



# A Comparative Study of Vocabulary Levels Between Japanese Junior High School English Textbooks and Beginner-Level Extensive Reading Books

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This study aims to establish a bridge in terms of vocabulary levels between school curricula in Japan and extensive reading (ER) programs by investigating the appropriate levels of ER books for Japanese junior high school learners. To achieve this goal, the study created three corpora: a textbook corpus, consisting of three series of textbooks authorized by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) for junior high school students in Japan; a Graded Readers (GRs) corpus, comprising 161 titles at Yomiyasusa Level (YL) 0.1 to 1.0; and a Leveled Readers (LRs) corpus, comprising 444 titles at YL 0.1 to 1.0. The vocabulary levels of the three corpora were analyzed to determine the optimal positioning of ER book levels for each grade level of junior high school. The results indicated that GRs with YL 0.5 to 1.0 generally fell below the lexical difficulty found in first-year junior high school textbooks. This suggested that GRs with YL 0.5 to 1.0 could be effectively incorporated into ER programs targeting Japanese junior high school students in their second and third years, assuming acquisition of first-year vocabulary. The findings of this research contribute to providing a valuable baseline for teachers when selecting and introducing ER materials suitable for their junior high school students in Japan.

Fujii, K. (2025). A comparative study of vocabulary levels between Japanese junior high school textbooks and beginner-level extensive reading books. *Journal of Extensive Reading*, 12(2).

**Keywords:** Extensive Reading, Junior High School Textbooks, Books for Extensive Reading, Vocabulary Level, Graded Readers, Leveled Readers, Yomiyasusa Level (YL)

Extensive reading (ER) has been defined as “a pleasurable reading situation where a teacher encourages students to choose what they want to read for themselves from reading materials at a level they can understand” (Brown et al., 2008, p. 137). Theoretically, the foundation for ER lies in Krashen’s (1985) Input Hypothesis, which emphasizes the importance of providing learners with comprehensible input to facilitate foreign language learning. Empirically, a growing body of research has explored the effectiveness of ER across a range of age groups, including junior high school students (Matsui & Noro, 2010), high

school students (Iwahori, 2008), and university students (Kweon & Kim, 2008), in addition to various target languages, such as English (Lao & Krashen, 2000), Japanese (Leung, 2002), French (Dupuy & Krashen, 1993), and Spanish (Rodrigo et al., 2004). In the context of ER in English, the language learning environment extends beyond English as a Second Language (ESL) settings (Hafiz & Tudor, 1989) to English as a Foreign Language (EFL) contexts (Day et al., 1991). As evidenced by these studies, the extant body of empirical literature on ER has demonstrated the efficacy of this approach for foreign language acquisition across

diverse learner populations and educational settings (Day & Bamford, 1998).

However, despite the manifold advantages of ER in foreign language learning, previous research has primarily been conducted as a separate component of a class led by a single teacher, where the remaining teaching contents are not directly related to ER. Only a few instances exist where ER is systematically integrated into the broader curriculum at the grade or institutional level as a component of a language course led by multiple instructors (e.g., Nishizawa et al., 2010). This tendency can be partially attributed to a deficiency in ER education for instructors and a scarcity of pedagogical knowledge regarding ER among educators (Nation & Waring, 2019). Furthermore, the absence of evidence-based guidelines for the effective integration of ER into the formal school education framework may pose challenges for teachers in adopting ER within their language courses.

To exemplify this challenge, in the context of primary and secondary education in Japan, English language instruction adheres to a curriculum prescribed by the national Course of Study and predominantly follows the Ministry of Education, Culture, Sports, Science and Technology (MEXT) approved textbooks. While some practical recommendations have surfaced for the inclusion of ER within the constraints of formal education, such as the “10-minute in-class ER” approach proposed by Takase (2010), there remains a paucity of research on ER guidelines that outline the appropriate levels of ER materials for each school and grade level, within the context of the existing English curriculum and textbooks. While students exhibit a spectrum of reading proficiencies, establishing identified levels for ER books that align with their corresponding textbook grade levels can provide a dependable baseline for most students. Furthermore, this baseline may facilitate the smooth implementation of ER programs by multiple instructors within a formal school setting in Japan and enhance the efficiency of selecting and introducing ER books that correspond to their students’ grade levels.

The present study endeavors to establish a link between school curricula in Japan and

ER programs by investigating the suitable levels of ER books for Japanese EFL learners in junior high schools from a lexical level perspective.

