

# Explicit Pronunciation Instruction: Teaching Suprasegmentals to Japanese Learners of English

Yuko Koike  
Ibaraki University

## Reference Data:

Koike, Y. (2014). Explicit pronunciation instruction: Teaching suprasegmentals to Japanese learners of English. In N. Sonda & A. Krause (Eds.), *JALT2013 Conference Proceedings*. Tokyo: JALT.

Acquiring intelligible English pronunciation is viewed as an important part of oral communication in the current age of globalization. Many learners, however, find pronunciation one of the most difficult aspects of the L2 to acquire in spite of a desire to improve their pronunciation. Despite the importance of intelligible pronunciation and learners' desire to learn it, there has been little guidance concerning L2 pronunciation instruction, and many language teachers have limited training in teaching pronunciation. The present situation of English education in Japan is no exception. In this paper, I examine the pronunciation problems faced by Japanese college students learning English and factors contributing to these problems. I argue that explicit suprasegmental instruction is effective in improving the intelligibility of the students' pronunciation. I also introduce instructional materials designed to be used in college English classes in Japan.

国際化が進む現代社会において、対話者に通じる英語の発音を習得することは、コミュニケーションを円滑に進めるうえで重要である。したがって、多くの学習者が発音の向上を望んでいるが、発音の習得は最も難しい領域のひとつであることが指摘されている。しかしながら、第二言語教育において発音の指導方法は確立しておらず、多くの教師は十分な訓練を受けていないのが現状である。日本における英語教育の場合も例外ではない。本論文は、英語を学習する日本人大学生が直面する発音習得の難しさとその原因を考察し、超分節音素 (suprasegmental) の特徴に関する明示的な指導を行うことが、学習者の発音能力を高めるうえで効果的であることを主張する。さらに、日本人大学生の英語の発音向上を図る指導方法と教材を紹介する。

**F**OR THE past three decades, there has been a renewed interest in second-language (L2) pronunciation, and some researchers have argued for more attention to pronunciation in L2 classrooms (Couper, 2003, 2006; Gilbert, 2010; Isaacs, 2009, Pennington, 1998). Pronunciation, however, remains peripheral in applied linguistics, and there have been few studies focusing on the effects of pronunciation teaching (Derwing & Munro, 2005). Consequently, little guidance concerning L2 pronunciation instruction is available, and many teachers have limited training in teaching pronunciation (Derwing & Munro, 2005; Foote, Holtby, & Derwing, 2011; Gilbert 2010). It is reported that teachers seem to lack confidence or express discomfort about teaching pronunciation (Baker, 2011; Burns, 2006; Foote et al., 2011). English education in Japan is no exception. In Japan, English pronunciation has not received much attention in regular school curricula, and few English teachers have been trained in teaching pronunciation (Arimoto, 2005; Ota, 2012).



What are students' attitudes toward learning pronunciation? Some studies show that many students have a desire to achieve native-like pronunciation (Derwing, 2003; Kang, 2010; Scales, Wennerstrom, Richard, & Wu, 2006; Timmis, 2002) and that they would like to have more opportunities to learn pronunciation (Couper, 2003; Derwing & Rossiter, 2002; Foote et al., 2011). Pronunciation is viewed as an important part of oral communication in the age of globalization. Many students, however, find pronunciation one of the most difficult aspects of English to acquire. The question arises as to how instruction should be given to students to effectively improve their pronunciation.

In this paper, I examine pronunciation problems faced by Japanese learners of English and factors contributing to these problems. Furthermore, I examine effective pronunciation instruction specific to Japanese college students and introduce teaching materials designed to be used in college English classes.

### The Role of Suprasegmentals in Intelligibility

Intelligibility (whether an utterance is understood by a listener) and comprehensibility (a listener's perception of the difficulty of understanding an utterance) are considered important goals of L2 pronunciation (Derwing, Diepenbroek, & Foote, 2012). Recent studies that have examined the aspects of pronunciation contributing to intelligibility have suggested that suprasegmental features play an important role. For example, suprasegmental errors appear to affect intelligibility more than phonetic errors (Anderson-Hsieh, Johnson, & Koehler, 1992; Munro & Derwing, 1995). More specifically, sentence stress (Hahn, 2004), lexical stress (Field, 2005), and the number and pattern of strong and weak syllables (Zielinski, 2008) have an effect on intelligibility. Similarly, Nakamura (2010) examined Japanese students' English pronunciation and analyzed the relationship between duration characteristics and subjective evaluations by

native English speakers. The results showed that the duration of unstressed syllables and weak vowels had a stronger correlation with subjective evaluation scores. Although some studies argue against suprasegmental instruction (Jenkins, 2000; Levis, 2005), the studies cited above suggest that students should learn suprasegmental features to improve their pronunciation.

