BENEFITS OF LONG TERM EXTENSIVE READING PROGRAM IN ENGLISH AS A FOREIGN LANGUAGE

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Abstract

Extensive reading (ER) has been recognized as a promising approach to serve English as a Foreign Language (EFL) learners the opportunities to use the target language regularly and to improve their language proficiency. However, elementary-level EFL learners had to read a huge amount of books to enjoy the benefits from ER and needed a guideline for how much books they should read. Thus, this study aimed to show the guideline to elementary-level EFL learners based on the practice in a longitudinal ER program, where 103 learners had read more than a million total words of easy-to-read English texts in and out of class during their stay in the program. The subjects were Japanese Engineering students aged 15 when they had joined the program after receiving three years of formal English education in junior high school. They took at least a 45-minute weekly ER lesson for 30 weeks in each academic year along with several concurrent traditional English lessons, and stayed in the program for five years (Group A) or seven years (Group B). Their median TOEIC score was 384 or 441 when they had read a million words, and median score increase rate was 124 or 166 points per one million words. With these values, their English proficiency was estimated to reach 600 in TOEIC when they would have read 2.7 or 2.0 million total words of easy-to-read English texts. The score increase rate was three times as high as our former study with pioneer students. Seven years were confirmed to be a feasible duration for an ER program if it hoped to ensure that lower elementary EFL learners in the program improved their English proficiency to intermediate levels.

Keywords: *extensive reading, English as a foreign language, long term, total words read, readability, TOEIC*

1. INTRODUCTION

Japanese learners of English have long been suffering their low communicating skills in English even though they learned English for six years or more in school, and supposed to have sufficient knowledge of English grammar and vocabulary along with translation skill of English texts into Japanese. The institutional program of the TOEIC in 2016 reported that 32% of the test-takers scored between 395 and 540 and 39% scored 390 or lower (IIBC 2017). If the communication skills of the former group (TOEIC 395 - 540) was estimated as upper elementary level (A2) and the latter group (TOEIC 10 - 390) as lower elementary level (A1 for TOEIC 245 - 390) or beginner level (lower than A1 for TOEIC 10 - 240) based on the Common European Framework of Reference (CEFR) classification, many Japanese students in high school or college were estimated to be at elementary or beginner levels, although the lower border of elementary level was rather difficult to relate to TOEIC scores because TOEIC scores lower than 350 were insensitive to the test takers' communication skills.

Japanese students' lower TOEIC scores were the result of lower fluency caused by their strong translation habit. Because Japanese learners did not use English in daily life, they had little experience of actually reading English texts without translation or of listening English narrations with instant comprehension. Their *reading* often meant translating English texts into Japanese ones word by word, and they did not believe it possible that they were able to comprehend English texts without translation. Conversation in English was often disturbed because they hardly comprehended what they were told immediately. When they needed to *speak* in English conversation classes, they simply

repeated the known patterns or struggled to translate their idea from Japanese into English on the spot, resulting mostly in uttering a few words but not a meaningful sentence. Stephens (2015) had observed the mental struggle of her students when responding to her in English, and speculated that this was because of the preponderance of the *yakudoku* (grammar-translation) method in their formative years of learning English. Sakurai (2015) examined the influence of translation on ER of 70 Japanese university students and found that less translation accompanied with higher comprehension, faster reading rate, and more total words read extensively. Lower reading rate of the students who translated was understandable because translating while reading was a demanding activity that needed concentration to handle two languages simultaneously and consumed a large part of reader's mental resources.

ER was thought to be a promising approach to overcome the obstacles of Japanese EFL learners as Grabe (2009: 311-312) described the ability to read extended texts for long periods of time 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" and ER as the way to ensure the goal. A wide range of learning benefits and issues of ER for English as a second language (ESL) and EFL learners had been summarized by Day and Bamford (1998), Elley and Mangubhai (1983), Grabe (2009), and Waring (2001). It had decades of history used among European learners, and graded readers (GR) had been well organized as reading materials. Studies in EFL settings also showed various benefits of ER, such as higher reading comprehension (Robb & Susser 1989; Robb & Kano 2013; Tanaka & Stepleton 2007), causing positive attitude to reading (Yamashita 2013), improving reading fluency (Beglar, Hunt & Kite 2012), and increasing scores in a standardized test (Mason 2004). A big obstacle for Japanese EFL learners, however, was that even the easiest GR were not easy enough for them to read without English-Japanese translation possibly because of the strong influence from traditional teaching approach based on grammar-translation and of larger linguistic distance between English and Japanese than the ones of English and European languages.

Sakai (2002) made two epoch-making proposals to ER for Japanese EFL learners, to read a million total words of English texts and to start ER from very easy-to-read picture books according to his three golden rules: dispose dictionaries when you read, skip unknown words, and stop reading the texts you cannot enjoy. Inspired by the Sakai's proposals, Furukawa et al started practicing Starting with Simple Stories (SSS) method, composed a book guide (Furukawa et al 2005), and defined a readability scale Yomiyasusa Level (YL) for Japanese EFL learners.