### Previous research

The integration of ER into a language course is substantiated by a multitude of empirical studies that showcase the beneficial impact of ER on various aspects of foreign language skills and attitudes. For instance, research has shown that ER leads to improvements in reading speed (Bell, 2001), reading comprehension (Tanaka & Stapleton, 2007), vocabulary acquisition (Cho & Krashen, 1994), affective improvements and motivation (Hagley, 2017), grammatical proficiency (Stokes et al., 1998), and standardized English language test scores (Fujii, 2022a). Nevertheless, despite the well-documented benefits, a significant portion of ER initiatives have operated in isolation from course textbooks, being led by individual teachers and occasionally lacking clarity regarding the relationship of other components of the language course with ER. Conversely, comprehensive, school-wide ER programs that are integrated into a language course component and administered by multiple instructors remain relatively rare, with a few notable exceptions (Elley & Mangubhai, 1981; Nishizawa et al., 2010; Nishizawa et al., 2017). Effective implementation of ER within a broader educational context has the potential to benefit a larger number of learners, as exemplified by the successes of these select initiatives, which have yielded remarkable outcomes for ER.

However, the implementation of a school-wide ER program in language courses has been recognized as a challenging task (Takase, 2010). This difficulty can be attributed to a variety of factors, including lack of time for ER (Renandya et al., 2021), insufficient funding and resources (Waring, 2006), inadequate comprehension and support from fellow educators and schools (Macalister, 2015), and a lack of teacher training on ER (Chang & Renandya, 2017). Furthermore, to incorporate ER into formal school

education, it is imperative to determine its optimal placement within the existing curriculum framework. This is particularly pertinent in the context of primary and secondary education in Japan, where the curriculum is closely regulated by the Course of Study, and MEXT-approved textbooks specify the prescribed learning contents for each grade. Providing students with books that surpass their grade level and are excessively challenging could result in diminished motivation to read English.

Therefore, strategic placement of ER book levels within the curriculum is required, as it can facilitate a smooth implementation of ER and improve learning outcomes by aligning with content such as vocabulary or grammar covered in the course textbooks. Several instructional principles beneficial for instructors, such as “Start with Simple Stories” (SSS) (Furukawa, 2010; Takase, 2010), have been proposed to enhance the efficacy of ER programs. However, as these principles are intended to be applicable to various contexts, there is a potential for multiple interpretations. For example, the interpretation of “simple” within the SSS approach can vary, particularly depending on factors such as grade level, which may raise concerns for teachers introducing ER in their language courses. More comprehensive guidelines that align with the current language curriculum are necessary for teachers when integrating ER into an existing language course. These guidelines can also enhance instructors’ understanding of ER, potentially fostering broader acceptance of ER initiatives in formal educational settings.

The primary objective of this study is to enhance the effective integration of ER into the English education curriculum for Japanese EFL learners in junior high schools, with a focus on the lexical level. To achieve this goal, this study compiles three corpora that enable a comparison of the vocabulary levels in English textbooks authorized by MEXT for junior high school students in Japan and popular books from two book types frequently used in the initial stages of ER programs in Japan. Based on the analysis, the study endeavors to propose optimal ER book types and levels for

Japanese junior high school students from the perspective of vocabulary level.

## Methodology

### Research question

The research question (RQ) of this study is as follows:

RQ: What are the appropriate ER book types and levels for Japanese junior high school EFL students in their second and third years in terms of vocabulary levels?

In this study, the difficulty levels of English texts in terms of vocabulary levels were examined. While various factors such as grammar, background knowledge, and text lengths can affect the difficulty of English texts (Ushiro, 2009), this study focused on vocabulary levels because vocabulary is claimed to play a significant role in comprehension when reading English (Nation, 2013). Notably, a high proportion of known words has been linked to better comprehension, and it has been argued that English texts with a coverage of 95 to 98% of known words are suitable for meaning-focused input (Nation & Waring, 2019).

In the realm of ER, it is widely suggested that learners should engage with texts that are marginally beyond their current linguistic level, commonly referred to as  $i+1$  (Krashen, 1982). However, an alternative viewpoint presented by Day and Bamford (1998) posits that ER can also prove effective when students encounter input that is slightly below their current level of proficiency, or  $i-1$ . In the context of ER programs in Japan, scholars have recommended that learners start their reading activities with simple and easily understandable stories written in basic English, employing the SSS approach, to optimize ER outcomes (Furukawa, 2010; Takase, 2010), and this approach is supported by empirical evidence (Nishizawa et al., 2017). Consistent with this perspective and evidence, this study adopted the  $i-1$  principle and posited that the appropriate reading and vocabulary levels for ER books should not surpass those of

textbooks used in formal educational settings.

