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An Analysis of the Listening and Reading Sections of the Newly Published Japanese English Textbooks for Primary School

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Abstract

In 2020, Japan started a new English curriculum in which English classes began from grade 5, based on the latest edition of the Course of Study (the guideline produced by the Ministry of Education, Culture, Sports, Science, and Technology (MEXT). The objectives of this research paper are to examine seven sets of newly published English textbooks' reading and listening sections to learn about their specific features, as well as their difficulty levels. The result demonstrates that in all seven sets of textbooks, the listening sections have far more volume of content than the reading sections. The readability tests indicate that the reading sections contain higher levels of sentences, which contradicts the authors' initial impression. However, a careful study of the use of past tense verbs and prepositions in each section demonstrates that there are more prepositions in all seven sets of textbooks in the listening sections. The results indicate that past tense verbs and prepositions can be effective benchmarks to measure the readability level of these newly published English textbooks.

Keywords: quantitative analysis; listening and reading texts; prepositions; readability; English textbooks

1. Introduction

1.1 Background

The English curriculum was implemented at the primary level in Japan in 2020 for the first time in its history. In Japan, primary and secondary educations consist of three levels: primary school (grades 1–6), junior high school (grades 7–9), and senior high school (grades 10–12). English as a subject was taught from junior high school and continued through senior high school as a six-year program. The current education system was implemented in 1945 and, since then, the English language was never taught at the primary level. It was in 2011 that English was taught under the title "Foreign Language Activity," which implied that English was not a part of the curriculum but a mere "activity." It was taught in grade 5 and grade 6. In 2020, English was included in the curriculum, and the Foreign Language Activity course was moved to grades 3 and 4, which equates to four years of English learning at the primary level.

All the textbooks used in primary and secondary schools in Japan are required to comply with the

educational guideline called the Course of Study (CS) implemented by MEXT. The Ministry also approved seven sets of textbooks, all published by the different publishing companies, in 2020. Each set of textbooks has two books, one for each grade (grades 5 and 6). Furthermore, each textbook has a listening section and a reading section.

The CS specifies that in Foreign Language Activity in grade 3 and grade 4, pupils are to be associated with English mainly through listening and speaking skills and that, in the upper grades (5 and 6), reading and writing skills are to be phased in progressively (Monbukagaku-sho, p. 63). Following this guideline, all seven sets of English textbooks contain more listening sections than reading sections.

When the authors of this paper first read these textbooks, we had a firm impression that the listening sections contained more complicated English sentences than those in the reading sections. Although it was a mere impression, the impression was shared by many of our colleagues and English teachers from other schools. This paper is a culmination of this simple impression.

1.2 Significance of the Study

The authors of this paper believe that studying the listening and reading sections of the English textbooks will provide useful data and knowledge to teachers of English at the primary level in Japan. The CS put out by MEXT suggests that more emphasis should be placed on communication skills rather than learning vocabulary or grammatical knowledge. Complying with this advice by MEXT, the textbooks have assigned a considerable portion to listening activities. Therefore, the curriculum on which the textbooks are based assumes that a large part of English class time is spent on listening and speaking activities. In other words, for the English teachers, who make daily teaching plans, it is very important whether the difficulty level of the listening section is appropriate for their pupils.

1.3 Aim of the Study

The focus of this paper is to find the differences between the reading and listening sections, if there are any, among all the seven sets of textbooks approved by MEXT. To make this aim more substantial, the following research questions are the focus of discussion:

- 1. How large is the listening section compared to the reading section?
- 2. Is the listening section more difficult than the reading section?
- 3. What factors affect the sentences in the listening sections to make them more difficult or complicated than the reading sections?

2. Literature Review

There are very few studies on school textbooks with quantitative methods. Ozasa et al. (2007) studied English textbooks from Thailand, China, Korea, and Japan. They measured tokens and types of textbooks. The results showed that Chinese textbooks have the largest number of tokens and Japanese and Korean textbooks have the least. It also found that there are wider ranges of types among the jr. high school textbooks, but in their high school textbooks, there are fewer differences among the four textbooks.

