

Performance of Japanese EFL Learners on a Test of English Syllabification, Word Stress, Sentence Focus, and Thought Groups

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Introduction

Research on the pronunciation difficulties of Japanese learners of English as a foreign language (EFL) has focused primarily on the perception and production problems of vowels and consonants. Little research has been published in English on the difficulties these and other learners have with syllabification, word stress, sentence focus, and thought groups although these problems have been acknowledged (Gilbert, 1993b; Gilbert, 1994; Miura, 1996; Morley, 1987; Morley, 1994; Riney, Takada, and Ota, 2000). The present study analyzes the results of 40 learners on a diagnostic test of English phonology in the four areas mentioned above with the aim of offering a more balanced understanding of the phonological strengths and weakness of the Japanese learner of English. This study focuses on the learners' perceptual ability and application of their background knowledge, not on their ability to produce the sounds of English. Because perceptual ability and understanding of the sound system of English play important roles in the learners' acquisition of intelligible and communicatively effective spoken English, these results will be of interest to both classroom teachers and material writers.

Background

In addition to being able to perceive and production vowel and consonant sounds correctly, learners of English as a foreign language

must also have a good grasp of syllabification, word stress, sentence focus, and thought groups both to understand English when they hear it and to be understood when they speak it. A speaker's accent, especially those features associated with stress, pitch, and rhythm, can greatly affect the intelligibility of what is being said (Derwing and Munro, 1997; Gilbert, 1993b, 1994). Although many textbooks intended for international audiences give considerable attention to these features (e.g., Beisbier, 1994, 1995; Bowler and Cunningham, 1990; Grant, 1993; Lane, 1997; Orion, 1997; Prator and Robinett, 1985), books for Japanese learners of English give much less attention to them in comparison (e.g., Dale and Poms, 1994; Seido Language Institute, 1992). The phonology of Japanese differs greatly from that of English (Vance, 1987; Roach, 2000) in these matters, and lack of understanding of these differences can cause problems not only of what is being said but also of what message is intended (Yamada and Tannen, 2002). Thus, it is important for teachers of Japanese learners to pay particular attention to these features of English.

The English syllable. Many pronunciation problems result from the inability of learners to recognize and produce the different syllable types of English. An awareness of syllables is important because it helps students identify stress marking that is needed for clear understanding (“desert” vs. “dessert”) and focus attention on word endings and reduced syllables, especially articles and auxiliaries, that are often missing from students' speech. Moreover, syllables “are an essential foundation for English rhythm . . . [and] rhythm may be the single most important element in learning clear pronunciation” (Gilbert, 1993, p. 1).

There are two categories of syllables in English. An *open syllable*

is one that ends with a vowel sound (V) such as in the one-syllable words “sea” and “sky,” and a *closed syllable* is one that ends with a consonant sound (C) such as in the words “land” and “rock.” Within these categories, there are a variety syllable patterns from simple to complex, for example, “bee” (CV), “cat” (CVC), and “crab” (CCVC). Note that in this discussion, what is being considered are vowel and consonant *sounds* not their orthographic forms. For instance, the word “snake” ends with the consonant *sound* /k/ even though the last *letter* is a vowel.

In contrast to English, some languages such as Japanese, have predominantly open syllables. In Japanese, words of more than one syllable consist of a series of consonant-vowel pairs (e.g., CV-CV-CV as in *kabuki*) or a vowel followed by such pairs (e.g., V-CV-CV-CV as in *ikebana*). Japanese speakers often have trouble pronouncing correctly closed CVC syllables and may add a vowel to the end of these closed syllables to make the word fit the Japanese pattern. For example, a word such as “bat” may be pronounced as /batto/ with two open syllables (CV-CV).