### Difficulty Factors in Acquiring Suprasegmentals

In the 1970s, the theory of contrastive analysis, which was based on the notion of L1 transfer alone, was replaced by interlanguage theory, which holds that the L2 learner is using an independent language system that is neither the L1 nor the L2 as part of a learning sequence (Selinker, 1972). However, the influence of the L1 is usually observed in the area of phonology (Ioup, 1984; Osburne, 1996), as one can readily detect the linguistic origin of a speaker from pronunciation. L2 syllable structure, for example, can be altered to match that of the L1 (Broselow, 1987), although L2 syllable structure can also be affected by universal tendencies, regardless of L1 (Hodne, 1985; Tarone, 1980).

In addition, infants perceive suprasegmental features at a very early stage, and children master suprasegmental features before segmental features (Houston, 2010). It is claimed that listeners process spoken language in ways that are tailored to suit the phonological structure of their native language (Murty, Otake, & Cutler, 2007).

Given that L1 transfer is prevalent in phonology and suprasegmental features are learned at a very early stage, Japanese L2 learners are likely to transfer suprasegmental features from Japanese. Therefore, it seems pertinent to ask what the suprasegmental characteristics of the Japanese language are.

## Suprasegmental Characteristics of Japanese

### Syllable and Mora

The notion of mora is crucial in explaining Japanese syllable structure. A mora is a unit of syllable weight. There are four types of morae in Japanese: vowel (V), consonant-(/y/)-vowel (C(y)V), nasal coda (N), and geminate consonant (Q), as shown in the following examples:

one-mora words:	/i/	(V)	(stomach)
	/ki/	(CV)	(tree)
	/syu/	(CyV)	(species)
two-mora words:	/kona/	(CV.CV)	(powder)
	/kaki/	(CV.CV)	(persimmon)
three-mora words:	/koNna/	(CV.N.CV)	(such)
	/KaQki/	(CV.Q.CV)	(energy)

In Japanese more than 60% of all possible morae are of the CV type, and in corpora of Japanese speech, more than 70% of morae are of the CV type (Otake, Hatano, Cutler, & Mehler, 1993). Thus, many morae are also syllables.

The influence of moraic structure is observed in both spoken and written language. Japanese speakers have a strong tendency to change foreign words into strings of morae using vowel epenthesis, as seen in the following loanwords. When foreign words are used in Japanese, new permissible syllables are created, as in the following examples:

English		Loanword in Japanese
drive /draɪv/	→	doraibu /doraibu/
CCVC		CV.CV.V.CV
play /pleɪ/	→	purei /purei/
CCV		CV.CV.V

strike /straɪk/ → sutoraiku /sutoraiku/  
 CCCVC CV.CV.CV.V.CV

Thus, when pronunciation errors occur in the English of a Japanese L2 learner's speech, both segmental sounds and suprasegmentals are affected.

### Mora-Timed Rhythm

Languages are generally categorized according to their rhythmic units as stress-timed, syllable-timed, and mora-timed. In stress-timed languages such as English, German, and Russian, stressed syllables recur at roughly regular intervals regardless of the number of intervening unstressed syllables. In syllable-timed languages such as French, Spanish, and Chinese, each syllable takes up roughly the same amount of time. In mora-timed languages such as Japanese, Luganda, and Gibertese, each mora is of similar duration; syllable duration tends to be dependent on the number of morae within the syllable.

Japanese words are formed by a succession of simple and similar types of morae, most of which are of the CV type. Therefore, when an English word is changed into a string of morae, the contrast between stressed and unstressed syllables is weakened, which results in unnatural rhythmic patterns. Although a universal preference for the open (CV) syllable has been suggested, that is, an overall tendency to break difficult sounds into simple CV patterns (Hodne, 1985; Tarone, 1980), Japanese moraic structures seem to have an effect on learners' rhythmic patterns.

### Pitch Accent

Another suprasegmental aspect that differentiates Japanese from English is pitch accent. Japanese pitch accent is similar to English stress in that accented morae are given prominence by a higher pitch. In addition, both stress and pitch accent can

distinguish words, as in the following examples:

Japanese hasi /hási/ (chopsticks) vs. /hasí/ (bridge)  
 English object /ábdʒíkt/ (noun) vs. /ábdʒékt/ (verb)

However, Japanese pitch accent is different from English stress, as shown in Table 1.

**Table 1. Differences Between English Stress and Japanese Pitch Accent**

Differences	
English stress	<ol style="list-style-type: none"> <li>1. Stressed syllables are prominent in pitch, length, and loudness against unstressed syllables.</li> <li>2. Stressed vowels have a distinct quality, but unstressed vowels are reduced.</li> </ol>
Japanese pitch accent	<ol style="list-style-type: none"> <li>1. Accented morae are prominent only in pitch; all morae have similar length and loudness.</li> <li>2. Pitch accent does not affect vowel quality.</li> </ol>

As noted earlier, it is claimed that listeners process spoken language in ways that are tailored to suit the phonological structure of their native language. It is likely that Japanese L2 learners have difficulty controlling duration when learning English rhythm.

