The Required Listening Proficiency Level for Japanese High School Students: Considerations from an Analysis of the National Center Test

Noriko Imai (Kochi University)・Rie Sugiura (Tokai University)

Abstract[1]

The aim of this paper is to examine and analyze the listening test component of the National Center Test for University Admission (Center Test) used annually for the selection of candidates for admission to Japanese universities. In this study, four components of the listening tests conducted from 2015 to 2017 were examined: topics and content, the number of words used, grammar items, and words per minute (WPM). In addition, the WPM rate of the Center Test was compared with that of TOEFL and TOEIC, and evaluated using the Common European Framework of Reference for Languages (CEFR). This study was undertaken because the Ministry of Education, Culture, Sports, Science and Technology uses CEFR to define the possible national learning achievement goals. The results showed that the average WPM for the listening comprehension questions in section four was 140 WPM which was slower than TOEIC, but a similar speed to TOEFL. Furthermore, the items of the Center Test were found to be within either the A2 or B1 levels of CEFR.

Key words: the Japanese National Center Test for University Admission, listening test, TOEIC, TOEFL, CEFR

1. Introduction

Entrance examination systems are currently being reformed because of the rapidly changing nature of knowledge and skills over recent decades. Timed with the 2020 Tokyo Olympic and Paralympic Games, the new English education reforms in Japan are being implemented throughout elementary, junior high, and high schools. This forms part of the Ministry of Education, Culture, Sports, Science and Technology's (MEXT's) "Education Reform Plan" that aims to respond to the effects of rapid globalization by reforming university admissions from 2020. The majority of the attention given to this issue has focused on changes to the National Center Test for University Admission (hereafter referred to as the Center Test). A new standardized academic achievement examination, which was renamed the Daigaku Nyugaku Kyotsu Test, has been created to incorporate privately run English testing in addition to questions created by the government-sponsored Center Test. In other words, universities are now required to assess and analyze students' English proficiency

---

and learning status in terms of the four language skills. Although this educational reform is a significant issue to be discussed, the focus of this paper is not the educational reform specifically, but rather the currently administered Center Test. In the transitional period to the new examination system, reviewing and evaluating the Center Test can provide valuable information to consider how the new examination should proceed. Thus, the aim of this paper is to specifically analyze the listening component of the test in four areas: topics and content, the number of words used, grammar items, and words per minute (WPM).

In the next section, the current administration of the Center Test will be reviewed.

2. The National Center Test for University Admission

The Center Test is currently conducted as a standardized university entrance examination, which is held annually in the middle of January over a two-day period. First the listening test was implemented in 2006, and examinees who select English as their foreign language on the Center Test receive both a written test (including reading comprehension, grammar, and vocabulary) and a listening test. Only reading and listening skills are evaluated in a multiple-choice format[2]. This exam is designed and produced by the National Center for University Entrance Examinations (NCUEE), an independent administrative institution, although the content of the exam is determined by MEXT based on *the Course of Study*.

MEXT (2014) has set the English proficiency targets for high school graduates by referencing the curriculum guidelines offered by the Common European Framework of Reference for Languages (CEFR), which are used as a benchmark for developing the English curriculum. According to NCUEE, the Center Test primarily aims to measure basic academic achievement by university applicants upon concluding a high school level education. Therefore, the university entrance examination plays an influential role in Japanese high school English education. In this situation, a backwash effect can be expected, and the listening component of the Center Test is no exception: that is, high school students will have a picture of what they have to achieve regarding listening. The listening component is considered to be difficult because it is processed online without the option of going back to earlier sections of phrases or a passage the listener might have missed. In addition to this, what makes listening more arduous for Japanese learners is the phonological difference from English. Japanese is a mora-timed language, whereas English is a stress-timed language. Furthermore, there are several reasons that Japanese learners find it difficult to listen to English, including sound insertion, sound merge, linking, sound deletion, weak form, and schwa. Therefore, acquiring English listening skills is considered to be the hardest part of learning English for Japanese learners, and it is thus invaluable to analyze and investigate the listening test component of the Center Test.

In the next section, the aims of the Center Test are examined focusing on the listening test in particular.

---

[2]   MEXT (2014) has announced that the university admission reforms of the Center Test will mean that the aim of the new exam system will be to develop communication skills in terms of the four language skills, which need to be evaluated properly in the entrance examinations.

