

Intelligibility, suprasegmentals, and L2 pronunciation instruction for EFL Japanese learners

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(平成17年 9月30日受理)

In this paper I first argue for the teachability of L2 pronunciation if the goal of teaching is shifted from native-like pronunciation to intelligibility and I propose a framework for discussing what the content of instruction should be when planning formal L2 pronunciation interventions in EFL classrooms in Japan. This framework is based on a synthesis of several strands of literature and a reanalysis of phonological errors presented in Jenkins (2000). In the second part of the paper, I describe in detail how suprasegmentals, and particularly syllable structure, contribute to sources of difficulty for EFL Japanese learners in attaining the goal of satisfactory intelligibility. Overall, I argue strongly in favor of suprasegmental-oriented instruction over segmental instruction.

Introduction

It is often said that the goal of phonological instruction in second language classrooms should be attaining reasonable intelligibility, rather than native-like pronunciation (Celce-Murcia, Brinton, and Goodwin, 1996; Kenworthy, 1987; Morley, 1992; Pica, 1994, to mention but a few). However, evaluating students' intelligibility is not an easy task for language teachers. As Kenworthy (1987) notes, intelligibility is often influenced by how familiar the interlocutor is to the speaker, and therefore teachers (whether native or nonnative) do not make good judges, because they are accustomed to the learners' performance. Once teachers cognitively establish a particular pronunciation difficulty of a student, they can easily restructure the problematic utterance, making it intelligible enough for them. Thus, a teacher who is familiar with a Thai student who replaces the alveo-palatal fricative /ʃ/ with the affricate counterpart /tʃ/ duly understands her utterance "Your dog needs a watch." The problem is compounded for nonnative teachers who share the same linguistic and cultural background with the students. To take an example of /r/-/l/ neutralization found in Japanese EFL learners, teachers are fully aware of the difficulty of /r/-/l/ distinction, so the nontargetlike pronunciation *lice* is easily recovered as *rice*, making such utterances like "I would like to have lice, please" intelligible. With the help of the same cultural background, the Japanese teachers of English may accept without negative feedback the student's otherwise unintelligible speech: The fact that Japanese never eat lice helps the listener to decide that the speaker cannot mean "lice". They are more likely to understand the

utterance, than, say, a native English waiter who may think Japanese people could have lice for lunch. In EFL situations like that of Japan, interaction in English is restricted to classrooms, where a Japanese student interacts with another Japanese. Therefore possible pronunciation problems that might threaten intelligibility are left unnoticed, or dismissed and untreated in activities that draw on implicit learning. Empirical evidence for this comes from Jenkins (2000), who compared interaction in L2 English between speakers from the same L1 versus between speakers of different L1s. She found that there is more phonological deviation in the interaction between shared-L1 interlocutors than in the interaction between different-L1 interlocutors, suggesting that learners from the same L1 usually “forgive” many kinds of pronunciation problems.

For EFL situations in Japan, then, where the language is mostly taught by Japanese teachers of English, and where classroom interaction involves only Japanese speakers, evaluating intelligibility is difficult for both teachers and students. This is because teachers and learners cannot use their intuition in judging intelligibility. This is further complicated by the fact that there is little agreement as to what phonological aspects threaten an L2 learner’s intelligibility (Munro and Derwing 1995) and therefore there is relatively little information that guides the teachers and students to decide what can cause unintelligibility.

These observations constitute the initial motivation for the present paper. The questions that arise from these observations that are addressed in the present paper are: (1) Is L2 pronunciation teachable, and if so, what should be the goal of L2 pronunciation instruction, (2) What is intelligibility, and what factors contribute to improved intelligibility? (3) What kinds of instruction are effective to promote EFL students’ intelligibility, and particularly what aspects of English pronunciation affect intelligibility for EFL Japanese learners, and what should be the content of instruction when teaching L2 pronunciation in EFL classrooms in Japan?

Teachability of pronunciation

Much SLA literature that investigates the topic of critical periods in L2 learning, and particularly in pronunciation, appears to assume that learners should strive to achieve native-like accents and suggests that pronunciation interventions in the L2 classroom are ineffective. By contrast, there is also a smaller body of research studies that address the importance of instruction for increasing the intelligibility of nonnative speakers. This debate is sometimes misinterpreted by EFL teachers, who may be too willing to give up their efforts at teaching pronunciation in the classroom. As I show in this paper, my position is that, although ultimate attainment of native-like accuracy in pronunciation may not be possible for adult learners (Scovel, 2000), pronunciation instruction does make a difference in increasing student’s relative intelligibility.