### Vowels

The Japanese vowel system is also thought to affect the rhythm of the speech that Japanese L2 learners produce. Japanese has a simple vowel system, contrasting only five vowels (/i/, /e/,

/a/, /o/, /u/). Because of the lack of lax vowels, learners tend to fail to reduce vowels in English. In addition, Japanese does not have diphthongs as single distinct vowels, which causes the learners to pronounce diphthongs as a sequence of two separate vowels. This affects not only vowel length but also the duration of the whole utterance.

This all indicates that the Japanese language has a very different phonological system, which suggests that Japanese learners of English are likely to make L1 transfer errors. For example, Nakamura (2010) reports that Japanese students' speech does not provide sufficient contrast between stressed and unstressed syllables, as native speech does, which shows that students have difficulty shortening the duration of unstressed syllables and weak vowels.

### Instructional Strategies

L1 transfer is prevalent in phonology, which is often explained in terms of the critical period hypothesis (or the sensitive period hypothesis). Young children are more likely to learn an L2 better than adults, and this is observed especially with pronunciation. It has often been argued that children should be taught a second language as early as possible. Therefore, the following questions should be addressed:

- How can adult L2 learners acquire English pronunciation effectively?
- What kind of instruction should be given to improve pronunciation?

### Explicit Instruction

Spolsky (1989) describes age-related L2 learning and argues that although the natural L2 situation may favor children, formal classroom learning, which requires sophisticated understanding

and reasoning, is suitable for adult learners. Moreover, it has been suggested that attention and awareness play an important role in L2 acquisition (Robinson, Mackey, Gass, & Schmidt, 2012; Venkatagiri & Levis, 2007). Schmidt (1990, 2001, 2010) has argued that attention may be necessary if adult L2 learners are to acquire linguistic features that are not present in the L1. In addition, recent research has suggested the effectiveness of explicit instruction that raises attention and awareness in L2 classrooms (Norris & Ortega, 2000; Spada & Tomita, 2010). Explicit instruction is described as encouraging learners to develop metalinguistic awareness of a rule, which can be achieved deductively, by providing learners with a description of the rule or inductively, by helping them discover the rule from data (Dekeyser, 2008; Ellis, 2009). Research on form-focused instruction also suggests the positive effect of explicit instruction on L2 learning. Form-focused instruction (FFI), which draws learners' attention to linguistic form, can be incorporated within communicative activities (Spada, 1997). Spada and Lightbown (2008) argued that although FFI within communicative activities helps learners to develop fluency and automaticity, explicit FFI separate from communicative activities is necessary to help learners to overcome the problems of L1 influence.

In the area of pronunciation teaching, Derwing and Munro (2005) claimed that phonological forms should be explicitly taught to students, which helps them to notice the differences between native speakers' pronunciation and their own pronunciation. Similarly, Pennington (1998) argued that explicit instruction can raise learners' level of awareness of their own phonological acquisition process and their own pronunciation patterns and problems. Several studies have been conducted on pronunciation instruction that suggest that explicit instruction has a positive effect on improving pronunciation, and a short-term effect of explicit pronunciation instruction has been reported. For example, explicit phonetic instruction reduced the total number of learners' pronunciation errors (Couper, 2003) and improved

comprehensibility (Saito, 2011). Moreover, Saito (2013) examined the role of explicit instruction with FFI in L2 pronunciation development. Thirty-five Japanese learners of English received FFI over 2 weeks to practice the target feature of the English /ɪ/ in meaningful discourse, and half of them received additional explicit phonetic instruction at the beginning of FFI. The acoustic analyses of learners' pre- and posttest performance showed that the learners who received FFI with explicit phonetic instruction demonstrated considerable improvement, whereas the ones who received FFI only demonstrated moderate improvement. In addition, Derwing, Munro, and Wiebe (1998) evaluated the effects of segmental instruction and suprasegmental instruction on the pronunciation of ESL students. The results of a posttest after 10 weeks of instruction showed that both types of instruction improved comprehensibility in a controlled speaking task, and that suprasegmental instruction improved comprehensibility in an extemporaneous speaking task as well. A similar result was obtained in a study by Gordon, Darcy, and Ewert (2013). Furthermore, the long-term effect of explicit instruction on L2 pronunciation was examined in Couper's (2006) study. Couper examined the immediate effect of explicit pronunciation instruction on epenthesis and consonant deletion errors and whether the gains were retained over time. The first posttest was given immediately after the end of the 2-week instruction period, and the second posttest was given 12 weeks later. The average error rate dropped from 19.9% to 5.5% on the first posttest and rose slightly to 7.5% on the second posttest, indicating that instruction was effective, and that the gains were retained over time.