The YL is partially based on objective measures such as headwords, grammatical complexity, or text length, but also on subjective measures such as how easy typical Japanese adult EFL learners find the story (Eichhorst & Sheron 2013: 8). The lowest YL 0.0 is assigned to the easiest book that often includes no words other than the title, the highest YL 9.9 is to the most difficult book to read, and the YL of GR is ranged from 0.8 to 6.0. The estimated YL for English course book ranged from 0.5 to 1.5 for junior high school students and from 2.0 to 3.3 for senior high school students in Japan (Fujii 2017).

Negishi (2015) found a wide gap of readability between the course books of junior and senior high schools, which was estimated to be between YL1.5 and 2.0 (Fujii 2017). Fujii (2017) also proposed ER of this readability range (YL 1.5 – 2.0) as an effective compensation fulfilling the gap existing in Japanese English education. Japanese ER practitioners also pointed out the importance of periodical Sustained Silent Reading (SSR) in regular lessons for elementary EFL learners, who did not have the habit of reading English books continuously (Takase & Nishizawa 2010). These movements encouraged some adult learners to transform their reading style from translating every English word into Japanese counter part, to trying to comprehend the English texts for grasping the main idea directory from English texts. The movements also helped EFL learners of elementary language skills to start their ER from picture books with short and easy-to-read sentences.

Even after these movements, however, ER did not become a popular practice in Japanese English education possibly because there still existed a gap between research and practice. Even though Gradman and Hanania (1991) reported University ESL students' TOFEL scores were most strongly

correlated with extra-curricular reading among 44 language-learning factors, it obviously required large amount of reading and long duration as Day and Bamford (1998, viii) stated as "an approach to the teaching and learning of second language reading in which learners read large quantities of books and other materials that are well within their linguistic competence." Japanese teachers and learners were wondering if the benefits were large enough for them to alter the current teaching/learning practices. They were especially uncertain how those reported benefits were transferred to their students' academic performance at school, or scores at high-stake examinations or standardized tests. They also needed to know the quantity and quality of their students' effort to enjoy the benefits, in other words, how many total words elementary EFL learners should read from which readability levels.

There were several studies, where the effect of ER was measured quantitatively with standardized tests. Mason (2004) evaluated the effect of ER with reading section of the TOEIC. 104 Japanese college students major in English had read about 500 thousand words in three semesters (1.5 years). 88 students' TOEIC/Reading scores were measured as pretest and posttest, and the average was 121 and 157 respectively. If we assume the same score ratio of reading part and total score: 0.446 (123.64 / 277.26) was kept, their TOEIC total scores were estimated to be 272 and 353 respectively (increase of 81 points or increase rate of 40 points per a million words). Nishizawa, Yoshioka and Nagaoka (2018) studied the effect of a 2.5-year long ER program, where 129 elementary-level EFL learners were divide into seven groups depending upon the total words read by the members and the average TOEIC scores were compared. Only the average score 350 of the most-read group, whose median words was 601 thousand words, was significantly higher than the average scores 260-323 of the other less-read groups. Because the average TOEIC scores 353 of Mason (2004) and 350 (Nishizawa, Yoshioka & Nagaoka 2018) belonged to lower elementary (CEFR A1) level, theses study revealed that larger amount than 600 thousand words should be read by elementary EFL leaners to show distinct improvement in the TOEIC test scores. Elementary EFL learners might need to read more amount for graduating from their translating habit and transferring their reading style to direct comprehension, as Nishizawa and Yoshioka (2015) reported their students felt that they could read English texts fluently when they had read 821 thousand words in 4.0 years, and also felt that they could avoid Japanese in reading English texts when they had read 876 thousand words in 4.3 years in average. Their slowest learners answered that they needed 6.5 years to feel that way. ER program for elementary EFL learners must consider the Sakai's (2002) first proposal, a million total words should be read, seriously.

Several educators in Japan (Furukawa, 2008; Furukawa, 2011; Kanda, 2009) agreed the necessity of reading a few million total words, and the effect of reading near to or more than a million words was measured by standardized tests such as the TOEIC (Mason & Krashen 2017; Nishizawa, Yoshioka & Fukada 2010; Nishizawa, Yoshioka & Ichikawa 2017). From these studies we could calculate the score increase rate, and estimate the necessary amount that should be read by elementary EFL learners.

Nishizawa, Yoshioka, and Fukada (2010) reported that 11 Engineering students in their 4-year-long ER program increased their TOEIC scores linearly at the rate of 40 – 46 points per a million words after they had read more than a million words, and estimated that the five middling competent students among them needed to read two million words to score 500. If we were to expect the students in an ER program to increase their TOEIC scores with this rate from 350: lower elementary (CEFR A1) level to 600: lower intermediate (CEFR B1) level, they would need to read about six million words, or they would need to read for 1,000 hours with a reading rate of 100 words per minute (WPM). This daunting amount was one of the toughest obstacles of introducing ER in Japanese EFL settings.