Another characteristic of English syllable structure is the *consonant cluster*, which consists of two or more consonants together such as the initial /spr/ in “spring” (CCCVCC). Because Japanese does not have consonants clusters as in English, Japanese speakers will often insert vowels between consonants so that a word like “strike” will be pronounced /sutoraiki/ (Avery and Ehrlich, 1992). Japanese speakers will generally insert the vowel /u/ when an English word does not fit the Japanese pattern, with the exceptions that /o/ is inserted after /t/ or /d/, for example, “pride” becomes /puraido/) and /i/ is inserted after the sounds /ch/ and /j/, for example, “match” becomes /matchi/ and “page” becomes /peiji/. Moreover, Japanese has as a large number

of English loanwords (*gairaigo*) that are commonly used in daily life and pronounced in the Japanese way. Consequently, Japanese speakers often have difficulty in perceiving these words when spoken by native speakers and difficulty in pronouncing them in a way intelligible to non-Japanese speakers of English. The basic syllable patterns of English are summarized in Table 1.

Stress in English. A syllable that stands out from the other syllables in a stream of speech is referred to as “stressed” or “accented.” As Roach puts it, “from the perceptual point of view, all stressed syllables have one characteristic in common, and that is *prominence*” (2000, p. 94). Prominence is determined by four main factors: pitch, length, loudness, and quality, but these factors are not equally important. According to experimental evidence, pitch and length are the most powerful factors whereas loudness and quality have much less effect (Cutler, 1997; Roach, 2000).

Each of the variables that mark stress (pitch, length, loudness, quality) is present or absent to different degrees in different languages. In North American English, syllable *length* is regarded as the most important marker stress (Avery and Ehrlich, 1992), although this stress is also accompanied by greater loudness or clarity on the stressed syllable and also a rise in pitch. Unstressed syllables in English are very short, unclear, and usually reduced to schwa. In contrast, Japanese and many other languages indicate syllable stress predominately by a rise in *pitch*, not by length or loudness, and accordingly are referred to as “pitch-accent languages.” Moreover, Japanese and many other languages are said to be “syllable-timed languages,” meaning that each syllable receives stress unlike “stress-timed languages” such as English in which stress appears at regular intervals. Consequently, speakers of syllable-timed languages

frequently have difficulty perceiving and producing vowel reduction in English words and sentences (Avery and Ehrlich, 1992; Gilbert, 1993b; Orion, 1997). However, the distinction between syllable-timed and stress-timed languages is not as clear-cut as it may seem. In the opinion of Dalton and Seidlhofer (1994), “it may be better . . . to regard the two types as endpoints of a continuum on which languages can also occupy intermediate positions” and “wherever they appear on the continuum, all languages have a tendency to reduce the vowels of unstressed syllables” (p.42). Nevertheless, reduction in vowel duration and quality in English is dramatically greater in comparison with Japanese, and these two languages may be regarded as being on opposite sides of this continuum.

Stress is classified into three levels from strong to weak: primary, secondary, and tertiary (Roach, 2000). As vowel length is probably the most prominent feature of stress in North American English, another way to look at it, according to Gilbert (1993b), is whether a syllable has a full vowel stressed, a full vowel unstressed, or a reduced vowel. For example, the second “a” in the word “alteration” is a stressed full vowel and the first “a” is an unstressed full vowel. An example of a reduced vowel would be substituting an unstressed schwa for the full vowel /uw/ in the word “you” to produce “ya.” Although a case has been made for a four-level system that distinguishes between “weak stress” and “unstressed” (English Language Services, 1964), this distinction may be unnecessarily complicated, especially so for pedagogical purposes (Roach, 2000, p. 95). In general, *content words* are stressed (nouns, verbs, adjectives, adverbs, demonstratives, and interrogatives) and *functions words* are unstressed (articles, prepositions, personal pronouns, possessive adjectives, relative pronouns, conjunctions, modals, and auxiliaries)

(Prator and Robinett, 1985). However, which words receive stress, especially the primary stress, depends on the intended meaning and function of the utterance.

