain the improvement of any educational method in the TOEIC if the expected average score is lower than TOEIC 350. On the other hand, the positive effect of ER could be measured by the dictation test in Figure 4 as the average number of correct words increased from 48.4 to 51.8 words, and 38% of the students' answers exceeded 55 words; at that level, the students English skills could also be measured by the TOEIC test.

The combination of ER and studying in non-English speaking countries is promising. Suppose students read a total of one million words extensively before and/or after studying abroad. In that case, their TOEIC scores can increase to 593, almost the same level as those who studied in English-speaking countries, as shown in Figure 5.

Another method that shows potential in improving KOSEN students' English proficiency is to combine the current two-year ER lessons with CLIL lessons. Although the 45-hour ER lessons for the 4-depts. could not enhance their 4th year TOEIC scores, as shown in Figure 6, partly because of the TOEIC's insensitivity to the lower proficiency, the combination of the ER lessons in the first and second year, and 45 hours of CLIL lessons in the third year did result in the improvement in the TOEIC test at the 4th year as shown in Figure 6. It is, therefore, recommended to continue taking CLIL lessons (45 hours) in the 4th year to improve the student's proficiency in 4-depts. This can allow them to achieve a TOEIC score of about 450, on par with current 4th-year students of E-dept. who had additional two units of ER lessons in the second and third years?

5. CONCLUSIONS

In this paper, we examined the effective methods or combinations of strategies to improve KOSEN students' English proficiency according to the actual educational practice since 2005. The strategy which could achieve 600 in TOEIC was studying in English-speaking countries for ten months, two-million-word ER in seven years, or a combination of one-million-word ER and studying in non-English countries for ten months. The methods which could achieve more than 400 in TOEIC were a 4-year ER program or a combination of a 2-year ER and a CLIL course.

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