Couper (2003) reported on a survey of learners' attitudes toward explicit pronunciation instruction. The results showed that the majority of the participants strongly favored the systematic explicit instruction conducted in the study, and that they felt that explicit instruction in pronunciation was important. Moreover, Katayama (2007) conducted a survey of 588 Japanese EFL students about their attitudes toward classroom oral

error correction, and the results showed that the students had strongly positive attitudes toward teachers' correction of errors. These findings suggest that explicit pronunciation instruction is not only effective but also favored by L2 learners.

## Instructional Materials

The instructional materials described here were designed for use in college courses meeting once a week for 15 weeks. The materials include a study guide (see Appendix A) and handouts for pronunciation practice and exercise (see Appendix B). The study guide explains the suprasegmental characteristics of English, contrasted with those of Japanese. The contents are listed in Table 2.

**Table 2. Contents of Study Guide**

1. Syllable structure
<ul style="list-style-type: none"> <li>• Differences between English and Japanese</li> <li>• Phonological changes in Japanese loanwords from English</li> <li>• Pronunciation practice: Consonant clusters and word-final consonants</li> </ul>
2. English stress vs. Japanese pitch accent
<ul style="list-style-type: none"> <li>• Similarities and differences</li> <li>• Pronunciation practice: Word stress</li> </ul>
3. Sentence Stress
<ul style="list-style-type: none"> <li>• Stressed words and unstressed words</li> </ul>
4. English rhythm vs. Japanese rhythm
<ul style="list-style-type: none"> <li>• Differences</li> <li>• Exercise: Distinguishing between stressed words and unstressed words</li> </ul>

## 5. Linking

- Word-final consonants and word-initial vowels
- Word-final consonants and word-initial consonants
- Exercise: Identifying linked sounds

The materials use a minimal number of technical terms and basic vocabulary to avoid interfering with comprehension. In addition, both English and Japanese versions of the written explanation are provided, and the teacher may choose one or the other depending on the proficiency of the students. However, the teacher's explanation should be presented in Japanese so that the students' cognitive processes can work efficiently. It should also be noted that basic phonetic features such as tense/lax vowels and consonants should be taught before starting suprasegmental instruction. Segmental and suprasegmental features are not separable. Without basic knowledge of segmental features, students will not be able to fully understand suprasegmental characteristics. Approximately 20 minutes of class is spent on pronunciation instruction, which can be given in the order shown in Table 3. The materials for each topic are given to students each time so they can learn about pronunciation inside and outside the classroom.

**Table 3. Order of Instruction**

Class	Lesson plan
1	Review of basic segmental features: Vowels (extra materials)
2	Review of basic segmental features : Consonants (extra materials)
3	Syllable structure (Study Guide #1)

Class	Lesson plan
4	English stress vs. Japanese pitch accent (Study Guide #2)
5	Sentence stress (Study Guide #3)
6	English rhythm vs. Japanese rhythm (Study Guide #4)
7	Reduced words (Handout: Reduced Words #1)
8	Reduced words (Handout: Reduced Words #2)
9	Reduced words (Handout: Reduced Words #3)
10	Distinguishing stressed words and unstressed words (Handout: Exercise & Practice #1)
11	Linking (Study Guide #5)
12	Identifying linked sounds (Handout: Exercise & Practice #2)
13	Review & practice (extra materials)

## Conclusion and Implications

In this paper, I have examined factors affecting the pronunciation problems of Japanese students learning English and introduced instructional materials designed to be used in college English classes. It has been suggested that L1 transfer is prominent in phonology and Japanese suprasegmental features are likely to affect the students' pronunciation. Although universal tendencies in L2 acquisition must also be considered, it is important to understand Japanese suprasegmental features to improve the intelligibility of the students' pronunciation. Moreover, it has been pointed out that explicit instruction, which raises attention and awareness, is effective in improving adult L2 learners' language skills. Therefore, explicit instruction

on suprasegmentals should be given to students. The materials I have introduced are designed for Japanese college students. However, they may also be used for adult L2 learners who have different language backgrounds. As noted above, there is a universal preference for the open (CV) syllable. In addition, explicit instruction on English suprasegmental features would be useful in other settings as well. I have observed that many students have little knowledge of suprasegmental differences between English and Japanese and therefore do not know how to improve their own pronunciation. I believe that the pronunciation instruction I have presented here will help students to notice their own pronunciation problems and have a positive attitude toward learning pronunciation.