Specifically, for a second-year junior high school student who has acquired the vocabulary of a first-year textbook, ER books at or below the level of a first-year textbook were considered appropriate. Similarly, for a third-year junior high school student who has mastered the vocabulary of a first- and second-year textbook, ER books at or below the level of a first- and second-year textbook were deemed suitable for ER. This study aims to examine the suitable ER book levels for second- and third-year junior high school students in Japan, as it involves an investigation into textbooks spanning from the first to third years.

## Materials

### *Junior high school textbooks*

Three series of MEXT-approved junior high school textbooks, specifically New Crown (NC) (Negishi, et al., 2021), New Horizon (NH) (Kasajima, et al., 2021), and Sunshine (SS) (Ushiro, et al., 2021) were selected. These textbooks are in accordance with the Course of Study implemented in junior high schools from the academic year 2021. The Course of Study serves as a standard for curriculum design in each school in Japan to ensure that students receive a consistent level of education regardless of their residential location (MEXT, 2011). The utilization of textbooks approved by MEXT, or textbooks authored by MEXT, is obligatory in Japanese elementary schools. This requirement similarly extends, *mutatis mutandis*, to junior high schools, as stipulated by Gakko Kyoiku Ho (School Education Act) (MEXT, n.d.a.).

The selection of the three series of textbooks in the study was based on their widespread usage in junior high school classrooms. The authority to determine textbooks for public schools rests with the board of education of the municipality or prefecture where the school is situated (MEXT, n.d.b). To exemplify the extensive utilization of the three textbooks, specific adoption rates are provided for two prefectures: Tokyo, the capital of Japan, and Niigata Prefecture, serving as an example of

a local government where the author resides.

According to data on textbook adoption from 2021 to 2024 provided by the Tokyo Metropolitan Board of Education (n.d.), NC was adopted by 19 districts (35.2%), NH by 17 districts (31.5%), and SS by 4 districts (7.4%), collectively encompassing 74.1% of all districts utilizing the three series of textbooks. In the case of Niigata Prefecture in 2022, NC was adopted in 6 districts (50.0%), NH in 2 districts (16.7%), and SS in 4 districts (33.3%), covering all districts with the three series of textbooks (Niigata Prefectural Board of Education, n.d.). Therefore, the textbook corpora created in this study can capture a substantial portion of the English learned by many Japanese junior high school students.

To examine potential variations across grade levels and textbook series, sub corpora were compiled for each textbook series and grade level. Precisely, nine distinct sub corpora were created, labeled as NC1, NC2, NC3, NH1, NH2, NH3, SS1, SS2, and SS3, with the numerical values representing the respective grade levels. During the construction of the corpora, only the English text from each reading section within the textbooks was included. This refers to English text contained within the main sections, which may consist of dialogues, emails, websites, and so forth. Texts from sections designated for recreational reading or for promoting reading fluency were also incorporated.

**Table 1.** *Textbook Corpora*

Textbook	No. of tokens
NC1	1,772
NC2	3,657
NC3	5,203
NH1	3,186
NH2	4,425
NH3	5,390
SS1	1,650
SS2	3,099
SS3	4,307



Notably, the English text corresponding to exercise problems (including grammar, writing, speaking, and listening exercises) and newly introduced vocabulary sections was deliberately excluded from the corpora. This exclusion is implemented to facilitate a valid comparison with the English text present in ER books. The token counts for each of the nine corpora are provided in Table 1.

### *Books for extensive reading*

In order to make a corpus of ER books, this study selected book series from two widely adopted categories, namely Graded Readers (GRs) and Leveled Readers (LRs), used in the early stages of many ER programs in Japan. The choice of book series was based on the recommendations put forth by Furukawa and Kanda (2013), who identified them as popular and widely utilized in Japanese ER programs. Specifically, the present study focused on titles from the chosen series in GRs and LR that were allocated with Yomiyasusa Level (YL) scores ranging from 0.1 to 1.0 based on Furukawa and Kanda, with the assumption that these levels are potentially suitable for Japanese junior high school students.