3. Targeted Proficiency Level for High School Students
3.1 Overview of Targeted Proficiency Level

Amid ongoing globalization, MEXT (2014) set English proficiency targets that are suitable for students' needs and career choices once they graduate from high school: for example, Grade 2 or Pre-1 of the Eiken Test, or TOEFL iBT score of 60 or more. In addition, MEXT (2018) has published a table of the relationship between CEFR and other English language tests in order to establish what other tests are equivalent to the CEFR scale (see Table 1). As shown in Table 1, high school students at the stage of graduation are required to attain the A2 or B1 levels of CEFR. The CEFR has thus become very important in the framing of language policy and the design of curricula and syllabuses.

Table 1 *CEFR and English Language Tests* (Based on MEXT, 2018 and CEFR, 2001)

CEFR		Cambridge English	EIKEN	IELTS	TOEFL iBT	TOEIC L&R / S&W
Proficient User	C2 (Mastery)	230-200		9.0-8.5		
	C1 (Effective Operational Proficiency)	199-180	Grade 1	8.0-7.0	120-95	1990-1845
Independent User	B2 (Vantage)	179-160	From Grade 1 through Grade Pre-1	6.5-5.5	94-72	1840-1560
	B1 (Threshold)	159-140	From Grade Pre-1 through Grade 2	5.0-4.0	71-42	1555-1150
Basic User	A2 (Waystage)	139-120	From Grade 2 through Grade Pre-2			1145-625
	A1 (Breakthrough)	119-100	From Grade Pre-2 through Grade 3			620-320

※EIKEN: Test in Practical English Proficiency

3.2 Targeted Listening Proficiency Level Based on CEFR

CEFR "describes in a comprehensive way what language learners have to learn to do in order to use a language for communication and what knowledge and skills they have to develop so as to be able to act effectively" (CEFR, 2001, p. 1).

Table 2 shows the summary from a bank of illustrative descriptions developed and validated in the research project of CEFR, focusing specifically on the levels of A2 and B1 and listening comprehension. The left column in Table 2 shows the descriptions proposed by the Common Reference levels (i.e., a single holistic paragraph with descriptions based on action-oriented approaches) that follow the CEFR guidelines.

Table 2 *Common Reference Levels of A2 and B1* (Adapted from CEFR, 2001, p. 24 & p. 66)

CEFR	Levels: Global Scale	Overall Listening Comprehension
B1	Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans.	Can understand straightforward factual information about common everyday or job related topics, identifying both general messages and specific details, provided speech is clearly articulated in a generally familiar accent. Can understand the main points of clear standard speech on familiar matters regularly encountered in work, school, leisure etc., including short narratives.
A2	Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.	Can understand enough to be able to meet needs of a concrete type provided speech is clearly and slowly articulated. Can understand phrases and expressions related to areas of most immediate priority (e.g. very basic personal and family information, shopping, local geography, employment) provided speech is clearly and slowly articulated.

4. Analysis of Listening Test in Terms of Four Perspectives

The listening test has four parts with 25 questions in total. It is approximately 30-minute long and accounts for 50 out of the 200 points awarded in total for the foreign language component of the Center Test.

This section reports the findings from analyzing the listening tests administered from 2015 to 2017 in four components: topics and content, the number of words used, grammar items, and WPM. In addition, the WPM of the Center Test was compared with that of TOEFL and TOEIC.

4.1 Topics and Content

To analyze the topics and content of the listening component, listening scripts were examined and titles were given to each script to identify the particular topics. Each topic found in the three years from 2015 to 2017 is summarized in Table 3.

Table 3 *Topics for 3 Years*

Part	Q	2015	2016	2017
1	1	Looking for a T-shirt	School flag	The dormitory floor plan
	2	Hometown	The number of the new students	Transportation fee
	3	Commuting time	Classes	Today's schedule
	4	Cancel charge	Submission of the report	Movie
	5	Starting time of the meeting	Phones	Junk mail
	6	Positional relation of the USB ports and the mouse	How to fill out the form	Lunch box
2	7	Order at the restaurant	Borrowing a dictionary	Starting time of the dance performance
	8	Movie	Reservation for dinner	Spanish ability
	9	Lunch time	Which Emily was it?	Hurts in P.E. class
	10	The name 'Hotchkiss'	Favorite kind of music	Who are you talking with?
	11	How to make groups	From what age is drinking alcohol allowed?	Anything ready for emergencies
	12	The way to the wear section	Discount of a fried chicken	Talk with a professor
	13	Museum	Summer vacation	Being skeptical about ads
3A	14	Return of a DVD	Advice for a birthday present	Conversation between a son and his mom
	15	How to make good coffee	Different impression on the shirt	Dentist's appointment
	16	Left my glasses on a train	CD release	Shopping
3B	17~19	The Paralympics	Order pizza	Volunteer program
4A	20	Present for a wedding anniversary	How to cook lobster	Biography of John Wilson
	21	Hotel		
	22	National flags		
4B	23~25	Helen Keller and Akita dog	English education	Discussion about a gift