Research has shown, that English speakers tend to store vocabulary according to stress patterns (Levelt, 1989, p. 373). If listeners do not perceive the stress pattern correctly, they may waste time searching for stored words in the wrong category causing the original sequence of sounds to slip from working memory, which may result in a breakdown in communication. One implication of this research is that learners would be well served by systematic training in common stress patterns. Pronunciation textbooks have provided such training to varying degrees ranging from minimal presentation of rules with a few examples to extensive lists of words in multiple categories for intensive practice (e.g., Beisbier, 1994; Bowler and Cunningham, 1990; Dale and Poms, 1994; English Language Services, 1967; Gilbert, 1993a; Grant, 1993; Lane, 1997; Orion, 1997; Prator and Robinett, 1985). There is little research, however, on the effectiveness of these different approaches and the amount of practice needed to achieve good results.

Focus in sentences. In addition to syllable stress, which affects the perception of individual words, there is stress at the sentence level that calls attention to the speaker's main intent. This kind of stress is referred to as the *focus* of the sentence. In addition to lengthening the vowel sound of the stressed word, "attention is focused on one of the elements in a thought group by using only one high note, and by making the voice rise on the stressed syllable of the word the speaker wishes to single out" (Prator and Robinett, 1985, p. 76). One function of sentence focus is to signal a contrast with something said or assumed previously; that is, it distinguishes

old from new information (Gilbert, 1993b). Other functions are to signal attitude, grammatical features, and discourse structure (Roach, 2000, pp. 183-203). In languages other than English, different devices such as changes in word order or grammatical markers may be used to signal the focus of a sentence. The ability to perceive and comprehend the flow of stress and pitch in English sentences is an essential skill learners need to develop.

Thought groups. In sentences, words are not pronounced separately but flow along smoothly and seem to blend into each other making it difficult for learners of English to know where one word ends and another begins. Although appearing to be a seamless flow, “speech is [actually] a sequence of brief stops and starts . . . based on the speaker's effort to organize thought around separate ideas . . . [and] . . . pauses are nearly as important as the correct stress pattern of a word or correct emphasis on sentence focus” (Gilbert, 1993b, p. 41). Thus, one of the major perception problems for learners is the task of segmenting the stream of speech into these meaningful subunits, a process known as *segmentation* and *thought grouping*.

Distinctions in word segmentation and thought grouping that native speakers can easily detect can be problematic for many nonnative speakers. Native speakers, for instance, would have little trouble distinguishing “I live in apartment A247” and “I live in apartment 8247” (Gilbert, 1993b, p. 113). This perceptible difference in word segmentation is technically referred to as *juncture* (Roach, 2000, p. 144) and is closely related to linking and pausing between words in an utterance. The distinction may depend on such acoustic differences as an aspirated vs. non-aspirated stop, for example, “my turn” vs. “might earn” and the holding or the single articulation of a consonant sound, for example, “key punching” vs. “keep punching”

In the case of “my train” and “might rain,” it depends on the voicing of the “r” sound. In other cases, the distinction may depend not on acoustic features but on the context of the utterance or the listener's knowledge of the world (e.g., “a tax on city buses” vs. “attacks on city buses” (Celce-Murcia, Brinton, and Goodwin, 1996, p. 241). The context, of course, will almost certainly make the meaning clear. Nevertheless, in the flow of natural speech learners of English as a foreign language may be momentarily confused by such expressions and should be made aware that such distinctions exist.

Research questions

This study addresses three main questions: How well do college-level Japanese EFL majors in the sample group perform on a test of English phonology covering syllabification, word stress, sentence focus (identification and distinguishing meaning), and thought groups? What do the results suggest about the learners' grasp of English phonology in these areas? How are the five test tasks interrelated? The test consisted of the following five tasks:

1. Identifying the number of syllables in common English words after seeing them in print and hearing them spoken by a native speaker.
2. Identifying the primary stress in common English words after seeing them in print and hearing them spoken by a native speaker.
3. Identifying the focus word in sentences within the context of a dialogue after seeing sentences in print and hearing them spoken by a native speaker.
4. Recognizing how the focus word changes the meaning of

a sentence.