The traditional position of SLA researchers has been that instruction does not lead to native-like levels of ultimate attainment in terms of phonology. Pica (1994), for example, expresses her pessimistic stance on the teaching of pronunciation, and the general Critical Period Hypothesis discussion supports the position that adult learners are limited in their ability to reach high levels of phonological proficiency (Bley-Vroman, 1989; Scovel, 2000). It is remarkable that within this research controversy, even very vocal opponents to the existence of an L2 critical period give up arguing against biological explanations for such decline in learning ability when it

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comes to the area of L2 phonology (e.g., Marinova-Todd, Marshall, and Snow, 2000). In sharp contrast with this pessimism about L2 pronunciation, however, there is a burgeoning body of research on L2 instruction that suggests certain kinds of intervention an L2 learner may receive do support accent reduction to some important extent. This body of research, from which I draw in arguing my position in this paper, is unfortunately less well known among EFL teachers.

Is L2 Pronunciation Beyond Teacher's Control?

That instruction on L2 pronunciation has negligible effects seems to be also suggested by early research carried out by Purcell and Suter (1980). These authors looked into various variables that had been identified to be potentially good predictors of pronunciation accuracy in previous studies and in Suter (1976). They argued that of twenty such variables, only four were indeed true predictors of high levels of pronunciation attainment, namely, learner's first language, aptitude for oral mimicry, years in an English speaking country and residence with native speakers of English, and strength of concern for pronunciation accuracy. Since these are variables over which teachers and classrooms have remarkably little influence, Purcell and Suter conclude that "attainment of accurate pronunciation in a second language is a matter substantially beyond the control of educators" (p. 286). (In fact, none of the predictors that measured aspects of formal training (number of years of formal classroom training in English, number of months of intensive formal classroom training in English, number of weeks of formal classroom training focused specifically on English pronunciation, and proportion of the subject's teachers who themselves had been native speakers of English) proved important in accounting for variations in pronunciation accuracy.) One important criticism that can be leveled at this study, however, is that the predictors investigated by Purcell and Suter under the concept of "instruction" were all related to the period of teaching or to whether the teacher being a native speaker or not, and not the types and content of such teaching (for a similar recognition of this limitation, see Moyer, 1999).

A recent study of the relationship between L2 pronunciation and age has provided suggestive evidence that it may be premature to accept Purcell and Suter's conclusions. Moyer (1999) investigated the levels of attainment in L2 pronunciation of English L1 teaching assistants of German, all of whom had had exposure in Germany only past the critical period, and whose period of exposure to the target language ranged from several months to several years. Moyer found that higher age of onset of immersion and higher age of beginning of instruction both correlated with lower accuracy, which does suggest that age is important in attaining accurate pronunciation. However, she also found that those who reported that as students they had received both segmental and suprasegmental feedback on their pronunciation had higher accuracy than those who reported having received only either type of pronunciation instruction. This finding is encouraging to the effect that instruction may have had some influence, although it has to be tempered by the caveat that it was a conclusion drawn only from self-report in a questionnaire, not from direct empirical study (as were, it should be noted, the opposite conclusions drawn by Purcell and Suter that I discussed earlier).

Effectiveness of Instruction When Intelligibility as the Goal

Both Purcell and Suter (1980) and Moyer (1999) seem to have based their studies on the