Mason and Krashen (2017) reported higher increase rate with eight adult EFL learners, whose initial average TOEIC scores ranged from 220 to 705 with 495 in average (CEFR A2). They increased their TOEIC scores with 0.6 points per hour in average, meaning the increase rate of 100 points per a million words with a reading rate of 100 WPM, which shrank the necessary time to 417 hours or necessary amount to three million total words for increasing TOEIC score from 350 to 600.

Nishizawa, Yoshioka, and Ichikawa (2017) reported students' TOEIC score increases in a 7-year long ER program. 13 Students had read 1.3 million words in median with a yearly pace of 186 thousand

words, and their average TOEIC score increase from 348 (CEFR A1) in the third year to 548 (border of CEFR A2 / B1) in the seventh year. The increase rate of 154 points per a million words was the highest rate among these studies although the subjects spent seven years to receive the benefit. The authors claimed the advantage of longer ER programs continuing six or seven years upon shorter ones of three years for elementary EFL learners. Obvious limitation of these three studies, however, was their small sample sizes, and a study of larger scale was needed.

Another aspect for ER we should consider in EFL settings was the readability of English texts. Sakai's (2002) second proposal for Japanese EFL learners was to start ER from series of leveled picture books for English speaking children, such as *Step into Reading, Step 1* (SIR1, YL 0.0 – 0.2), which were designed to invite L1 children to reading and were far easier-to-read books than the starter-level of GR (See Appendix). The book guide (Furukawa et al 2005) thus included the *Oxford Reading Tree* series (ORT), *Foundations Reading Library* series (FRL), and starter levels of GR. Many ER programs in Japan were guided by the recognition "Even if a student knows all the words of a text in their decontextualized forms, it is still possible that the student may not comprehend that text" as McLean (2014) stated.

Nishizawa and Yoshioka (2011) observed that students in their ER program were reading GR of headwords fewer than 600 (YL ≤ 2.0). The books they were reading were far easier than the standard books for ER in ESL settings, edited by Edinburgh Project on Extensive Reading (EPER) (Hill 1997, cited in Day & Bamford 1998: 173-212). They argued that *Oxford Bookworms* Stage 1 (400 headwords) was a standard book-series read by their students whose TOEIC scores were around 450 (CEFR A2) in their program and it was too difficult for lower elementary EFL learners (TOEIC ≤ 390, CEFR A1) to read extensively with sufficient comprehension. Takase (2008) showed the positive effect of reading an average of over 100 very easy-to-read books (YL 0.0 – 1.0) at the beginning of her ER program on Japanese university students. Furukawa (2011) suggested that Japanese EFL learners should read at least 100 thousand words before finishing YL 1.0 (*Oxford Reading Tree* Stage 9), which was as easy as Takase's easy-to-read books (2008).

Nishizawa, Yoshioka and Nagaoka (2018) examined the reading records of nine students, who had read around 420 thousand words in their 2.5-year long ER program, and observed that total words of *easy-to-read* books (YL ≤ 1.1) and especially total words of the easiest GR (YL 0.9 – 1.1) read by the students were positively correlated with their TOEIC scores, but total words of more difficult GR (1.5 ≤ YL) were negatively correlated with their TOEIC scores. According to this observation, they suggested elementary EFL learners should read more than 200,000 words from easy-to-read books (YL ≤ 1.1) in their first 400,000 total words.

Reminding two requirements for elementary EFL learners: more than a million total words and far easier books, we set the following research questions in this study.

1) How many words should average elementary EFL learners read extensively to improve their English proficiency from TOEIC 350: lower elementary (CEFR A1) level to 600: lower intermediate (CEFR B1) level?

2) How many years should an ER program for elementary EFL learners have the duration for the average students to achieve TOEIC 600? Does a 7-year ER program have an advantage over on the 5-year counterpart?

3) From which readability levels should we recommend elementary EFL learners (CEFR A1 & A2) to read especially when they had read 400,000 total words and were to read until a million words?

We followed the students' reading records and used their TOEIC scores to draw a regression line between the total words read and TOEIC score for elementary EFL learners, and we also examined their reading records trying to find the optimum mix of reading materials.

2. METHOD

2.1. Reading Materials and a guideline

Typical books used in this study were GR from major English publishers, leveled readers (LR) for English speaking children, and easiest-to-read picture book series such as Oxford Reading Tree (ORT) series or Foundations Reading Library (FRL) series (see Appendix). The ER program was conducted by the following guideline:

1) GR of starter and beginner levels were more suited to the learners than the ones of intermediate or advanced levels, and further easier-to-read ORT or FRL were the indispensable series for most Japanese EFL learners to start their ER;

2) Without reading these easiest-to-read picture books, many EFL learners could not stop their translating habit from traditional approach, and thus could not continue their ER for a long enough time to improve their reading skills;

3) ORT was the most popular series read by the first-year students who had not believed that they could really read English texts without translation; With the help of pictures, very few unknown words, and a whole new world told by more than 200 books, they could transform their reading style gradually from word-for-word translation to direct comprehension of the stories.