Aikawa (2009) analyzed the vocabulary of the elementary and jr. high school English textbooks in Taiwan and found that the number of tokens increases from elementary to jr. high school. He also concluded that the low type/token ratio shows that a repetition of the words that appeared in the textbooks is rare. Watanabe et al. (2009) focused on the vocabulary use of Thailand textbooks and compared the results with that of Japanese textbooks.

Ozasa and Abe (2015) studied the readability level of Thai textbooks in comparison with Japanese

textbooks. They used the Ozasa-Fukui year level as a readability measurement tool. Ozasa et al. (2017) studied the readability level of Chinese primary school textbooks and compared the results with those of Japanese textbooks. Watanabe (2018) studied Chinese English textbooks for primary and secondary school. They found that the grade 7 textbook has a very low readability level and concluded that it could be since many primary schools in China do not teach English at all. The curriculum for grade 7 needs to consider those who have no knowledge of English and, hence, there is a low level of readability.

Honda et al. (2018) examined the vocabulary of the new textbook *We Can!* (the digital textbook), and compared it with those of Korean and Chinese textbooks and with Japanese junior high school textbooks. It argues that one of the unique points, in comparison with other textbooks, is the use of prepositions.

Watanabe (2021), the current paper's coauthor, studied three newly published English textbooks for elementary schools in Japan and found that *Crown Jr.* contains jr. high level of sentences. The textbooks *Junior Sunshine* and *New Horizon Elementary* focus on the alphabet, singing, chanting, and school life. The lessons also focus on topics such as international foods and culture.

3. Analysis and Discussion

3.1 Methodology of Analysis

All seven sets of textbooks are digitalized for analysis. Each set has two books: one for grade 5 and the other for grade 6. The reading and listening sections are digitalized separately and, hence, there are 28 different text data. These are shown in Table 1.

Table 1. Seven Sets of Textbooks for Elementary School

	Textbooks	Shortened titles	Publishers
1	Blue Sky elementary	Blue Sky	Keirinkan
2	Crown Jr.	Crown	Sanseido
3	Here We Go!	Here We Go	Mitsumura Tosho
4	Junior Sunshine	Sunshine	Kairyudo
5	New Horizon Elementary Course	New Horizon	Tokyo Shoseki
6	Junior Total English	Total English	Gakko Tosho
7	One World Smiles	One World	Kyoiku Shppan

Regarding research question 1, the paper tries to measure the number of words. There are two well-known benchmarks in this area of textual quantitative analysis: token (total number of words in a text) and type (number of distinct words in a text). The authors examined each benchmark. For the research question 2, the authors measured the readability level of each text since the authors of the paper had a distinct impression that the listening section was more complex than the reading section. The third research question refers to other possible benchmarks, which can be indicative of the difference between the listening and reading sections of all seven elementary textbooks.

3.2 Token and Type

Each textbook's data were quantitatively analyzed to calculate its token (total number of words in a text) and type (number of distinct words in a text). Table 2 indicates that though the seven textbooks are all approved by MEXT, their text sizes vary extensively. The smallest token is 993 from *New Horizon 5* (reading section), and the most significant token is 1 5971 from *Total English 6* (listening section). As for types, the smallest number is 257 from *New Horizon 5* (reading section), and the most significant number is 1279 from *Total English 6* (listening section), which makes *New Horizon 5* (reading section) the lowest and *Junior Total English 6* (listening section) the largest in both

token and type sizes. *Total English 6* (listening section) has a token size 15 times larger than *New Horizon 5* (reading section). Additionally, the listening section of *Total English 6* type size is almost five times larger than *New Horizon 5* (reading section).

Table 2 also indicates that the listening sections have a much larger size than that of the reading sections in all seven textbooks, which points out the fact that the textbooks follow the guideline specified in the CS, in which the listening activities are the main focus of the primary level curriculum.