5. Identifying thought groups in a sentence based on differences in pausing, linking, juncture, and other phonological variables.

Method

Subjects. The subjects in this study were 40 Japanese EFL college students in Japan. All were English language majors enrolled in a first-year pronunciation course. All had previous experience studying English in junior and senior high schools in Japan.

Data Collection. A diagnostic test was administered during the second class to assess the students' abilities in five areas of English phonology. Test items were selected from a popular intermediate level pronunciation textbook (Gilbert, 1993a) and took about 12 minutes to complete. The test consisted of an audio cassette that was played in the classroom on a tape recorder and a written answer sheet that the students marked while listening to the tape. There were five sections on the test as described below. The examples illustrate the type of items in each section but are not the actual test items.

The first section assessed the ability to determine the number of syllables in a word. Students listened to 10 words printed on the test sheet and wrote in a blank space after each word how many syllables they thought it had, 1, 2, 3, or more. Example:

forget (2) remember (3) think (1)

The second section assessed the ability to identify the primary stress in a word. Ten words were printed on the test sheet with

a space between each syllable. After listening to each word, the students circled the syllable they thought had the primary stress.

Example:

trans late dic ta tion pub li ca tion

The third section assessed the ability to identify the focus (primary stress) of a sentence. An informal conversation consisting of 10 utterances ranging in length from two to nine words appeared on the answer sheet. After listening to each utterance, students underlined the word they thought was the focus of the sentence. Example:

A: Do you speak English?

B: Yes, Can I help you?

A: I'd like to speak to Professor Tanaka in the English Department.

B: One moment, please.

The fourth section assessed the ability to distinguish differences in meaning when the focus of a sentence changes. On the test sheet, there were five pairs of sentences that were exactly the same except that a different word on the tape was stressed in each sentence. Each sentence was followed by a rejoinder or answer if the sentence was a question. After listening to the tape, the students selected the sentence with the stress pattern that best fit the rejoinder or answer. Example:

(a) Does she read Spanish? No, but he does.

(b) Does she read Spanish? No, but she can speak it.

The fifth section assessed the ability to distinguish differences in meaning based on pausing, linking, juncture, and other variables that affect the perception of which words belong together as one thought group. On the test sheet, there were five pairs of sentences that were phonemically the same except for the existence or absence of a pause, link, juncture, or other feature that changed the meaning. Following each pair of sentences was a question that required the student to distinguish one sentence from the other based on what they heard on the tape. After listening to the tape, the students wrote the answer to question. Example:

- (a) The doctor said, "That man is sick."
- (b) "The doctor, " said that man, "is sick."

Question: Who is sick? ()

An item analysis was carried out for each of the five test sections. The analysis consisted of tallying the number of responses for each test item and calculating the percentage of correct responses. The results appear in Tables 2a, 2b, 4, 5, 6, 7, and 8.

Results and Discussion

Tables 2a and 2b show the distribution of the total scores and the scores on each subsection. The distribution for the total scores approximates a normal curve with a slightly negative skew (-.83) and a moderate kurtosis (1.69). For first-year students who perhaps had little previous training in the features of English phonology covered on this test, the mean (71.94% correct) for the group as a whole is not unimpressive. Nevertheless, with 32% of the learners with scores

below 70% it does indicate there is room for improvement for many of them.

By far the easiest task (mean score of 94.5% correct) was Section II, marking the primary stress in words (Table 5). Although the students listened to the tape before responding, it was possible to do this task simply by relying on background knowledge. All forty students marked six of the 10 words correctly, and no word had a score of less than 85% correct. Marking the primary stress of words is a common exercise in English classes in Japan and can be found on widely used standardized tests such as STEP (*Eigo Kentei Shiken*). As such, students may be familiar with this kind of task and the words themselves from their previous study of English in junior and senior high schools. Having the words visually divided into syllables on the page may have facilitated success in this task as well. With a test sample of only 10 words covering a limited number of word stress patterns (7 of the 10 words were 4-syllable words), it is difficult to generalize about the true scope of the students' ability in this area.