GRs are books especially written for English learners with strict vocabulary control and with consideration of other factors affecting comprehensibility, such as grammatical difficulty, sentence complexity, use of illustrations, and simplicity of plot (Nation & Waring, 2019). LR are books designed for children who speak English as their dominant language or L1, to aid their progression from easy to more advanced reading materials through multiple levels (Furukawa, 2010). Some researchers are skeptical about using LR or readers intended for L1 English speakers in ER programs because of the unsimplified texts with a high percentage of unknown words (Webb & Macalister, 2013). In Japan, however, LR are commonly used along with GRs from the early stage of ER because LR allow certain Japanese EFL beginner learners who struggle with reading the easiest levels of GRs to start in their comfort zone (Furukawa, 2010). LR, therefore, have played a vital role in filling

the gap below the starter level of GRs and between the grades of GRs in ER programs in Japan (Furukawa & Ueda, 2011). This study included LR as research material to enhance the understanding of ER practice in Japan, based on current realities in the field. However, due to the possibility of significant differences in vocabulary levels between GRs and LR despite being assigned the same YL scores, the corpus data were separated between the two book types to address the research question effectively.

YL is a readability measure widely utilized for Japanese EFL learners (Furukawa, 2010; Takase, 2010). This framework rates book difficulty on a 100-point scale, ranging from YL 0.0 to 10.0. A lower score on the scale indicates that the book is easier to read. YL scores were established subjectively by Japanese EFL learners and teachers, taking into account elements such as word count, illustrations, content simplicity, font size, topic familiarity, vocabulary and grammar level, and sentence length (Takase, 2012). Despite the potential influence of subjective elements on YL scores, there is a notable comparability between these scores and other established measures of readability, such as the Lexile framework for reading (Fujii, 2022b). The ER materials analyzed in this study (YL 0.1 to 1.0) are used in the initial stage of ER and suggest alignment with lexical levels found in junior high school textbooks.

In creating the GRs and LR corpora, careful consideration was given to the selection of book series and titles to ensure a thorough representation of the data for each YL score within the 0.1 to 1.0 range. However, it was challenging to maintain the same volume of each YL score between the two corpora due to the initial difference in the number of book titles listed in Furukawa and Kanda (2013). As a result, the total volume of YL 0.1 to 1.0 in both corpora was attempted to be roughly equivalent, each containing approximately 130,000 words. The total word count, approximately 260,000 words in both corpora, was determined based on the recommended threshold of 250,000 words for Japanese learners in the initial phases of reading,

specifically within the range of YL 0.0 to 1.6, as advocated by SEG (2022). Comprising popular series and titles, the corpora were designed to exemplify a substantial portion of the English text encountered by many Japanese EFL learners in their ER programs. The YL scores utilized in the investigation were obtained from Furukawa and Kanda. In instances where a range was provided in the YL, such as YL 0.4 – 0.6, the mean score (0.5) was

utilized. If the mean score had a second decimal place, it was rounded up. For instance, if a book had a YL score range of 0.7 – 1.0, the mean score (0.85) was rounded up to 0.9.

Table 2 displays the book series, levels, and number of tokens used in the study. Series are marked by their common abbreviations from the second mention onwards, such as ORT and OBW, based on Furukawa and Kanda (2013).

YL	Types	No. of books	No. of tokens	Series (Series Abbreviation), Level
0.1	GR	9	239	Building Blocks Library (BBL) Starter
	LR	48	1,750	Oxford Reading Tree (ORT) Stages 1, 1+
0.2	GR	14	915	BBL Starter, Levels 1, 2
	LR	72	4,386	OFP Stage 1+, ORT Stages 1+, 2 Oxford Reading Tree in Fact (OIF) Stage 2 Oxford Reading Tree Explorer (ORE) Stage 1+
0.3	GR	12	1,416	BBL Levels 1, 3
	LR	84	8,308	OFP Stage 2; OIF Stage 3; ORE Stage 2; ORT Stages 2, 3
0.4	GR	3	601	BBL Levels 3, 4
	LR	48	7,054	OFP Stage 3; OIF Stage 4; ORE Stage 3; ORT Stages 3, 4
0.5	GR	10	3,319	BBL Levels 4, 5
	LR	66	16,387	OFP Stage 4; OIF Stage 5; ORE Stage 4; ORT Stages 4, 5
0.6	GR	8	4,532	BBL Level 6; Foundations Reading Library (FRL) Level 1
	LR	36	13,444	OFP Stage 5; ORE Stage 5; ORT Stages 5, 6
0.7	GR	10	6,593	BBL Level 6; FRL Level 2
	LR	30	14,331	OFP Stage 6; ORE Stage 6; ORT Stage 6
0.8	GR	58	50,006	BBL Level 7; FRL Level 3; Macmillan Readers (MMR) Level 1; Oxford Bookworms Library (OBW) Starter; Pearson English Readers (PER) Easystarts
	LR	30	26,961	ORE Stage 7; ORT Stage 7
0.9	GR	26	37,888	BBL Level 7; FRL Level 4; OBW Starter; PER Easystarts
	LR	6	6,169	ORE Stage 8
1.0	GR	11	24,527	Cambridge English Readers (CER) Starter
	LR	24	27,311	ORE Stage 9; ORT Stage 8
Total	GR	161	130,036	
	LR	444	126,101	