※ Part 1 : Short dialogue   Part 2 : Short dialogue   Part 3A : Dialogue
  Part 3B : Long dialogue
  Part 4A/4B : Long monologue and short monologue（2015）
  Part 4A : Monologue   4B : Conversation among three（2016/2017）

On the whole, the topics summarized in Table 3 are based on daily events, such as conversations with friends or family members, and are not so difficult to imagine for the examinees. For example, Question 10 in the 2017 test was about a man that mistakes a woman for someone else, Question 14 was about a mother scolding her son, and Question 12 was about a student asking a professor to write a recommendation letter. These are all situations that might possibly happen in the future to high school graduates.

4.2 The Number of Words

Table 4 and Figure 1 show the total number of words for each question. The number of words in Part 4 (4A and 4B) is comparatively higher because they are monologue sections.

Table 4 *The Number of Words*

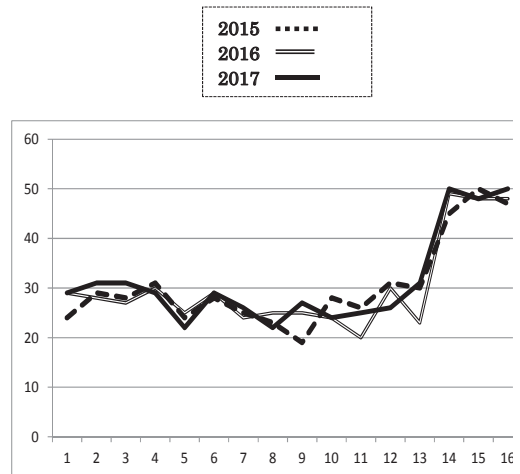| Part	Q	2015	2016	2017
1	1	24	29	29
	2	29	28	31
	3	28	27	31
	4	31	30	29
	5	24	25	22
	6	28	29	29
2	7	25	24	26
	8	23	25	22
	9	19	25	27
	10	28	24	24
	11	26	20	25
	12	31	30	26
	13	30	23	31
3A	14	45	49	50
	15	50	48	48
	16	47	48	50
3B	17~19	149	148	148
4A	20	91	197	195
	21	95		
	22	95		
4B	23~25	206	300	303
Total	→	1124	1129	1146

Figure 1 Change in the Total Number of Words

Compared with past tests from 2006 when the listening test was introduced, a big difference was not found in terms of the total number of words in the test (refer to Table 5).

Table 5 *The Number of Words in the Past* (Based on Suzuki, 2017)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Number	1095	1010	1086	1105	1088	1167	1165	1126	1139

4.3 Grammar Items

Fundamental grammar items used in the test included present perfect, past tense, *to*-infinitive, future expression, relative pronoun, and so on. Most of these grammar items are learned at junior high schools, although some are grammar items learned at high school level (e.g., present perfect continuous and relative pronoun "what" (see Table 6).

Table 6 *Grammar Items Learned at High School Level*

Year	Grammar Items
2015	present perfect continuous / negative question / relative pronoun (what) / twice as~as / on which / conjunction (while) / relative pronoun continuous (, which)
2016	present perfect continuous / negative question / so ~ that / relative pronoun (what) / had better / tag question / subjunctive past / past perfect
2017	present perfect continuous / relative pronoun (what) / relative pronoun continuous (, which /, who) / negative question / tag question / relative adverb (where) / too~to / exclamatory sentence / could've been / present perfect passive

4.4 WPM

The average speaking rate varies on the basis of the purpose of a person's speech. The National Center for Voice and Speech noted that the average conversation rate for English speakers in the United States is about 150 WPM (VIRTUALSPEECH). Tables 7 and 8 summarize the different speech rates based on different categories of speech.