Table 2. Token & Type

Tex	tbooks			Types	Tokens
		Grade 5	Listening	725	6461
1	Dl Cl	Grade 5	Reading	292	1045
1	Blue Sky	Grade 6	Listening	829	6280
		Grade o	Reading	393	1412
		6 1 5	Listening	817	6776
2		Grade 5	Reading	341	1046
2	Crown	6 1 6	Listening	1089	7265
		Grade 6	Reading	379	1085
		Grade 5	Listening	800	8164
2	II W C	Grade 5	Reading	471	1314
3	Here We Go	6 1 6	Listening	1080	7237
		Grade 6	Reading	601	1973
		6 1 5	Listening	597	4507
4	C 1.	Grade 5	Reading	425	1369
4	Sunshine	6 1 6	Listening	752	7134
		Grade 6	Reading	458	1844
		6 1 5	Listening	1095	15094
_	T . 15 1:1	Grade 5	Reading	545	1945
5	Total English	0 1 (Listening	1279	15971
		Grade 6	Reading	613	2594
		C 1.5	Listening	689	6081
,	NI II :	Grade 5	Reading	257	993
6	New Horizon	6 1 6	Listening	727	5777
		Grade 6	Reading	398	1494
		6.15	Listening	965	8506
7		Grade 5	Reading	392	1032
7	One World	C 1. (Listening	887	6410
		Grade 6	Reading	459	1602

3.3 Readability

The studies indicated apparent quantitative differences between the listening and reading sections. There were more tokens and types in the listening sections than reading sections. The studies further looked at the readability level of the two sections. As briefly mentioned, both authors of the paper strongly felt that the listening sections in all seven textbooks contain more difficult sentences than those in the reading sections.

A total of four readability measuring indices were used to analyze the texts. The first was the Flesch-Kincaid Grade Level (FKGL). It measured English sentences according to the grade level of American grade school. The FKGL uses the following formula:

0.39 x (average number of words per sentence) + 11.8 x (average number of syllables per word) – 15.59).

The second measuring instrument is the Ozasa-Fukui Year Level (OFYL). It measures according to the grade level of the Japanese English Curriculum (grades 7-12). The formula for calculation is as follows:

 $0.0995 \, x$ (average number of words per sentence) + $0.4302 \, x$ (average number of syllables per word) + $0.9799 \, x$ (word difference per word) + $0.0633 \, x$ (idiom difference per sentence) + 0.2815.

The two indices, FKGL and OFYL, are based on the number of syllables, which often creates an obstacle for automated (computerized) readability measurements, since it is difficult to measure syllables automatically.

The third and fourth instruments are the automated readability index (ARI) and Coleman-Liau index (CLI) (Someya, 2022). Both measurements are not based on syllables.

ARI: (0.0588 x (average number of characters per word/100))) - <math>(0.295 c (average number of sentences per 100 words))).

CLI: (5.89 x (number of characters/number of words) + (0.3 x (100/average number of words per sentence)

The ARI was created in the late 1960s in the United States Air Force, and CLI was created in 1975 by Meri Coleman and T. L. Liau. These two measurements are based on (1) the average number of characters per word (total number of characters divided by the number of words) and (2) the average number of words per sentence (total number of words subdivided by that of sentence). Both measurements measure sentences according to the grade level of American grade school.

Table 3 presents the results of the four readability measurement indices on 28 texts of the seven textbooks. Contrary to the paper's expectations, aside from One World Smiles 5's FKGL's result, all other results show that the reading sections are higher (more complex) than their counterparts. Furthermore, in some cases, such as the results of ARI and CLI in the *Junior Sunshine* textbook, the reading sections' values are six times higher than those of the listening sections.