## Analysis

The study investigated the variation in word levels and their corresponding token frequencies across nine textbook corpora (comprising three textbook series at three grade levels), as well as 10 corpora for GRs (GRs YL 0.1 to 1.0) and 10 corpora for LR (LRs YL 0.1 to 1.0). The New Word Level Checker (NWLC), developed by Mizumoto

(2021), was utilized to accomplish this task by employing the New JACET 8000 List of Basic Words (New JACET 8000) as a vocabulary list. New JACET 8000 is a compilation of 8,000 words categorized into eight levels (i.e., 1 to 8) by the Japan Association of College English Teachers (JACET). This list of words is designed to help Japanese university students become

proficient in English for work environments where English is used (JACET, 2016).

The analysis using the NWLC was conducted in two rounds. In the first round, the vocabulary levels of 29 corpora (nine textbook corpora, 10 GRs corpora, and 10 LR corpora) were analyzed. In the second round, the following words that were not included in the New JACET 8000 vocabulary list during the first round were treated as known words and re-analyzed: (1) words of Japanese origin (e.g., sushi); (2) English-origin words pronounced nearly identically in Japanese (e.g., skateboard); (3) interjections (e.g., wow); and (4) proper nouns that were not classified as such during the first round (e.g., Biff).

In the NWLC, the flemma is adopted as a word counting unit. While the New JACET 8000 word list is processed in its unaltered form, out-of-list words are converted to lowercase if capitalized, and contractions are expanded (e.g., I'm → I am). Words containing hyphens are treated as two separate entities before and after the hyphen for level classification (e.g., Osaka-based is partitioned into two words: Osaka and based) (Mizumoto, 2022). This resulted in a disparity in the number of tokens between the raw data and the post-analysis data.

Through this analysis, the vocabulary levels necessary to achieve 95% and 98% text coverage of known words in textbooks were identified for each grade level. Based on the i-1 principle (Day & Bamford, 1998), the study also sought to identify vocabulary levels of ER books that did not exceed the levels of textbooks. In cases where vocabulary levels varied to meet the 95% and 98% coverages across the three textbooks, the estimated vocabulary level for each grade considered the majority level among the textbooks. If all three textbooks presented different levels, the average was used to estimate the approximate vocabulary level for each grade.

## Results and discussion

### Vocabulary levels in textbooks

Table 3 displays the cumulative coverage percentages provided by proper nouns and successive 1,000-word frequency bands in

three junior high school textbook series (NC, NH, SS) across three grade levels. The second row of the table displays the token counts, with percentages as units after the third row.

The study revealed that, in first-year student textbooks, attaining a 95% coverage required the inclusion of proper nouns and the first two 1,000-word bands across all three textbooks. Textbooks for second and third-year students achieved the same coverage using proper nouns and the initial 2,000 words (two textbooks) or 3,000 words (one textbook). To achieve a text coverage of 98%, first-year student textbooks required the inclusion of proper nouns and the first 3,000-word bands (one textbook), and the 4,000-word bands (two textbooks). Textbooks for second-year students achieved the same coverage with proper nouns and the initial 4,000-word bands (two textbooks), along with the 6,000-word bands (one textbook). For third-year students, attaining the same coverage necessitated the inclusion of proper nouns and the first 3,000-word bands (one textbook), and the 5,000-word bands (two textbooks).