Section IV, identifying the meaning of a sentence based on its focus word, was moderately easy for most students (mean score of 83% correct). Based on the location of the primary stress, the students had to determine which of two meanings the sentence could possibly have. A closer look at the five test items (Table 7) shows, however, a wide range of difficulty, ranging from 65% to 92.5% accuracy. It is unclear what accounts for this variation. Was it due to some particular phonetic or phonological characteristic of the sentence that represents a weak point in these students' ability? Was it related to the sound quality of the tape? Further testing with more sentences and a variety of sentences patterns is necessary to answer

these questions.

The other three sections, Section V (distinguishing thought groups, 62.60%), Section I (identifying the number of syllables, 61.80%), and Section III (identifying sentence focus, 58.80%) were more problematic. The nature of the difficulty the students had with thought groups (Tables 2 and 8) is unclear. Why, for instance, was item 1 (“pineapples” vs. “pie and apples”) so much easier (85.0%) than item 4 (“wooden matches” vs. “wood and matches” (37.5%)? Perhaps in the first case, the presence of an unstressed schwa before /n/ in “pie and” was easier to detect than the presence or absence of aspiration after /d/ in “wood” vs. “wooden” in the second case. This hypothesis could be investigated with future research. How other devices of thought grouping such as pausing and linking affect comprehension and learnability need further investigation.

Given that the Japanese and English syllable systems are so different from each other, we would expect considerable difficulty with Section I, the syllable identification task (Tables 2a, 2b, and 4). This task relied on both the learners' ability to aurally perceive the number of syllables and their background knowledge of the syllable structure. As mentioned above, it was possible to complete this task successfully by simply reading the words without listening to how they were pronounced on the tape. The results (61.80% accuracy) show as expected that this task was difficult for this group of students as a whole, but it also shows a wide range of variation (32.5% to 95% accuracy) depending on the word. The Japanese tendency to insert vowels after English consonants was not much of a factor for these test items. For example, the two-syllable word “closet” when pronounced with a Japanese accent becomes a four-syllable word: /ku ro zet to/; however, only 1 of the 40 students marked it as so. The ac-

curacy rate for this word, in fact, was the highest, 95%. In contrast, the words that were the most difficult were the one-syllable words “caused” (37.5%) and “clothes” (34.4%). Most students perceived them as having two syllables.

Because there were only 10 test items in Section I, it is difficult to see if there are any trends or patterns of difficulty. Among the items with less than 70% accuracy, there are both long and short words, in terms of both number of letters and syllables. Upon closer inspection, it can be seen that the length of the word (number of syllables) was not related to difficulty as both one- and three-syllable words appeared among the most and least difficult items. An inspection of the word list in Table 4, in which the words are ordered by difficulty, suggests that longer words (number of letters) may be a factor. The average length for items 1-5 is 6.0 letters, whereas for items 6-10 it is 8.6 letters. This hypothesis could be tested through further research. Overall, the average score for the 40 students on this section of the test was 61.80%, indicative even with this small sample that perception and knowledge of syllable structure is an area that should receive more attention at this level of instruction.

The most difficult task (58.80% accuracy) was Section III, identifying the focus of a sentence (Tables 2a, 2b, and 6). A close examination of the test items presents a complex picture. Half of the sentences (5 out of 10) were correctly interpreted by a large majority of the students (80%-100% accuracy). The other half, however, were much more difficult (12.5% to 67.5% accuracy). The average degree of accuracy for the three longer sentences (5, 6, and 7 words in length) was 81.7%, in contrast to 51.1% for the seven shorter sentences (4 words or fewer). The shorter sentences, however, were split into two groups of very high and very low scores such that the mean did

not reflect their true distribution. A comparison between the three questions and the seven statements yielded similar results.