Table 7 *Reported Average WPM of British English* (Based on Tauroza and Allison, 1990)

Category	WPM
Radio monologue	160
Conversations	210
Interviews	190
Lectures to non-native speakers	140
Combined total	170

Table 8 *The List of Average Speech Rates for Different Activities* (Based on VIRTUALSPEECH)

Activities	Average speech rates (WPM)
Presentations	100–50 WPM for a comfortable pace
Conversational	120–150 WPM
Audiobooks	150–160 WPM, which is the upper range that people comfortably hear and vocalize words
Radio hosts and podcasters	150–160 WPM
Auctioneers	can speak at about 250 WPM
Commentators	250–400 WPM

According to Ooki (2012), ESL or EFL learners find it difficult to listen to English passages spoken above 180 WPM. Furthermore, Rodeo (2012) referring to Boyd suggests that 180 WPM is the most natural and pleasing rate for listening as well. Taking into account the findings from these studies, 180 WPM can thus be considered to be meaningful.

Moreover, Suzuki (2017) analyzed the Center Test administered from 2006 to 2016 and found that the passages for the listening comprehension questions are read at 164 WPM on average (with minimum and maximum values at 144 WPM and 172 WPM, respectively). Suzuki also pointed out the change of the average WPM: whereas up to 2012 the average was 170 WPM, this changed to 159 WPM in the last five years preceding the study.

Table 9 shows the WPM of the Center Test from 2015 to 2017. This analysis focused on the monologues section to compare the results with that of TOEIC and TOEEL. The lowest WPM that was found was 127, and the highest was 158. The average WPM was 140. Compared with the average WPM in the 11 year period that was considered, a big difference could not be found (see Table 10).

Table 9 *The Result of WPM for the Center Test*

Part	Questions	2015	2016	2017
4A	Q20 Q21 Q22	<u>127</u> 143 127	<u>158</u>	138
4B	Q23~Q25	139	150	136

Table 10 *The Average WPM for 11 Years* (Based on Suzuki 2017)

Part	Part 1	Part 2	Part 3	Part 4
Average WPM	163	172	164	146

Furthermore, the WPM of TOEIC (Educational Testing Service, 2017a) was examined, especially the listening section in Part 4 in which examinees listen to monologues given by a number of different speakers (see Table 11), and the WPM of the TOEFL listening section made up of five monologues in the form of lectures (see Table 12). The five monologues of TOEFL were from "The Official Guide to the TOEFL Test Fifth Edition" (Educational Testing Service, 2017b).

Table 11 *TOEIC Listening Section Part 4*

Total number of words	The length of time (seconds)	WPM
99	32	186
110	36	183
110	37	178
78	27	173
100	36	167
96	29	199
97	29	<u>201</u>
105	39	<u>161</u>
100	33	182

※ Average WPM ⇒ 181

Table 12 *TOEFL Listening Section (Lecture: Monologue Type)*

Total number of words	The length of time (seconds)	WPM
827	335	148
798	316	152
802	354	136
795	320	149
777	325	143

※Average WPM ⇒146

　　Regarding TOEIC, the lowest WPM found was 161, the highest was 201, and the average WPM was 181. As Table 12 shows, the total number of words for each lecture of TOEFL was around 800 words, and the length of time was much longer than TOEIC. However, the average WPM of the five lectures examined was 146 WPM, whereas the average WPM of TOEIC was 181 WPM.

　　The WPM of the Center Test was between 127 and 158, and the average WPM was 140. Thus, the speed was slower than TOEIC but was similar to the speed of TOEFL.

5. Evaluation Based on the CEFR

　　For the present study, the four characteristics of the Center Test were evaluated on the basis of CEFR. As previously described (in Section 3 above), the Ministry of Education set the targets for high school students at the A2 and B1 levels of CEFR.

　　For the B1 level of overall listening comprehension, the topics were about day-to-day life or employment, and the speech was clearly articulated (see table 2 in section 3.2). As for the A2 level, the speech was clearly and slowly articulated and the topics were very basic. For the A1 level, the speech was articulated very slowly and carefully with long pauses.

　　Table 13 shows the levels of each item. We rated all the items and agreed on the level. As a result, the items in Sections 1 and 2 were at CEFR level A2, items in 3A were at CEFR A2+ level, and the items of 3B and Section 4 were at the B1− or B1 levels. This means that all of the items were found to be set at an appropriate level to test the English proficiency of high school graduates.