In this study, the average vocabulary levels required to achieve a 95% text coverage for second- and third-year junior high school students were roughly estimated to be the first 2,000-word bands, incorporating proper nouns, based on an analysis of textbooks for first- and second-year students. To attain 98% text coverage, including proper nouns, it was estimated that the inclusion of the first 4,000-word bands was required for second- and third-year junior high school students, based on an analysis of textbooks for first- and second-year students. These estimations were based on the majority level among the textbooks and average observed across the three textbooks.

The study revealed that there is no notable difference in the mean vocabulary level required to achieve a text coverage rate of 95% across various grade levels. However, the coverage rate at the 1,000-word level, including proper nouns, varies: 93% for first-year students, 90% for second-year students, and 88% to 90% for third-year students. These observations suggest

that textbooks intended for lower grade levels utilize a greater volume of vocabulary at the 1,000-word level, which potentially contributes to the ease of comprehension for students at that level.

Based on these findings, this study estimates that lexically appropriate ER books for Japanese junior high school students in their second and third years must meet two criteria without exceeding the vocabulary level of the textbooks, in

accordance with the i-1 principle: (1) achieving 95% text coverage at or below the 2,000-word level including proper nouns, and (2) attaining 98% text coverage at or below the 4,000-word level including proper nouns. The fact that the two textbooks for third-year students require a 5,000-word level, including proper nouns, suggests that ER books at that level may be appropriate for first-year high school students.

**Table 3.** *Vocabulary Levels in Textbooks*

Level	NC1	NH1	SS1	NC2	NH2	SS2	NC3	NH3	SS3
No. of tokens	1,772	3,186	1,650	3,657	4,425	3,099	5,203	5,390	4,307
PropNoun	7.3	7.2	6.9	5.5	5.6	6.3	5.2	6.6	7.2
L1	92.6	92.7	93.2	90.1	90.0	89.9	88.0	87.6	90.4
L2	96.5	96.4	95.7	95.6	95.5	94.4	95.2	94.0	96.6
L3	98.1	97.6	96.7	97.2	97.5	95.7	96.7	96.6	98.0
L4	99.0	98.7	98.0	98.4	98.3	97.1	97.6	97.7	98.6
L5	99.2	99.0	98.2	98.6	98.6	97.9	98.0	98.2	99.1
L6	99.2	99.3	98.4	98.7	98.8	98.1	98.5	98.6	99.3
L7	99.2	99.4	98.4	98.9	99.0	98.3	98.6	98.8	99.4
L8	99.5	99.6	98.7	99.1	99.1	98.7	98.7	99.0	99.5
Off List	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ALL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Note.* PropNoun = Proper Noun, L1 to L8 = 1,000-word to 8,000-word level

### **Vocabulary levels in books for extensive reading**

Table 4 and Table 5 respectively exhibit the distribution percentages of vocabulary levels for YL 0.1 to 0.5 in both GR and LR, as well as for YL 0.6 to 1.0. The second row of each table displays the token counts, and the units following the third row in each table are percentages.

Our analysis in Tables 4 and 5 indicates that GRs with YL 0.5 to 1.0 fulfill the two criteria: (1) achieving 95% text coverage at or below the 2,000-word level, inclusive of proper nouns; and (2) attaining 98% text coverage at or below the 4,000-word level, also including proper nouns. Additionally, the study found that these GRs have a high rate of 1,000-word coverage, including



proper nouns (93.4% to 96.1%), surpassing first-year junior high school textbooks, also inclusive of proper nouns (92.6% to 93.2%). This implies that GRs with YL 0.5 to 1.0 are generally more accessible than first-year textbooks from a lexical perspective, for second- and third-year students who have mastered the vocabulary introduced in their first-year textbooks.

Consequently, GRs with YL 0.5 to 1.0 were identified as suitable ER materials for Japanese junior high school students in their second and third years, with the recommendation based on the assumption that students have acquired the vocabulary introduced in their first-year textbooks. Specifically, the lowest levels of major GRs (CER, MMR, OBW, PER), FRL with levels 1 to 4, and BBL with levels 4 to 7 correspond to the GRs with YL 0.5 to 1.0 (Table 2).

The high vocabulary level observed in YL 0.1 to 0.4 of GRs may be attributed to the characteristics of the exclusive resource analyzed, namely the BBL. The BBL series offers phonics-based readers from levels 1 to 3, which may include more challenging vocabulary to support the development of phonetic proficiency. Regarding LR, they may pose difficulties in vocabulary for learners compared with GRs even if they are designated by the same YL scores, which is in line with Kano (2015) and Webb & Macalister (2013).