A short dialogue such as the one in this study provides limited data for assessing or diagnosing learners' difficulties with sentence focus. It is not clear from the results if the students were simply responding to the physical features of prominence (vowel length, rise in pitch, etc.) or were considering (or not considering) how the stress pattern of the sentences affected their meaning. What can be said, though, is that some students are better at this task than others and that many students had difficulty with it.

Correlations among the five skill areas. Table 3 presents the Pearson product-moment correlations among the different sections of the test and their relation to the total score. Pearson's r measures the degree to which two sets of data are related. A result of 1.0 indicates a perfect one-to-one positive correspondence (high scores match high scores) and -1.0 indicates a perfect one-to-one negative correspondence (high scores match low scores). A result of 0.0 indicates that two sets of scores are unrelated. In the present study, the strongest correlations were between Section III (identifying the meaning of a sentence based on its focus word) and the total test score (.73), and between Section I (identifying the number of syllables) and the total test score (.65). These findings suggest that among the five abilities examined in this study, it is these two abilities that most clearly distinguish high from low achievers. Not surprising, then, is the further finding that among the five sections, the only correlation worth noting ($r = .33$) was found between the same two sections. Identifying thought groups (.51) and word stress (.40) also distinguished high achievers but to a much lesser extent. It should be noted that skewed distributions in Sections I (-2.53)

and Section II (-2.05) may have depressed their correlation coefficients (Brown, 1988, p. 145). Section IV required the students to identify the location of the primary stress in relation to the intended meaning of the sentence. Thus, we would expect strong positive correlations with Sections II (word stress) and Sections III (sentence focus). One reason no relationships were found among these three sections could simply be that the test did not provide enough data for these relationships to be observed. Perhaps a longer test with more systematically selected tests items would bring these relationships to light, if they exist.

Conclusion

In regard to how well the college-level Japanese EFL majors in this sample group performed on the test of English phonology in this study, several findings can be reported. First of all, on the total score the learners displayed a range of ability levels that approximated a moderately peaked normal curve with a slight negative skew. Although some sections and some test items were for the group as a whole more or less difficult than the others, the variation among individual learners both in total scores and subsection scores point to the fact that many learners even after many years of English study still need practice in the basic skills assessed by this test.

Second, the group as a whole found it difficult to correctly identify the number of syllables in common words, the primary stress in sentences within an extended dialogue (particularly stress associated with identifying attitude, contrast, and discourse marking), and thought groups that highlight the meaning of sentences. In contrast, the group was moderately good at distinguishing meaning between paired sentences with shifts in primary stress.

Third, learners overall were good at identifying the primary stress in common words that had been clearly divided into syllables to facilitate marking. This result may reflect their previous experience with this kind of task and their background knowledge of basic English vocabulary.

Fourth, no strong correlations were found among the five subsections of the test; however, it was clear that high performers as a group tended to be those who were good at identifying sentence focus, thought groups, and syllable numbers, exactly those areas that were problematic overall for most other learners.

In terms of the content of the test itself, the following limitations can be noted. The number of test items in each section, particularly in Sections I (syllables) and II (word stress) may be too small to accurately reflect the variety of syllable and stress patterns that learners need to know. More test items displaying a greater variety of patterns would improve the test. Similarly conclusions can be drawn for Sections IV (sentence focus) and V (sentence meaning). The stress and intonation patterns covered in the dialog in Section III are also limited. To obtain results that will show more clearly the abilities of the learners, increasing the length of the test from its present 12 minutes to about 25-30 minutes would allow for a wider range of content and better coverage of the material without putting too much burden on the concentration power of the test takers.

Knowing that a substantial number of Japanese learners may have difficulty with many of the features of spoken English covered on this test what can be done? In addition to the textbooks mentioned previously, there are many excellent resource guides for teachers of English pronunciation, for example, Avery and Ehrlich (1992); Bailey and Savage (1994); Celce-Murcia, Brinton, and

Goodwin (1996); Dalton and Seidlhofer (1994); and Laroy (1995) just to name a few. The work of Anderson-Hsieh (1996) with electronic visual feedback and Jenkins (2002) with syllabus design should be mentioned as well. In addition to dealing with the practical aspects of classroom teaching, further research on the strengths and weakness of Japanese learners in regard to the suprasegmental features of English is also needed.