Table 13 *CEFR Level and the Japanese National Center Test*

Question No.		2015	2016	2017	Question No.		2015	2016	2017
1	1	A2	A2	A2	3A	14	A2+	A2+	A2+
	2	A2	A2	A2		15	A2+	A2+	A2+
	3	A2	A2	A2		16	A2+	A2+	A2+
	4	A2	A2	A2	3B	17	B1−	B1−	B1−
	5	A2	A2	A2		18			
	6	A2	A2	A2		19			

2	7	A2	A2	A2
	8	A2	A2	A2
	9	A2	A2	A2
	10	A2	A2	A2
	11	A2	A2	A2
	12	A2	A2	A2
	13	A2	A2	A2

4A	20	B1−	B1	B1
	21	B1−		
	22	B1−		
4B	23		B1	B1
	24	B1		
	25			

6. Summary of Findings and Conclusion

By analyzing the four components of the listening test, the findings of the present study indicate that the topics and content of the Center Test deal with common everyday topics familiar to the examinees. Furthermore, the total number of words used in the listening test has been stable for the past three years. Regarding grammar, the test items used basic grammar although the items taught at high school are especially tested. The analysis of the WPM revealed the speed of the Center Test is not as fast as TOEIC, but is a similar speed to TOEFL, although the speech length of TOEFL was much longer than the Center Test. On the basis of the investigation of the four characteristics, the listening component items of the Center Test were found to be within either the A2 or B1 levels of CEFR. This means the test is successfully set at the levels the Ministry of Education requires Japanese high school graduates to achieve.

However, due to the changes in English education in Japan, the goals have to be changed according to the corresponding changes in the curriculum. In the present curriculum, elementary school students are only familiarized with English in "foreign activity" classes. However, in 2020, English will become a mandatory subject for fifth and sixth graders at elementary school. Moreover, it will be necessary to consider what goal level should be set for high school students after introducing English to elementary school in the future. There are also a number of questions still to be answered: Should the test deal with more public and formal topics? Should the WPM speed be faster like TOEIC? And should the length of speech become longer like TOEFL? To answer these questions, further research on the National Test for University Admission in other countries is needed.

References

CEFR. (2001). *Common European framework of reference for languages: learning, teaching, assessment*. Council of Europe. Cambridge: Cambridge University Press.

Educational Testing Service. (2017a). *Official TOEIC listening & reading, 3*. Tokyo: The Institute for International Business Communication (IIBC).

Educational Testing Service. (2017b). *The official guide to the TOEFL test* (5th ed.). New York: McGraw-Hill Education.

Hughes, A. (2003). *Testing for language teachers* (2nd ed.). Cambridge: Cambridge University Press.

National Center for University Entrance Examinations. (2015). Retrieved from http://www.dnc.ac.jp/albums/abm. php?f=abm00006725.pdf&n=2015%E5%A4

Ooki, T. (2012). The role of speech rate in ESL/EFL listening: Reconsideration based upon the temporal control

system of language. *Hakuoh Journal of the Faculty of Education*, 6(1), 91-112. Retrieved from https://ci.nii.ac.jp/els/110009432650.pdf?id=ART0009911973&type=pdf&lang=jp&h

Rodero, M. (2012). A comparative analysis of speech rate and perception in radio bulletins. *Text and Talk*, 32(3), 391-411.

Suzuki, Y. (2017). How fast should Japanese high school students need English passages? Analysis of the National Center for University Entrance Examinations. *Kanagawa Daigaku Gengokenkyu*, 39, 1-20. Retrieved from http://klibredb.lib.kanagawa-u.ac.jp/dspace/handle/10487/14411

Tauroza, S. & Allison, D. (1990). Speech rates in British English. *Applied Linguistics*, 11(1), 90-105. Retrieved from https://doi.org/10.1093/applin/11.1.90

The Ministry of Education, Culture, Sports, Science and Technology (MEXT). (2014). Report on the future improvement and enhancement of English education (Outline): Five recommendations on the English education reform plan responding to the rapid globalization. Retrieved from http://www.mext.go.jp/en/news/topics/detail/1372625.htm

The Ministry of Education, Culture, Sports, Science and Technology (MEXT). (2018). Table for comparisons with CEFR based on data from each language tester, Retrieved from http://www.mext.go.jp/b_menu/houdou/30/03/__icsFiles/afieldfile/2018/03/26/1402610.pdf#search=%27MEXT++CEFR%27

VIRTUAL SPEECH. Retrieved from https://virtualspeech.com/blog/average-speaking-rate-words-per-minute