In an introductory lesson of such ER program, the instructors often asked the students to look at the pictures closely, sometimes by hiding the English texts at the first round, and to try to have a visual image of the story in their mind. With this visual image, the students were guided back to the first page, and to read the whole book again by paying more attention to the text this time to understand the story more in detail. After this introduction, many of them understood that the method was quite different from the "reading" they had learned in traditional English lessons, started to read picture books with interest, and tried to avoid English to Japanese translation.

For this transformation of the reading style, a large number of picture books, hopefully sharing the same background such as ORT or FRL, were necessary for the first stage of ER. In this stage, the instructors recommended the students to read more than 100,000 words from 300 or more picture books. Those picture books were always ready to use in the CALL room, where the ER lessons for the first-year students were conducted, and also in the college library for their independent out-of-class reading.

When a student felt it easy to read ORT (stage 7) or FRL (level 3), it was the right time for him to start reading GR of starter level along with more picture books, where each of those books told an independent story in a short text of 1,000 words or fewer with easy English of YL 0.8. Because of this independence, the reader must redefine the whole world of the story every time without the background knowledge supplied by the previous books in the same series. In this second stage of ER, short and easy-to-read English texts were indispensable, and beginner and elementary levels of GR were suited for the purpose. The instructors recommended EFL learners to read additional 100,000 – 200,000 words from GR of YL0.8 – 1.5. Starting ER from GR of higher YL by bypassing these two steps often caused typical failure of giving up ER in a short duration. They could not unlearn their translating habit, tried to tackle with difficult stories to understand, hardly enjoyed reading, and finally gave up reading any English books.

In the third stage of ER, text length exceeded 5,000 words. It was longer than the texts read in the first two stages, whose text length were from several hundred to 4,000 words, with the majority from 1,000 to 2,000 words per book, and could be read easily in an ER lesson of 45 minutes. Because longer texts read in the third stage took an hour or more to complete, they were likely to be read not in one occasion but in plural separate occasions. Reading a book in separate occasions was easily achieved in the mother tongue, but it was a challenge to EFL learners who had to remember the former part of the story when they started to read the continuation and was required deeper understanding of the story. We usually recommended EFL learners to read a million total words of texts of YL 3.0 or easier before graduating from this stage, and became autonomous readers.

The third stage was the most difficult stage to overcome (Furukawa et al 2007), and even the earnest adult EFL learners took slower average reading pace (40,000 words/month) than the first stage (136,000 words/month) or after reading a million words (134,000 or more words/month). One possible cause of difficulty in the third stage was expressed as "easy-to-read books become rather boring, but interesting books are still difficult to read". Finding favorite series, authors, or genres might be a general suggestion to the learners in this stage, but actual advice for each learner must differ from person to person. The reading records of the students often helped the instructors to give customized recommendation to each student.

2.2. Subjects and ER lessons

The subjects of this study were the students of an Engineering department in a college belong to National Institute of Technology (NIT), Japan. They were all Engineering majors learning English in an EFL setting and had received three years of formal English education in junior high school before joining the ER program in 2003 or later academic years. Among all 488 students who were the third year students from 2005 to 2015 academic year, 86 students who had studied abroad for more than half a year and five visiting Asian students were excluded from this study because their English proficiency was obviously higher by the other reasons than ER. 32 students who scored 500 or higher at the initial TOEIC test they took in the third year were also excluded from the same reason. The remaining 365 students' initial TOEIC scores were lower than 500 and their English proficiency were thought to be in elementary (CEFR A1 & A2) or beginner levels at their third year.

They had from three to six units of 45-minute weekly English lessons in each academic year as shown in Table 1. Among these lessons, one or two units were dedicated to ER and other units were taught with traditional approach, mostly based on grammar-translation method. The students of group A stayed in the program for five years from the first to the fifth, and the students of group B stayed for whole the seven years. The ratios of ER lessons were 30 – 35% for group A and 29 – 32% for group B.

Year	1st	2nd	3rd	4th	5th	6th	7th	Total	
Traditional	5	3	3	4	0 – 3	2	2	19 – 22	
ER	1	2	2	1	1	1	1	9	(29 – 32%)

* one unit is a 45-minute weekly lesson for 30 weeks or a 90-minute weekly lesson for 15 weeks

Table 1. English lesson units the subjects took

2.3. ER activities and reading log

Main ER activity was SSR, plus some shadowing, and reading while listening (RWL). Shadowing was conducted mostly at the first year for the students to familiarize English sound and *longer* English texts. It was a mandatory activity for the first year students. RWL was a practice to read English texts along with listening to audio narration of the text mostly done by the second and third year students. The readers were not supposed to pose or interrupt the narration and were force to read the text at the same speed of the narration. They comprehended the story mainly from the texts but not from the narration. The narration set the reading pace, and was expected to protect the students from their habit of translating English texts into Japanese. It made a good introduction to ER, but RWL was not a mandatory but an elective activity.