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Tables

Table 1. English syllable structure
(V= vowel sound, C = consonant sound)

No. of sounds	Structure	Examples
1	V	I, Oh! Ow!
2	VC, CV	of, my
3	CCV, VCC, CVC	free, ink, bat
4	CCCV, VCCC, CCVC, CVCC	spray, ants, stone, sand,
5	CVCCC, CCVCC, CCCVC	rests, brains, sprain,
6	CVCCCC, CCCVCC, CCVCCC	worlds, sprained, prints
7	CCCVCCC, CCVCCCC	sprints, twelfths

Notes: (1) Table prepared from data available in Avery and Ehrlich (1992) and Celce-Murcia, Brinton, and Goodwin (1996). Some new examples have been added. (2) Celce-Murcia, Brinton, and Goodwin (1996, p. 375) state that the 8-sound structure CCCVCCCC is also possible, but they do not provide an example.

Table 2a. Frequency distributions of section and total scores
(number of learners)

% correct	Section I: Syllables	Section II: Word stress	Section III: Focus (identify)	Section IV: Focus (meaning)	Section V: Thought groups	Total score
100-90	4 (10)	35 (87.5)	2 (5)	15 (37.5)	12 (30)	1 (2.5)
89-80	8 (20)	3 (7.5)	2 (5)	18 (45)	4 (10)	9 (22.5)
79-70	9 (22.5)	1 (2.5)	10 (25)			17 (42.5)
69-60	4 (10)	1 (2.5)	12 (30)	5 (12.5)	9 (22.5)	10 (24.5)
59-50	6 (15)	0 (0)	8 (20)			2 (5.0)
49-40	5 (12.5)	0 (0)	3 (7.5)	2 (5)	11 (27.5)	1 (2.5)
39-30	2 (5)	0 (0)	1 (2.5)			0 (0.0)
29-20	1 (2.5)	0 (0)	1 (2.5)			0 (0.0)
19-10	1 (2.5)	0 (0)	1 (2.5)			0 (0.0)
9-0	0 (0)	0 (0)	0 (2.5)		4 (10)	0 (0.0)
Totals	40 (100)	40 (100)	40 (100)	40 (100)	40 (100)	40 (100)

Notes: (1) N = 40. (2) Figures in parentheses indicate percentage. (3) Example: In Section I, 4 learners scored between 90% and 100%, 8 learners between 80% and 89%, etc.

Table 2b. Descriptive statistics for section and total scores

	Section I: Syllables	Section II: Word stress	Section III: Focus (identify)	Section IV: Focus (meaning)	Section V: Thought groups	Total score
N	40	40	40	40	40	40
No. of test items	10	10	10	5	5	40
% correct	61.80	94.50	58.80	83.00	62.60	71.95
Mean	6.18	9.45	5.88	4.15	3.13	28.78
Median	7	10	6	4	3	29
SD	2.07	0.93	1.70	0.83	1.59	3.91
High	10	10	10	5	5	36
Low	1	6	1	2	0	16
Skew	-2.53	-2.05	-0.49	-0.85	-0.38	-0.83
Kurtosis	-0.26	4.42	1.59	0.43	-0.66	1.69

Note: Calculations are based on the raw scores.

Table 3. Pearson correlations between subsections and with the total test score

	Section I: Syllables	Section II: Word stress	Section III: Focus (identify)	Section IV: Focus (meaning)	Section V: Thought groups	Total test score
I. Syllables	1.00	0.14	<u>0.33</u>	-0.13	-0.08	<u>0.65</u>
II. Word stress		1.00	0.12	0.21	-0.04	<u>0.40</u>
III. Sentence focus			1.00	-0.08	0.29	<u>0.73</u>
IV. Sentence focus				1.00	0.14	0.18
V. Thought groups					1.00	<u>0.51</u>
Total test score						1.00

Note: Underlined figures indicate a moderate to strong correlation between these two different sections.