## Bio Data

**Yuko Koike** is a part-time instructor at Ibaraki University. She is interested in pronunciation, listening, and vocabulary development in L2 learning and teaching. <yukoike@gmail.com>

## References

- Anderson-Hsieh, J., Johnson, R., & Koehler, K. (1992). The relationship between native speaker judgments of nonnative pronunciation and deviance in segments, prosody, and syllable structure. *Language Learning*, 42, 529-555.
- Arimoto, J. (2005). Hatsunshidou ni okeru kyoushi no yakuwari: Ayashii hatsunshidou no shoutai [The teacher's role in teaching pronunciation: The reality of questionable instruction]. *The English Teachers' Magazine*, 54(10), 27-30.
- Baker, A. A. (2011). Discourse prosody and teachers' stated beliefs and practices. *TESOL Journal*, 2, 263-292.



- Broselow, E. (1987). An investigation of transfer in second language phonology. In G. Ioup & S. Weinberger (Eds.), *Interlanguage phonology: The acquisition of a second language sound system* (pp. 232-247). Cambridge, MA: Newbury House.
- Burns, A. (2006). Integrating research and professional development on pronunciation teaching in a national adult program. *TESL Reporter*, 39(2), 34-41.
- Couper, G. (2003). The value of an explicit pronunciation syllabus in ESOL teaching. *Prospect*, 18(3), 53-70.
- Couper, G. (2006). The short and long-term effects of pronunciation instruction. *Prospect*, 21(1), 46-66.
- Dekeyser, R. (2008). Implicit and explicit learning. In C. J. Doughty & M. H. Long (Eds.), *The handbook of second language acquisition* (pp. 313-348). Malden, MA: Blackwell.
- Derwing, T. M. (2003). What do ESL students say about their accents? *Canadian Modern Language Review*, 59, 547-566.
- Derwing, T. M., Diepenbroek, L. G., & Foote, J. A. (2012). How well do general-skills ESL textbooks address pronunciation? *TESL Canada Journal*, 30(1), 22-44.
- Derwing, T. M. & Munro, M. J. (2005). Second language accent and pronunciation teaching: A research-based approach. *TESOL Quarterly*, 39, 379-397.
- Derwing, T. M., Munro, M. J., & Wiebe, G. (1998). Evidence in favor of a broad framework for pronunciation instruction. *Language Learning*, 48, 393-410.
- Derwing, T. M., & Rossiter, M. J. (2002). ESL learners' perceptions of their pronunciation needs and strategies. *System*, 30, 155-166.
- Ellis, R. (2009). Implicit and explicit learning, knowledge and instruction. In R. Ellis, S. Loewen, C. Elder, R. Erlam, J. Philip, & H. Reinders (Eds.), *Implicit and explicit knowledge in second language learning, testing and teaching* (pp. 3-25). Bristol, UK: Multilingual Matters.
- Field, J. (2005). Intelligibility and the listener: The role of lexical stress. *TESOL Quarterly*, 39, 399-423.
- Foote, J. A., Holtby, A. K., & Derwing, T. M. (2011). Survey of the teaching of pronunciation in adult ESL programs in Canada, 2010. *TESL Canada Journal*, 29(1), 1-22.
- Gilbert, J. B. (2010). Pronunciation as orphan: What can be done? *Speak Out*, 43, 3-7.
- Gordon, J., Darcy, I., & Ewert, D. (2013). Pronunciation teaching and learning: Effects of explicit phonetic instruction in the L2 classroom. In J. Levis & K. LeVelle (Eds.), *Proceedings of the 4th Pronunciation in Second Language Learning and Teaching Conference* (pp. 194-206). Ames: Iowa State University.
- Hahn, L. D. (2004). Primary stress and intelligibility: Research to motivate the teaching of suprasegmentals. *TESOL Quarterly*, 38, 201-223.
- Hodne, B. (1985). Yet another look at interlanguage phonology: The modification of English syllable structure by native speakers of Polish. *Language Learning*, 35, 405-417.
- Houston, D. (2010). Infant speech perception. In R. Seewald & A. M. Tharpe (Eds.), *Comprehensive handbook of pediatric audiology* (pp. 47-62). Plymouth: Plural Publishing.
- Ioup, G. (1984). Is there a structural foreign accent? A comparison of syntactic and phonological errors in second language acquisition. *Language Learning*, 34(2), 1-17.
- Isaacs, T. (2009). Integrating form and meaning in L2 pronunciation instruction. *TESL Canada Journal*, 27(1), 1-12.
- Jenkins, J. (2000). *The phonology of English as an international language*. Oxford: Oxford University Press.
- Kang, O. (2010). ESL learners' attitudes toward pronunciation instruction and varieties of English. In J. M. Levis & K. LeVelle (Eds.), *Proceedings of the 1st Pronunciation in Second Language Learning and Teaching Conference* (pp. 105-118). Ames: Iowa State University.
- Katayama, A. (2007). Japanese EFL students' preferences toward correction of classroom oral errors. *The Asian EFL Journal*, 9, 289-305.
- Levis, J. M. (2005). Changing contexts and shifting paradigms in pronunciation teaching. *TESOL Quarterly*, 39, 369-377.