Table 3. Readability

	Textbooks			FKGL	OFYL	ARI	CLI
Textbooks 1 Blue Sky		Grade 5	Listening	2.33	1.61	0.10	1.80
1	Place Class	Grade 3	Reading	3.34	3.30	6.60	9.30
1	Dine 3ky	Grade 6	Listening	2.96	1.74	0.60	2.80
		Grade 6	Reading	3.66	3.18	5.90	9.30
		Grade 5	Listening	2.08	1.38	0.30	2.10
2	Crown	Grade 3	Reading	3.44	3.03	2.80	5.90
2	Crown	Grade 6	Listening	2.19	1.53	0.90	3.10
		Grade 6	Reading	3.16	2.60	4.40	7.70
		Grade 5	Listening	2.44	1.50	0.50	1.80
3	Here We Go	Grade 5	Reading	2.58	3.03	3.50	6.40
3	Here We Go	Condo (Listening	2.90	1.56	1.00	2.60
		Grade 6	Reading	3.42	2.46	8.90	12.60
4	Sunshine	Grade 5	Listening	2.09	1.37	2.00	4.00

			Reading	3.41	1.55	15.10	21.20
		C 1 (Listening	2.89	1.37	2.40	5.00
		Grade 6	Reading	4.23	1.44	11.60	16.80
		Crada F	Listening	4.06	1.88	3.60	6.30
5	Tetal English	Grade 5	Reading	2.73	2.96	5.00	8.50
3	Total English	C d- (Listening	3.37	2.35	3.90	6.90
		Grade 6	Reading	2.65	2.74	2.60	5.60
		Cd. F	Listening	3.55	1.52	1.30	2.80
(N7 I I	Grade 5	Reading	2.31	1.97	3.60	6.60
6	New Horizon	C d- (Listening	3.92	1.57	2.10	4.20
		Grade 6	Reading	2.62	1.99	4.10	7.40
		Grade 5	Listening	3.79	1.86	2.20	4.50
7	One World	Grade 5	Reading	3.08	1.76	8.90	12.90
/	One w orta	Crada	Listening	3.06	1.71	1.10	3.40
		Grade 6	Reading	3.46	2.14	7.50	11.50

All four indices have different numerical formulas, but all of them use the length of words or sentences. It means that sentences containing many words tend to be calculated as difficult. However, there are other factors which decide the difficulty level of a sentence. We assumed that the readability results might reflect that the listening sections contain a significant amount of conversation lines and that those conversation lines use very short sentences and, hence, the lower values. It is possible that short sentences, such as those in the listening sections, may well be hindering the actual difficulty level from being observed. Therefore, the authors decided to look for other possible indicators that may reflect the authors' impression that the listening sections contain more difficult sentences than the reading sections.

3.4 Other possible indicators

As mentioned, the "number of words per sentence" is the major variant in the four readability measurements' formula. However, there should be other factors involved in deciding the difficulty level of a sentence. For instance, sentences which have relative clauses should be considered more difficult than sentences with no clauses, or sentences with present tense verbs should be considered as easier than sentences with past tense verbs.

The four readability indices we used do not take these factors into account. It simply because it is very difficult, if not impossible, to include "tense" or "clause" in the readability formula. Consequently, their results did not reflect the paper's initial expectations. We looked at another possible variable, namely, past tenses and prepositions.

The CS states that the learning of tense as a grammatical rule is to be taught in jr. high schools (grade 7–9) and that only highly used basic past tense verbs may be used in elementary textbooks. (Monbukagaku-sho, p. 95). As for prepositions, the CS states that highly used basic collocational phrases such as 'get up' and 'look at' may be used in the textbooks. It also allows other collocational phrases, such as 'stand up', 'be good at', 'how much' (p. 91). These statements suggest that the CS does not encourage using many past tense verbs or prepositions, while it does not also forbid using them. In response to these findings, the authors of this paper decided to analyze the use of past tense verbs and prepositions in the listening and reading texts.

3.5 Past tense verbs

Table 4 shows the number of past tenses and prepositions used in each textbook. The results show that in 10 out of 14 sets, the number of past tenses in the listening section exceeds that of the reading section. While the four sets of the textbook in which the number of past tenses in the listening section did not outnumber that of the reading section, two sets have an equal amount of listening and reading texts. However, it is clear that the use of past tense verbs alone does not explain the difference between the listening and reading sections of the textbooks.