ER activities took place in the CALL room, which stored 2,000 introductory books for ER and accompanying audio CDs and the college library, which had about 36,000 books for ER and 2,000 sets of audio CD. The CALL room was a more convenient place for shadowing but it was not suited to promote out-of-class reading because it lacked the checking out system of books. Students had to visit the college library in their recesses or after the lessons to borrow the books from the library. The college library was the better place for ER lessons of older students who were able to select their

appropriate books to read by themselves. Although the students were encouraged to read also out of the class especially during long holidays, actual amount read differed widely from student to student.

All the ER students had recorded their reading histories in and out of the class in their reading logbooks, which were periodically reviewed by the instructors. The record contained the date, title, series name, YL, word count of the book, cumulated word count, 5-graded subjective evaluation of the story, and short comment describing what the students thought about the story or how they felt about their reading. The comment often told how the students enjoyed the reading or if the book was too difficult for them. Length of the comments ranged from two to three Japanese sentences to one word or none at all. The students were also suggested that they should write a record for several books together if the books were too short or the YL was lower than 0.6 to avoid spending too much time only for recording. After the program had finished, logbooks of some students were analyzed thoroughly to examine when and how the students had read during the program.

2.4. Evaluation and analysis

The students from second to seventh year took a reading comprehension test in every half a year using the English texts shown in Table 2. In the tests, students were asked to answer ten questions asking the story told in the text after reading it in the limited time calculated by a reading rate of 100 WPM. They were not allowed to take note while reading, and they had to answer the question after the text was removed. Instead, the questions and students' answers were written in Japanese, so the students with limited productive skills in English could manage to describe their answers. The test was designed to know if the students were reading with comprehension without less translation into Japanese. Typical test takers who translate texts while reading could not read the whole text during the time limit. Reading texts with more than 3,000 words was too long to translate for them even if the text was written with simple grammar and easy words. The students who failed to answer 60% correctly in a test were strongly recommended to read easier books than they were reading at the time. Thus, they were guided to read books of their optimum readability levels afterwards. The YL for the second year students was set to a lower level and the first year students were not evaluated by the test because younger students were not ready for the test.

Year	1st	2nd	3rd	4th	5th	6th	7th
YL	–	1.2	2.2	2.6	3.2	3.6	4.5
Words	–	3,000	4,500	5,000	6,000	7,500	9,000

* reading time limit is calculated by 100 words per minute

Table 2. English texts for reading comprehension tests

All the subjects took the TOEIC test in the middle of their third year as initial TOEIC test, and took at least three TOEIC tests altogether before and after they had read a million total words. From the date of the tests and total words at the tests recorded in student's reading log, we analyzed the relation of each student's total words and TOEIC scores to estimate the expected TOEIC score when they were reading a million words and increase rate of TOEIC score upon total words read. As the measure of the students' English proficiency, we used the total score of TOEIC because both scores of reading section and listening section increased in balance in the past studies (e.g., Nishizawa, Yoshioka & Fukada, 2010).

3. RESULTS

Among all the 365 subjects in this study, who stayed in the third year from 2005 to 2015 academic years, 241 students (66%) read more than a million total words during their stay in the program. 103 students took at least three TOEIC tests before and after they had read a million words, so that their

TOEIC score increase rate at around a million words were calculated from their regression lines between total words read and TOEIC scores. The 103 students were composed of 70 students, which were 21% of the students in the 5-year program (Group A), and all the 33 students in the 7-year program (Group B) as shown in Table 3. The average values in Table 3 were represented not by mean but by median because data distributions was asymmetrical and skewed to higher values with long tail by a few large data points.

(median ± standard deviation)	Group A	Group B
Number of students	70 (21%)	33 (100%)
Duration of ER (at the last TOEIC)	3.74 ± 0.65 years	6.44 ± 0.67 years
Total words read (at the last TOEIC)	1.43 ± 0.81 million words	1.40 ± 0.92 million words
Reading pace (words / year)	386,000 ± 252,000 words	237,000 ± 151,000 words
initial TOEIC (at the middle of the 3rd year)	385 ± 55	360 ± 49
Estimated TOEIC at a million words*	384 ± 76	441 ± 61
Last TOEIC	475 ± 91	550 ± 66
TOEIC score increase rate* (points / a million words)	124 ± 78	166 ± 91
Estimated total median words read to score TOEIC 600	2.74 million words	1.96 million words

* calculated from the regression line of a student's TOEIC scores and the total words read at the time

**Table 3.** Total words read and TOEIC scores of the students

Because group A consisted of fast readers (21%) of the 5-year program, who supposed to be reading more books out of class, their median yearly reading pace was 63% higher than the one of Group B students. They had read almost a million words in 2.5 years and median 1.43 million total words in 3.74 years. Their median TOEIC score increase rate was 124 per a million words, and their estimated total words to score TOEIC 600 was 2.74 million words. The students of Group B had read with slower pace of median 1.40 million words in 6.44 years. Their median TOEIC score increase rate was 166 per a million words, and their estimated total words to score TOEIC 600 was 1.96 million words.