- Munro, M. J., & Derwing, T. M. (1995). Foreign accent, comprehensibility, and intelligibility in the speech of second language learners. *Language Learning*, 45, 73-97.
- Murty, L., Otake, T., & Cutler, A. (2007). Perceptual texts of rhythmic similarity: I. Mora rhythm. *Language and Speech*, 50(1), 77-99.
- Nakamura, S. (2010). Analysis of relationship between duration characteristics and subjective evaluation of English speech by Japanese learners with regard to contrast of the stressed to the unstressed. *Pan-Pacific Association of Applied Linguistics*, 14(1), 1-14.
- Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning*, 50, 417-528.
- Osburne, A. G. (1996). Final cluster reduction in English L2 speech: A case study of a Vietnamese speaker. *Applied Linguistics*, 17, 164-181.
- Ota, K. (2012). Research into phonetic teaching in English education at junior and senior high school in Japan: With the aim of introducing and establishing English phonetic and phonemic pedagogy in the early stages of English learning. *Shakai Bunka Kenkyuuijo Kiyou*, 69, 53-77.
- Otake, T., Hatano, G., Cutler, A., & Mehler, J. (1993). Mora or syllable? Speech segmentation in Japanese. *Journal of Memory and Language*, 32, 258-278.
- Pennington, M. C. (1998). The teachability of phonology in adulthood: A re-examination. *IRAL*, 36, 323-341.
- Robinson, P., Mackey, A., Gass, S. M., & Schmidt, R. (2012). Attention and awareness in second language acquisition. In S. Gass & A. Mackey (Eds.), *The Routledge handbook of second language acquisition* (pp. 247-267). London: Routledge.
- Saito, K. (2011). Examining the role of explicit phonetic instruction in native-like and comprehensible pronunciation development: An instructed SLA approach to L2 phonology. *Language Awareness*, 20(1), 45-59.
- Saito, K. (2013). Reexamining effects of form-focused instruction on L2 pronunciation development: The role of explicit phonetic information. *Studies in Second Language Acquisition*, 35, 1-29.
- Scales, J., Wennerstrom, A., Richard, D., & Wu, S. H. (2006). Language learners' perceptions of accent. *TESOL Quarterly*, 40, 715-738.
- Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11, 129-158.
- Schmidt, R. (2001). Attention. In P. Robinson (Eds.), *Cognition and second language instruction* (pp. 3-32). Cambridge: Cambridge University Press.
- Schmidt, R. (2010). Attention, awareness, and individual differences in language learning. In W. M. Chan, S. Chi, K. N. Cin, J. Istanto, M. Nagami, J. W. Sew, T. Suthiwan, & I. Walker (Eds.), *Proceedings of CLASIC 2010*, Singapore, December 2-4 (pp. 721-737). Singapore: National University of Singapore, Centre for Language Studies.
- Selinker, L. (1972). Interlanguage. *IRAL*, 10, 209-231.
- Spada, N. (1997). Form-focused instruction and second language acquisition: A review of classroom and laboratory research. *Language Learning*, 30, 73-87.
- Spada, N., & Lightbown, P. M. (2008). Form-focused instruction: Isolated or integrated? *TESOL Quarterly*, 42, 181-207.
- Spada, N., & Tomita, Y. (2010). Interactions between type of instruction and type of language feature: A meta-analysis. *Language Learning*, 60, 263-308.
- Spolsky, B. (1989). *Conditions for second language learning: Introduction to a general theory*. Oxford: Oxford University Press.
- Tarone, E. (1980). Some influences on the syllable structure of interlanguage phonology. *IRAL*, 18, 139-152.
- Timmis, I. (2002). Native-speaker norms and international English: A classroom view. *ELT Journal*, 56, 240-249.
- Venkatagiri, H. S., & Levis, J. M. (2007). Phonological awareness and speech comprehensibility: An exploratory study. *Language Awareness*, 16, 263-277.
- Zielinski, B. W. (2008). The listener: No longer the silent partner in reduced intelligibility. *System*, 36, 69-84.

## Appendix A

### Study Guide (English version)

#### English Pronunciation

##### 1. Syllable Structure

##### Comparison of English and Japanese

C = Consonant; V = Vowel

English	Pronunciation	Structure	Japanese	Meaning	Structure
he	/hi/	CV	/i/	(stomach)	V
sit	/sit/	CVC	/ko/	(child)	CV
tree	/tri:/	CCV	/inu/	(dog)	VCV
swim	/swim/	CCVC	/neko/	(cat)	CVCV
help	/help/	CVCC	/asobu/	(play)	VCVCV
street	/stri:t/	CCCVC	/tasukeru/	(help)	CVCVCVCV

Q: What's the difference?