LRs contain words that are commonly used by young learners in L1 or dominant English-speaking environments in their daily lives, some of which are not found in formal textbooks (Furukawa & Ueda, 2011). An exemplary series of LRs is the Oxford Reading Tree (ORT) series, utilized in around 80% of primary schools in the U.K. (Furukawa & Miyashita, 2007). Several examples found in the ORT book titles, which do not appear in either of the textbooks, encompass verbs such as “tuck,” “vanish,” and “crawl,” nouns including “claw,” “cub,” and “clown,” adjectives like “fancy,” “soggy,” and “spooky,” and adverbs such as “firmly,” “impatiently,” and “nervously.” Many Japanese junior high school students may not encounter these words in their textbooks, suggesting a potential need for reading LRs aimed at

vocabulary expansion through exposure to more authentic language usage. However, learning more basic, high-frequency words should be prioritized, especially in an EFL classroom where teaching time and exposure to English is strictly limited, as suggested by Nation (2013). The findings indicate that despite possessing lower YL scores, LR books can present considerable lexical difficulty for novice Japanese English learners, potentially impeding their engagement in ER. Considering the lexical dimension, LRs may be better suited for more advanced junior high school students with a greater lexical proficiency.

It is important to note, however, that Japanese scholars and practitioners such as Furukawa and Miyashita (2007) suggest that the ORT series should be considered as an initial choice for beginners rather than the lowest level of GRs. In fact, the YL scores of ORT, starting from YL 0.0, are set to fill the gap below the lowest level of GRs. The major GRs series analyzed in this study, such as CER, FRL, OBW, MMR, and PER, start from higher YL scores than ORT, ranging from 0.6 to 1.0 (Table 2). Despite having a more challenging vocabulary level, the lower YL scores in ORT titles indicate that Japanese ER researchers, practitioners, and learners have found that factors other than the vocabulary level, such as the abundance of illustrations, small number of words per book, and large font size per page, together create a less challenging reading experience compared to the lowest level of GRs.

For instance, the titles in lower levels of ORT have only a few sentences with a large illustration on each page. This format has the potential to assist learners in deducing the meaning of unfamiliar words and comprehending the situation through visual images, as the limited text is highly likely to correspond directly to the illustrations. Consequently, the influence of unknown vocabulary on text comprehension may be less pronounced compared to the lowest level of GRs, where roughly half of each page is dedicated to text composed of multiple sentences and the other half to illustrations. This design could pose a challenge in deducing the meaning of unknown vocabulary, as the context in

which the word is used may not be depicted in the illustration. In such instances, the illustration cannot serve as a reference for unfamiliar words.

ER books utilized in the initial stages incorporate illustrations to varying degrees, necessitating further research into the impact of the balance between words and

images on comprehension. This study exclusively examined the vocabulary level of ER books in relation to those of junior high school textbooks. Further research should consider additional variables for a more comprehensive suggestion regarding appropriate ER book levels for each educational level.

**Table 4.**  
*Vocabulary Levels in ER books (YL 0.1 to 0.5)*

Level	YL 0.1		YL 0.2		YL 0.3		YL 0.4		YL 0.5	
	GR	LR	GR	LR	GR	LR	GR	LR	GR	LR
No. of tokens	239	1,750	915	4,386	1,416	8,308	601	7,054	3,319	16,387
PropNoun	10.0	9.5	7.1	6.7	9.5	8.6	11.1	7.7	16.1	7.5
L1	75.7	81.9	83.0	84.2	85.4	85.5	94.4	85.1	96.1	86.1
L2	79.1	88.1	87.4	89.5	90.5	90.6	96.3	90.8	98.4	91.8
L3	83.7	91.4	92.2	92.4	93.2	92.4	96.5	93.5	98.7	93.5
L4	90.0	93.5	95.3	94.8	96.3	93.9	97.3	94.6	98.9	94.8
L5	91.6	94.4	96.7	95.9	97.4	94.8	97.9	95.5	99.0	95.4
L6	93.3	95.1	96.7	96.5	97.9	95.2	97.9	96.1	99.0	96.1
L7	93.3	96.4	97.3	97.2	98.7	96.0	97.9	96.9	99.0	97.2
L8	95.4	98.1	97.6	98.5	99.0	97.9	97.9	97.5	99.2	98.0
Off List	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ALL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Note.* PropNoun = Proper Noun, L1 to L8 = 1,000-word to 8,000-word level