Figure 1 shows the students' number distribution of the estimated TOEIC scores when the students read a million total words, each of which was calculated from the regression line of a student's TOEIC scores and the total words read at the time. Even after reading a million total words, more than a half (37 / 70) students of Group A stayed in lower elementary or beginner levels (TOEIC ≤ 390) while most (30 / 33) students of Group B advanced to upper elementary or higher levels (TOEIC > 390). The median TOEIC score 384 of Group A is almost the same as the initial TOEIC score because their median reading pace was 386,000 words per year and many had almost read a million words at the initial TOEIC test in the third year of the program. On the other hand, many students of Group B were in the fifth year or later years when they had read a million total words.
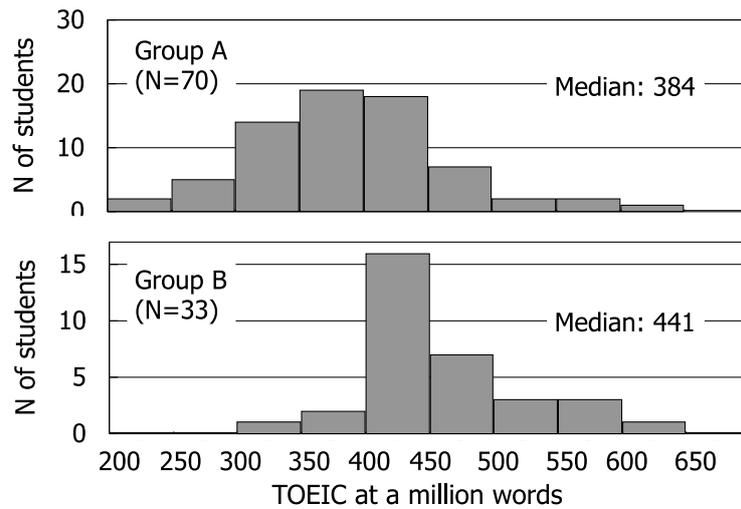
Figure 1. Distribution of the estimated TOEIC scores when the students had read a million total words

Figure 2 showed the students' number distribution of the TOEIC score increase rates, each of which was calculated from the regression line of a student's TOEIC scores and the total words read at the time. The median TOEIC score increase rate of Group A was 124 per a million words, and the rate of Group B was 166 per a million words. Group A had nine students (13%) whose score increase rate was lower than 50 per a million words while Group B had only one student (3%). And the average increase rate 178 per a million words of group B was significantly higher than the average increase rate 134 per a million words of group A ($p < 0.01$).
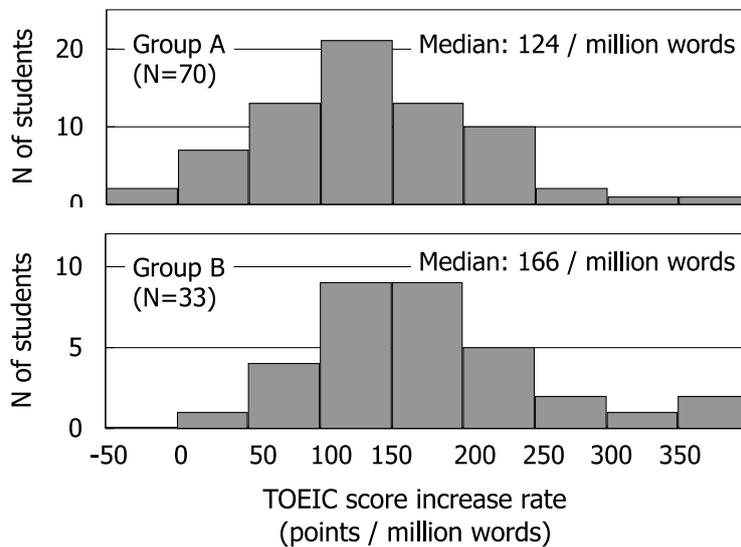
Figure 2. Distribution of the TOEIC score increase rates at around a million total words

To examine the influence of readability levels of English texts the students had read, we analyzed the reading logbooks of 29 students, who had left complete reading records including title name, YL and word count. Their average TOEIC score at a million total words and score increase rate were not significantly different from those of all the 103 students (Table 4).

Students	Number	TOEIC at a million words median ± standard deviation	Score increase rate median ±standard deviation (/ a million words)
All	103	418 ± 77	134 ± 84
Who left complete reading records	29	425 ± 55	133 ± 76

Table 4. TOEIC score at a million words and score increase rate of selected students

Table 5 showed the 29 students' YL-layered average words distribution when they were reading between 400,000 and a million total words. Three students, who had lower TOEIC score increase rate than 50 per a million words, were separated from Group A. As a result, the remaining students were 17 from Group A and nine from Group B. The YL-layered words distributions of Group A and Group B looked alike. Three students with lower TOEIC score increase rate, however, had different distribution from the other students. They were reading more texts from YL 2.1 – 2.6 range but less texts from ranges YL 0.6 – 1.1, 1.2 – 1.4, and 1.5 – 2.0.