##### Loanwords from English

bus	/bʌs/	CVC	→	/basu/	CVCV
fry	/fraɪ/	CCV	→	/furai/	CVCVV
steak	/steɪk/	CCVC	→	/suteeki/	CVCVVCV
best	/best/	CVCC	→	/besuto/	CVCVCV
stress	/stres/	CCCVC	→	/sutoresu/	CVCVCVCV

Q: What changes happened?

<Pronunciation Practice> Don't add an extra vowel after a consonant!

1. map	/mæp/	lamp	/læmp/	soup	/su:p/
2. love	/lʌv/	move	/mu:v/	live	/laɪv/
3. cat	/kæt/	pet	/pet/	pot	/pat/
4. bed	/bed/	red	/red/	maid	/meɪd/
5. book	/bʊk/	fork	/fɔ:rk/	drink	/drɪŋk/
6. dog	/dɒg/	bag	/bæg/	egg	/eg/
7. plan	/plæn/	print	/prɪnt/	price	/praɪs/
8. blue	/blu:/	black	/blæk/	brain	/breɪn/
9. fruit	/fru:t/	floor	/flɔ:r/	friend	/frend/
10. truck	/trʌk/	train	/treɪn/	travel	/trævl/
11. drive	/draɪv/	drug	/drʌg/	dream	/dri:m/
12. cream	/kri:m/	class	/klæs/	crape	/kreɪp/
13. green	/gri:n/	glass	/glæs/	glove	/glʌv/
14. street	/stri:t/	stress	/stres/	strike	/straɪk/
15. spring	/sprɪŋ/	spray	/spreɪ/	sprinter	/sprɪntər/

##### 2. English Stress vs. Japanese Pitch Accent

##### Comparison of English Stress and Japanese Pitch Accent

English Stress	Japanese Pitch Accent
récord /rékərd/ (Noun)	/hási/ (chopsticks)
recórd /rikó:rd/ (Verb)	/hasi/ (bridge)

Q: How are they similar?

##### Differences

Characteristics of English stress

1. Stressed syllables are *louder*, *longer*, and *higher in pitch*.

2. Vowels are clearly pronounced in stressed syllables. However, *unstressed vowels* become *weak* (/ə/, /ɪ/, or /ʊ/).
3. The position of stress is important to communicate accurately.

#### *Characteristics of Japanese pitch accent*

1. *Accented* positions have a *higher pitch*. However, loudness and length don't change.
2. Accent does *not* affect vowel quality.
3. There is a wide dialectal variation in pitch accent, and different accent placement does not affect communication.

#### <Pronunciation Practice>

banána	/bənə́nə/	rádio	/réidiu/
állergy	/ə́lədʒi/	órange	/úrinɔ́/
cálculation	/kə́lkjuleɪtə/	álcohol	/ə́lkəhɔ́:l/
chócolate	/tʃóklɪt/	télevision	/télɪvɪzən/
vítamin	/váɪtə́mɪn/		

### 3. Sentence Stress

#### *Stressed words vs. Unstressed words*

Words in sentences are divided into stressed words and unstressed words.

*Stressed words* → *Content words*

Nouns: book, dog, car, school...

Verbs: speak, eat, see, take...

Adjectives: new, pretty, big, easy...

Adverbs: slowly, quietly, loudly, happily...

Demonstratives: this, that, these, those

Interrogatives: what, when, why, how...

*Unstressed words* → *Function words*

Articles: a, an, the

Prepositions: at, in, on, to, from...

Personal pronouns: I, you, she, him, it...

Conjunctions: and, but, or, as, if...

Relative pronouns: which, who, whom...

Auxiliaries: can, may, must, will, could...

e.g., I am an office wórker.

I will gó to a móvie tomórrow.

Whére are you góing?

Q: Why are content words stressed?

### 4. English Rhythm vs. Japanese rhythm

#### *Characteristics of English rhythm*

1. *Stressed* words are contrasted with *unstressed* words in the sentence.
2. Stress *recurs regularly*, which produces English rhythm.

#### *Characteristics of Japanese rhythm*

1. Pitch accent does *not* affect Japanese rhythm.
2. Each *kana* (*hiragana/katakana*) recurs regularly.

### <Exercise & Practice>

Which words are stressed? Circle the stressed words.