Table 4. Past tense verbs

Text	tbooks			Past tense
		Grade 5	Listening	2
1	Dluc Class	Grade 5	Reading	1
1	Blue Sky	Grade 6	Listening	16
		Grade 0	Reading	16
		Grade 5	Listening	5
2	Crown	Grade 3	Reading	0
∠	Crown	Grade 6	Listening	19
		Grade 0	Reading	10
		Grade 5	Listening	22
3	Here We Go	Grade 3	Reading	7
3	nere w e Go	Grade 6	Listening	25
		Grade 0	Reading	13
		Grade 5	Listening	7
4	Sunshine	Grade 3	Reading	3
4	Sunsmue	Grade 6	Listening	4
		Grade 0	Reading	5
		Grade 5	Listening	25
5	Total English	Grade 3	Reading	16
3	Total English	Grade 6	Listening	51
		Grade 0	Reading	14
		Grade 5	Listening	1
6	Non Horizon	Grade 3	Reading	1
O	New Horizon	Grade 6	Listening	2
		Graue 0	Reading	1
		Grade 5	Listening	18
7	One World	Grade 5	Reading	1
/	One world	Grade 6	Listening	5
		Graue 0	Reading	10

3.6 Prepositions

Table 5 (see Appendix) displays the use of prepositions, in which the authors found that, in all the 14 sets of the textbook, the listening sections outnumber those of the reading sections. It is well known among researchers of second language acquisition and English as a foreign language (EFL) that the acquisition of prepositions is one of the most complicated grammatical items.

Matsubara (1984) pointed out the learning difficulty of prepositions. Yamaoka (1995a, 1995b) made a prototype analysis of the preposition "on" among Japanese learners of English. Few researchers have focused on the importance of instruction of prepositions due to their complexity (DeKeyser, 2009; Snape et al., 2009; Tyler & Evans, 2003).

Celec-Murcia and Larsen-Freeman (1999) studied the possible mismatch between English and other languages. James (2007) and Jie (2008) concluded that each language has its own set of rules for prepositions. Wu and Gao (2021) suggested that, because of its various semantic entries and flexible usage, prepositions are one of the difficult points for most English learners.

These studies are among numerous types of research on prepositions that have been studied in the last 20 years, which indicates that the use of prepositions is one of the most challenging and complicated grammatical items for the learners of EFL to attain. However, it is also true that learning English without prepositions is simply impossible, which is verified by the fact that among the top 20 words in the British National Corpus, eight words are prepositions (of, in, to, for, with, on, by, at) (Nakanishi, 2017).

Dixon (2021) stated that prepositions "play a vital role" in English. They "indicate how and where, when and why, purpose and association, inclusion, connections" (p. VII). Dixon placed prepositions into three categories; simple, complex, and phrasal. Simple prepositions include words such as *in*, *of*, *since*, *under*, and *through*; complex prepositions are words composed of two simple prepositions such as *into*, *out of*, *upon*, and *in-between*; and phrasal prepositions are words made up of adverbs, noun adjectives, or conjunctions, such as *ahead of*, *in spite of*, *by means of*, *but for*, *close to*, *far from*, and *together with* (p. X). Dixon further stated that *of* and *for* are "pre-eminent markers of grammatical relations" and that both are "exclusively prepositions, never functioning as adverbs" (p. 99).

From Dixon's definition, we conclude that, among the three categories, simple prepositions are easier to learn, and the most difficult are phrasal prepositions. We looked at the use of prepositions in the listening and reading sections, categorizing them according to those three categories. We also examined the prepositions, comparing them with the JACET8000 ranking. JACET8000 is the basic vocabulary list for college students in Japan, published by the Japan Association of College English Teachers (JACET), which has been "widely used to compile teaching materials, write English examinations" (JACET8000, p. 70).