YL range	Typical series in the YL range	YL-layered average words (thousand)		
		Low rate (N = 3)	Group A (N = 17)	Group B (N = 9)
2.7 – 3.6	MMR3, PGR3, OBW3, MMR4, CER3	122	108	87
2.1 – 2.6	PGR2, OBW2, CER2	271	173	165
1.5 – 2.0	MMR2+, OBW1	178	196	207
1.2 – 1.4	FRL7, MMR2, CER1	22	83	85
0.9 – 1.1	ORT9, FRL4-6, OBW0, CER0, PGR1	7	32	34
0.6 – 0.8	ORT6-8, FRL1-3, MMR1, PGR0	3	10	19
0.3 – 0.5	ORT3-5	0	1	3
0.0 – 0.2	ORT1-2	0	0	0

Table 5. YL-layered distribution of words read when students were reading between 400,000 and a million total words

4. DISCUSSION

The median TOEIC score increase rate of Group A, 124 per a million words is three times of 40 – 46 per a million words of the 11 pioneer students (Nishizawa, Yoshioka & Fukada 2010). However, the estimated amount to be read to score 600 in TOEIC, 2.74 million words is still a tall order to achieve. If students want to reach the proficiency level in five years, they have to keep reading 548,000 words every year for the duration. Although the yearly reading pace is only 14% more than the struggling pace of earnest adult EFL learners (480,000 words per year) reported by Furukawa et al (2007), it is 42% more than the actual reading pace of Group A, the students already reading more than the classmates, and twice of 270,000 words per year, which can be achieved with reading rate of 100 WPM using 30 SSR lessons of 45 minutes plus the same amount of out-of-class reading. Only highly motivate and hard working students can continue this reading pace for five years.

On the other hand, 1.96 million total words in seven years is a more feasible target with the yearly reading pace of 280,000 words. It is a reading pace 18% higher than the actual reading pace of Group

B in this study, and only 4% higher than of the 270,000 words per year. Out of class reading should be increased, of course, but not so much more. Thus, the answer to our first question is that average elementary EFL learners are recommended to read 2 million total words in seven years if they want to improve their English proficiency level from TOEIC 350 to 600. And the answer to our second question is that seven years is an obvious and feasible duration for an ER program to ensure that the most students in the program achieve the goal.

As the suggested seven years may be an unachievable duration for an ER program based on Japanese educational institution whose duration is usually shorter than five years, it implies the necessity of inter-institutional cooperation of connecting two ER programs for longer duration or designing a lifelong learning ER program in EFL settings. For example, some public libraries have shown that they are the potential bases for lifelong ER of EFL learners if they provide with appropriate books for ER and cooperate with ER practitioners in the region to guide adult learners through the enjoyable world of ER (Nishizawa 2015).

Recommended readability levels for elementary EFL learners in former studies were confirmed in this study. If EFL learners have read their first 400,000 total words including a half of them from easy-to-read books (YL ≤ 1.1) as Nishizawa, Yoshioka and Nagaoka (2018) suggested, the learners are expected to read more challenging books of YL range 1.5 – 2.6 afterwards until they read a million total words as the students in this study. However, they are also recommended to keep reading more than 100,000 words of easier-to-read books of YL range 0.6 – 1.4, thus the learners can avoid the possible low rate of TOEIC score increase rate. The reading style of the three students in Table 5 is the obvious counter example, which EFL learners should avoid. Occasional reading of easier-to-read texts are recommended because we presume that helps EFL learners to stay away from their translation habit and to read with higher comprehension until they feel that they can avoid Japanese in English texts and read English texts fluently when they are reading almost a million total words as Nishizawa and Yoshioka (2015) suggested.

According to this recommendation, we will suggest that lower elementary level (CEFR A1, TOEIC < 390) EFL learners avoid reading books from Oxford Bookworms Stage 1 series (OBW1, YL2.0, 400 headwords, 5,200 average word count) or books of higher YL when they are in their first few years in an ER program and their total words read are less than 400,000 words. It must be hard for them to keep reading the books without translating large part of the English texts into Japanese. The series is only recommended to the students of higher elementary learners (CEFR A2, TOEIC > 395), who have already read sub million words of easy-to-read English texts extensively, with additional reading of easier-to-read books, for example, from Cambridge English Readers Starter level (CER0, YL1.0, 250 headwords, 2,200 average word count) or Richmond Robin Readers level 1 (RRR1, YL1.4, 300 headwords, 3,500 average word count) time to time between the reading books from OBW1 series.

We have to point out that vocabulary cannot be the main reason of the students' TOEIC score increase of elementary EFL learners in this study. The subjects had already learned nearly 1,000 fundamental English words during the three years of English education before they joined the ER program, and the books they were reading in the ER program were GR with less than 1,000 headwords or much easier picture books, which also did not include those words often used in the TOEIC tests. Thus we cannot expect the learners to acquire new vocabulary words from the readings in the program even though they were getting richer nuances and deeper understandings of known words. More possible cause of score increase may be the learners' improved fluency in listening and reading and being able to avoid English-Japanese translation.