- |                          |                           |
|--------------------------|---------------------------|
| 1. twice a week          | 14. It is cold.           |
| 2. half an hour          | 15. We were busy.         |
| 3. students and teachers | 16. I know him.           |
| 4. thousands of years    | 17. saw his sister        |
| 5. tea or coffee         | 18. She lives there.      |
| 6. at noon               | 19. He called her.        |
| 7. go to work            | 20. What are you doing?   |
| 8. made from milk        | 21. work with them        |
| 9. at the bank           | 22. as soon as possible   |
| 10. less than zero       | 23. We must try.          |
| 11. I am tired.          | 24. I can play the piano. |
| 12. You are great.       | 25. I will do it.         |
| 13. He is handsome.      |                           |

### 5. Linking

#### What is "Linking"?

Link the *last sound* in the word to the *first sound* in the next word.

<i>Consonant + Vowel</i>	<i>Consonant + Consonant</i>
stand <u>up</u>	what <u>time</u>
look <u>out</u>	feel <u>like</u>
a <u>lot</u> of	<u>some</u> milk
watch <u>out</u>	this <u>student</u>
cooks <u>it</u>	hot <u>tea</u>

### <Exercise & Practice>

Link two sounds together in the following sentences.

- Wait a minute.
- Keep on dreaming.
- Hold on, please.
- I want a big garden.
- Did he make it to New York?

## Appendix B

### Samples of Handouts for Pronunciation Practice and Exercise

#### Reduced Words I

Lexical Categories	Words	Practice Phrases
Articles	a /ə/	once <i>a</i> year, read <i>a</i> book, take <i>a</i> bus
	an /ən/	eat <i>an</i> apple, boil <i>an</i> egg, half <i>an</i> hour
	the /ðə/	<i>the</i> best car, <i>at the</i> station, <i>to the</i> limit
Conjunction	and /ən/	dogs <i>and</i> cats, boys <i>and</i> girls, high <i>and</i> low
Prepositions	of /əv/	<i>a lot of</i> money, most <i>of</i> books, hundreds <i>of</i> people
	or /ər/	one <i>or</i> two, agree <i>or</i> disagree, why <i>or</i> why not
	at /ət/	<i>at</i> home, <i>at</i> first, look <i>at</i> this
	to /tə/ or /tu/	go <i>to</i> school, travel <i>to</i> Paris, three <i>to</i> five
	from /frəm/	<i>from</i> 1 o'clock, away <i>from</i> home, come <i>from</i> Tokyo
	as /əz/	<i>as a</i> child, <i>as a</i> result, work <i>as a</i> policeman
	than /ðən/	better <i>than</i> nothing, more <i>than</i> 50, rather <i>than</i> going

## Reduced Words 2

Lexical Categories	Words	Practice Phrases & Sentences
Be Verbs	am /əm/	<i>I am happy, I am a student, I am in the classroom</i>
	are /ər/	<i>Cats are cute, People are funny, The rooms are clean</i>
	is /ɪz/	<i>Mary is pretty, Tom is a teacher, John is in Japan</i>
	was /wəz/	<i>Lisa was alone, The man was late, The test was easy</i>
Personal Pronouns	I /əɪ/	<i>I like cakes, I went to Kyoto, I study history</i>
	he /hi/ or /ɪ/	<i>He likes baseball, He is strong, Was he fine?</i>
	him /ɪm/	<i>Mary likes him, make him happy, I know him</i>
	his /ɪz/	<i>read his book, visit his house, see his mother</i>
	she /ʃɪ/	<i>She loves music, She is pretty, I think she is sleeping</i>
	her /ər/	<i>John likes her, This is her sister, I met her in Canada</i>
	you /ju/ or /jə/	<i>take you home, You are late, Are you hungry?</i>
	them /ðəm/	<i>listen to them, I saw them, She helped them</i>

## Reduced Words 3

Lexical Categories	Words	Practice Phrases & Sentences
Auxiliaries	do /dʊ/ or /də/	<i>Do you like it?, How do you know?, What do you want?</i>
	have /əv/	<i>They have gone, I have read it, What have you done?</i>
	has /əz/	<i>What has changed?, She has left the room, He has passed it</i>
	had /əd/	<i>They had arrived, We had discussed it, I had seen it</i>
	must /mʌst/	<i>We must win, You must study, He must be sleepy</i>
	can /kən/	<i>You can come, I can wait, Can I help you?</i>
	will /wɪl/ or /wəl/	<i>I will be back, She will find it, We will meet again</i>
	would /wʊd/ or /wəd/	<i>She would cry, It would be fun, He would be sad</i>

Exercise & Practice 1: Distinguishing between stressed words and unstressed words

1. How's it going?
2. Let's take a break.
3. The dinner is ready.
4. Where is she staying?
5. Why are you upset?
6. What color is your car?
7. It's hard for me to forget you.
8. There are a lot of people in the park.

9. Will you call me early in the morning?
10. I can see her standing in front of the house.

#### Exercise & Practice 2: Identifying linked sounds

1. I want to look at your car.
2. I heard a lot about you.
3. He'll pick me up in front of the station.
4. I'll finish up and make coffee.
5. Can I get you anything else?