**Table 5.**  
*Vocabulary Levels in ER books (YL 0.6 to 1.0)*

Level	YL 0.6		YL 0.7		YL 0.8		YL 0.9		YL 1.0	
	GR	LR	GR	LR	GR	LR	GR	LR	GR	LR
No. of tokens	4,532	13,444	6,593	14,331	50,006	26,961	37,888	6,169	24,527	27,311
PropNoun	15.5	7.4	12.5	7.0	9.1	6.5	9.2	6.6	9.0	5.5
L1	95.8	88.0	94.8	86.5	93.4	87.3	94.3	84.9	94.8	86.6
L2	97.7	93.2	96.9	92.5	96.5	93.4	97.0	91.4	96.9	92.2
L3	98.2	94.9	98.0	94.7	97.5	94.9	97.9	93.7	97.9	94.5
L4	99.2	96.0	99.1	96.5	98.7	96.0	98.9	95.8	99.0	95.8
L5	99.3	96.6	99.3	97.0	98.9	96.6	99.1	96.4	99.2	96.3
L6	99.3	97.3	99.4	97.6	99.1	97.2	99.1	96.9	99.4	96.9
L7	99.4	98.1	99.5	98.1	99.3	97.6	99.3	97.3	99.4	97.6
L8	99.5	98.7	99.8	98.5	99.4	98.5	99.4	97.9	99.5	98.3
Off List	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ALL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Note.* PropNoun = Proper Noun, L1 to L8 = 1,000-word to 8,000-word level

## Conclusion

The purpose of this study was to provide evidence for the effective incorporation of ER into the English curriculum of Japanese junior high schools. To achieve this goal, corpora were created and compared to examine the vocabulary levels of textbooks approved by MEXT for junior high school English classes, and popular books frequently used in the early stages of ER programs in Japan. Drawing from the results, the most suitable ER books for junior high school students in their second and third years in terms of vocabulary level were GRs with YL scores ranging from 0.5 to 1.0. This recommendation is predicated on the assumption that students have acquired the vocabulary presented in their first-year textbooks. By utilizing books at this level for ER, students may be able to increase their exposure to English without encountering lexical difficulties, thereby potentially enhancing learning outcomes by consolidating their existing vocabulary knowledge and enhancing its breadth, as Waring (2006) posited. Since no previous recommendations for ER guidelines specific

to Japanese school contexts exist, the outcomes of this study are anticipated to serve as a baseline for determining suitable ER book levels that are compatible with formal education in Japanese junior high schools. This, in turn, may facilitate the implementation of a smooth and effective ER program.

Nonetheless, it is necessary to recognize that the results of this study have certain limitations. Firstly, the corpora of ER books employed in this study were limited to several specific series. It is crucial to analyze the applicability of the outcomes of this study as additional data is collected. Secondly, this study was targeted towards Japanese learners of English, and was analyzed using MEXT-approved textbooks in Japan, along with the commonly used readability measurement (YL) in Japanese ER programs, and a vocabulary list specifically designed for Japanese learners of English (New JACET 8000). Additional research is needed to assess the generalizability of the study's results to beginner-level learners across different countries and school environments. Thirdly, in this study, proper nouns, English words

of Japanese origin, words of English origin with nearly identical pronunciation in Japanese, and interjections were examined as words known to the learners. However, the validity of this analysis must be evaluated from various perspectives in future research, as Klassen (2021) stated that all proper names will be easily identified and understood by all L2 readers seems incautious. Fourthly, we need to investigate instructional guidelines for introducing ER to first-year junior high school students. By analyzing both the first and second halves of the first-year textbooks, guidelines for implementing ER from the second semester of the first year could be derived. Lastly, it is imperative to conduct further scholarly inquiry into other factors that may impact the readability of ER materials, in addition to vocabulary levels, to gain a comprehensive guideline that fosters effective ER promotion in educational settings.

### Acknowledgment

This research was supported by JSPS KAKENHI (grant number 20K00829 and 24K04156) and a research grant from Gengo Kyoiku Shinko Zaidan. I extend my sincere appreciation to the anonymous reviewers for their valuable comments and insightful suggestions, which greatly contributed to the improvement of this paper.

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