Table 4. Section I: Identifying the Number of Syllables in a Word

Rank by difficulty	Word	Number of syllables	Correct	Incorrect	% correct
1	closet	2	38	2	95.0
2	simplify	3	34	6	85.0
3	first	1	33	7	82.0
4	sport	1	31	9	77.5
5	opened	2	28	11	72.5
6	frightened	2	27	13	67.5
7	committee	3	26	14	65.0
8	arrangement	3	18	22	45.0
9	caused	1	15	25	37.5
10	clothes	1	13	27	34.4

Notes: (1) N = 40. (2) After seeing the word on the test paper and hearing it spoken, the students wrote down how many syllables they thought it had.

Table 5. Section II: Identifying the syllable with the primary stress

Rank by difficulty	Word	Number of syllables	Correct	Incorrect	% correct
1	Ca na di an	4	40	0	100
2	ge og ra phy	4	40	0	100
3	Eu rope	2	40	0	100
4	in for ma tion	4	40	0	100
5	e con o my	4	40	0	100
6	e co no mic	4	40	0	100
7	par ti ci pa ting	5	38	2	95.0
8	pho to graph	3	37	3	92.5
9	pho tog ra phy	4	36	4	85.0
10	po lit i c al	4	34	6	85.0

Notes: (1) N = 40. (2) On the test paper, the words were divided into syllables as shown above. Students were instructed to circle the syllable that has the primary stress.

Table 6. Section III: Identifying which word is the focus of a sentence

Item	Sentence length (words)	Dialogue	Correct	Incorrect	% correct
1	9	A: Do you think food in this country is expensive?	37	3	92.5
2	2	B: Not really	27	13	67.5
3	4	A: I think it's expensive	5	35	12.5
4	6	B: That's because you eat in restaurants.	40	0	100
5	4	A: Where do you eat?	9	31	22.5
6	2	B: At home.	100	0	100
7	3	A: Can you cook?	32	8	80.0
8a	5	B: Well, actually I can't cook.	22	1	52.5
8b	4	I just eat cheese.	18	4	45.0
9	2	A: That's awful!	38	2	96.1

Notes: (1) N = 40. (2) Item 8 consisted of two sentences. The percentage correct for each is reported separately in the last column. Some students marked the focus in both sentences and some only in one sentence so the N for each is less than 40.

Table 7. Section IV: Distinguishing differences in meaning

Rank by difficulty	Paired sentences with rejoinders or answers	Correct	Incorrect	% correct
1	We want to buy a lot of <u>apples</u> . Not oranges? We want to buy a lot of <u>apples</u> . How many?	37	3	92.5
2	I think that animal is a <u>wolf</u> . No, it's a fox. I <u>think</u> that animal is a wolf. Aren't you sure?	34	6	85.0
3	Frank wanted to go <u>early</u> . When? Frank wanted to go early. Who?	33	7	82.5
4	Sally writes the reports? No, she reviews them <u>Sally</u> writes the reports? No, Bob does.	31	9	77.5
5	Does she speak French? No, but he does. Does she <u>speak</u> French? No, but she can read it.	26	14	65.0

Note: N = 40

Table 8. Section V: Distinguishing thought groups

Rank by difficulty	Thought Group	Correct	Incorrect	% correct
1	She likes pineapples. She likes pie and apples.	34	6	85.0
2	He sold his houseboat and car. He sold his house, boat, and car.	32	8	80.0
3	The president said, "That reporter is lying." "The president," said that reporter, "is lying."	26	14	65.0
4	Wooden matches are used to start fires. Wood and matches are used to start fires.	25	15	62.5
5	Would you like some soup or salad? Would you like some Super Salad?	30	10	37.5

Note: N = 40