We also would like to point out that the word count of the book or the text length may have critical role for lower elementary EFL learners (CEFR A1), who have strong habit of translation. For example, although both OBW1 and CER1 series have the same headwords: 400, OBW1 (5,200 average word count) is more difficult to read than CER1 (4,300 average word count) for the second year students in the ER program. Some described how they felt when they had read a brook from OBW1 series as 'I was exhausted when I had finishes this book because I had to concentrate to read the longer text.'

We do not know the reason why the students in the 7-year long program with lower yearly reading pace (Group B) showed higher TOEIC score increase rate than the students in the 5-year long program with higher yearly reading pace (Group A) in this study. Readability of the books the students had read do not explain the difference because they are similar in both groups as shown in Table 5 except the one of the three students with lower score increase rate. We only suspect that reading experience needs a certain period, maybe more than several months, to sink in and to improve the learners' fluency in EFL settings. Thus the learners with slower yearly reading pace may have longer period to enjoy their reading with improved fluency and deeper comprehension in the later years of their ER program.

5. CONCLUSIONS

In this study, 103 elementary EFL learners had read more than a million total words of easy-to-read English texts in and out of class during their stay in the ER program. The subjects were Japanese Engineering students aged 15 when they had joined the program after receiving three years of formal English education in junior high school. They took at least a 45-minute weekly ER lesson for 30 weeks in each academic year along with several concurrent traditional English lessons, and stayed in the program for five years (Group A) or seven years (Group A). Their median TOEIC score was 384 or 441 when they had read a million words and median score increase rate was 124 or 166 points per one million words. With these values, their English proficiency was estimated to reach 600 in TOEIC when they would have read 2.7 or 2.0 million total words of easy-to-read English texts. The score increase rate was three times as high as our former study with pioneer students who had also read more than a million total words. Seven years were confirmed to be a feasible duration for an ER program if it hoped to ensure that lower elementary EFL learners in the program improved their English proficiency to intermediate levels.

ACKNOWLEDGMENTS

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APPENDIX

Readability scale YL and headwords of typical book series for ER in EFL settings

YL[*]	Headwords	Typical Series	Text length (Words)
0.0 – 0.2		Oxford Reading Tree Stage 1-2 (ORT1-2)	0 – 90
		Step into Reading Step 1 (SIR1)	50-150
0.3 – 0.5		Oxford Reading Tree Stage 3-5 (ORT3-5)	70 – 370
		Penguin/Puffin Young Readers Level 1 (PGY1)	80 – 450
0.6 – 0.8		Oxford Reading Tree Stage 6-8 (ORT6-8)	440 – 1,300
		I Can Read Level 1 (ICR1)	100 – 900
		Oxford Classic Tales (OCT1)	400 – 1,000
	75 – 150	Foundations Reading Library Level 1-3 (FRL1-3)	500 – 1,000
	200	Penguin Readers Easystarts (PGR0)	900
	300	Macmillan Readers Starter (MMR1)	700
0.9 – 1.1		Oxford Reading Tree Stage 9 (ORT9)	1,400
	200-300	Foundations Reading Library Level 4-6 (FRL4-6)	1,800
	250	Oxford Bookworms Starter (OBW0)	1,300
	300	Penguin Readers Level 1 (PGR1)	2,400
	250	Cambridge English Readers Starter (CER0)	2,200
1.2 -1.4	350	Foundations Reading Library Level 7 (FRL7)	2,700
	600	Macmillan Readers Beginner/Originals (MMR2)	2,800
	300	Richmond Robin Readers Level 1 (RRR1)	3,500
	400	Cambridge English Readers Level 1(CER1)	4,300
	200 – 300	Cengage Page turners Level 1-2 (CPT1-2)	3,800
		I Can Read Level 2 (ICR2)	1,500 – 2,000
1.5 – 2.0	400– 550	Cengage Page turners Level 3-4 (CPT3-4)	4,900
	600	Macmillan Readers Beginner/Classics (MMR2+)	8,500
	400	Oxford Bookworms Stage 1 (OBW1)	5,600
		Nate the Great	1,600 – 2,000
		Rainbow Magic	4,000 – 5,000
2.1 – 2.6	600	Penguin Readers Level 2 (PGR2)	7,200
	700	Oxford Bookworms Stage 2 (OBW2)	6,500
	800	Cambridge English Readers Level 2 (CER2)	9,100
		Magic Tree House	4,700 – 6,100
2.7 – 3.6	1,100	Macmillan Readers Elementary (MMR3)	11,000
	1,200	Penguin Readers Level 3 (PGR3)	11,000
	1,000	Oxford Bookworms Stage 3 (OBW3)	10,000
	1,400	Macmillan Readers Pre-Intermediate (MMR4)	16,000
	1,300	Cambridge English Readers Level 3 (CER3)	15,000

* YL in this article uses the lower value of SSS YL range (Furukawa et al 2013, pp. 106-108)