JACET8000 is a similar version of CEFR (Common European Framework of Reference for Languages), except it is a word list for university students in Japan. It divides the words in the list into 8 levels; level 1 being the most frequently used. JACET8000 lists 57 prepositions and ranks them from 2 to 7809; of is ranked 2, indicating it is the most frequently used and, therefore, the easiest, preposition; amidst is ranked 7 809, indicating it is the least frequently used and, hence, the most difficult, preposition. JACET8000 does not include either "complex" nor "phrasal" prepositions in its list. We looked at the use of prepositions among the listening and reading sections with both Dixon's three divisions and JACET8000 ranking.

Table 5 (Appendix) shows the list of prepositions in the order of JACET8000 ranking. In all seven textbooks (14 sets), the listening sections have more prepositions than the reading sections. The number of frequencies for each preposition differ between the listening and reading sections. The difference is mainly, and simply, because of the difference of total words between the listening and reading section.

We focused on the number of lemma (header words), and found that the listening sections have more lemma than the reading sections. However, most of the prepositions used in the elementary textbooks are those ranked among the top 50, suggesting they are very basic prepositions. It is interesting to note that all the seven sets of textbook have similar list of prepositions, which appear to be intentionally controlling the textbook's difficulty level.

As for Dixon's three categories, most of them are simple prepositions. Very few complex prepositions are found, such as *into* and *onto*. As for phrasal prepositions, we found the use of *in front of* and *at home* in both the listening and reading sections. To summarize, the listening sections contain more prepositions, but they are mostly basic and simple prepositions.

Learning the grammatical use of prepositions is very difficult for beginners. On the other hand, they simply cannot learn the target language and avoid prepositions. The authors conclude that this presupposed knowledge has led textbook publishers to avoid the use of prepositions in the reading texts. The CS for primary school divides the target vocabulary into two types: "the productive vocabulary" and "the receptive vocabulary" (Monbukagaku-sho, p. 90). The term "productive" refers to the words which are to be taught to be written or spoken, whereas "receptive" are the words that are taught to be recognized or understood. It is safe to assume that publishers use significantly more receptive words in the listening sections, many of which are prepositions.

4. Conclusion

The authors studied seven newly published primary English textbooks focusing on the differences between their reading and listening sections. The primary level textbook consists of two books: one for grade 5 and the other for grade 6, a total of 14 books. The study began when the authors had an impression that the listening sections of all seven textbooks were apparently more complex than their reading sections.

We first studied the text size and found that in all 14 books (two books for each of the seven textbooks), the listening sections were much larger than the reading sections. Therefore, the authors concluded this problem was most likely due to the CS's suggestion that more emphasis should be placed on communication skills rather than gaining vocabulary or grammatical knowledge (Monbukagaku-sho, p. 64).

Regarding research questions 2 and 3, the authors first looked at the readability levels assuming that the listening sections would be more difficult than the reading sections. However, contrary to our expectation, the results showed that, in all four readability indices, the reading sections, not the listening sections, were verified to be more difficult. Upon finding these results, the authors searched for other possible items which may confirm our impression.

The first item of focus was on the number of past tense verbs because the CS suggests using only highly used past tense verbs. The use of the past tense is still too difficult for primary school. The results show that there are more past tense verbs in the listening sections than in the reading sections in 10 sets of textbooks. The second item the authors analyzed was the use of prepositions because there are many studies on the use of prepositions by EFL learners. Most of these studies suggest that English prepositions are complicated and, thus, difficult items to learn. The authors have consequently concluded that past tense verbs and prepositions can be possible benchmarks to measure the difficulty level of the English textbooks.

5. Pedagogical contribution

Based on the findings of the paper, the authors feel convinced that this study would provide valuable knowledge for developing English textbooks, especially for the primary and primary school teachers in selecting suitable textbooks for their pupils. If their pupils have no previous knowledge of English, then they may choose textbooks with smaller listening sections and vice versa.

6. Further study

We believe our findings clarifies the readability level of the primary English textbooks. However,

to our knowledge, no readability measurements use prepositions or past tense verbs in their formulas. It probably involves high complexities in making them dependable variables. Nevertheless, the authors strongly suggest that prepositions can be a verifiable variable for readability measurement, which would motivate us to further study the use of prepositions.

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Appendix

Table 5 Prepositions

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