unexamined premise that L2 learners' goal is to acquire native-levels of phonological attainment. However, by contrast with the SLA research literature, in the pedagogical literature published since the 1980s, when communicative language teaching became dominant in EFL/ESL professional circles (Celce-Murcia et al., 1996), it has become widely held that using language to communicate should be central in all classroom language instruction and that therefore native-like pronunciation is not a realistic or even desirable goal. Instead it has been proposed that the goal of pronunciation instruction is reasonable intelligibility (Celce-Murcia, Brinton, and Goodwin, 1996; Kenworthy, 1990; Morley, 1992). Derwing, Munro, and Wiebe (1997) conducted an empirical investigation based on this intelligibility premise. In their study, thirteen adult students of ESL participated in a read-aloud task of true and false sentences at the beginning and at the end of a twelve-week instruction period. The course, which was developed using such coursebooks as Matthews (1994) and Gilbert (1993), focused on stress, intonation, and rhythm, as well as body language, voice quality, loudness, rate, and discourse markers, and it lent little emphasis to individual segments. The course was also designed to promote learners' consciousness-raising, with the instructor explaining the various contributors to accentedness, and the learners engaging in group work to determine what their own needs were. The true/false sentences read by the learners were recorded and used in a listening task involving 37 native speakers, who were asked to transcribe the utterances. The transcriptions were then analyzed by the researchers as a measure of intelligibility. Derwing, Munro, and Wiebe found that as a result of the 12-week course, it was "possible to destabilize pronunciation patterns in some individuals" (p. 231). In other words, the instruction was successful in improving the pronunciation of the learners who had been seen previously to have fossilized in their pronunciation. Thus, the experimental data contributed by Derwing, Munro, and Wiebe (1997), along with the self-reported data by Moyer (1999) mentioned earlier, suggest that even though accurate pronunciation may not be a realistic goal for adult L2 learners, pronunciation instruction may produce fruitful outcomes when it is aimed at increasing the intelligibility of the learners.

At this point, it would be worth summarizing the two views presented in my discussion so far. The first sees native-like pronunciation as a goal. In this view, the teacher has little (if any) control over the L2 learners' pronunciation. The second view, which has been introduced in this section, goes for a shift from native-like pronunciation to intelligibility. This view helps argue for the non-futility of instruction.

Factors of Intelligibility

It is important for EFL teachers to reflect on and problematize what is meant by "intelligibility", because being intelligible to an interlocutor entails many things. When L2 learners are found to have problems of intelligibility, they are almost always rated as having heavy accents (Munro and Derwing, 1995). However, intelligibility does not just reside within the realm of pronunciation. Extralinguistic factors such as interlocutor familiarity are found to influence how easily an interlocutor is understood (Kenworthy, 1987; Gass and Varonis, 1984), and it is to such factors that I now turn my discussion.

Of considerable interest to the definition of intelligibility, but a factor that the SLA and pedagogical literatures on L2 pronunciation rarely consider, is the attitude of the hearer. Two

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studies provide unequivocal evidence that negative attitudes of the interlocutor towards the speaker can influence the evaluation of a speaker and the success of communication. Rubin (1992) tested how listeners' expectations about speakers' accents can be related to success or failure in comprehending their speech. In his study, subjects listened to a tape-recorded mini-lecture by a native speaker of U.S. English with little regional accent. In one group, the subjects listened to the lecture with a photo of an Asian supposedly delivering the lecture. In the other group, the listeners were shown a photo of a Caucasian lecturing. The group with the Asian photo rated the speaker as having a heavier foreign accent and scored lower on a task measuring recall of the lecture than the latter group, despite the fact that the speech the two groups heard was in fact identical.

Rubin's operationalization of "attitude" was somewhat crude: a photo triggering relatively higher or lower ratings of accentedness. However, Lindemann (2002) contributes recent and stronger evidence along the same lines as Rubin while looking into more subtle, complex, and real operationalizations of attitude towards L2 accents. Lindemann compared native speakers (NSs) who had been carefully assessed to have positive attitudes towards Korean NNSs with other native speakers who had been found to hold negative attitudes. Each of the NSs was paired with a Korean to engage in a map completion task, in which the Korean had the complete map, and described it to the NS partner, who had an incomplete map picture that also contained carefully introduced mismatches (see Yule & Macdonald, 1990, for a similar task and procedure). All NSs with positive attitudes found the task to have been successful, which was indeed the case, while all NSs with negative attitude felt that they had failed in the task. Further, in the interaction involving the negatively predisposed interlocutors, these were found either to use avoidance strategies or problematizing strategies. Those who used these strategies thought that the communication had not been successful despite the fact that they actually completed the map with relative accuracy. It follows that it is often the interlocutors' attitudes toward the speaker, rather than only or mostly the NNS's language proficiency, that affects the NS belief about whether interactions are successful and interlocutors competent. These studies show that no matter how accurate the pronunciation is, the nonnativeness is somehow caught by sight rather than ear, as it were.

In a very different vein of research, Munro and Derwing (1995) sound an alarm in confusing foreign accent with low intelligibility. In fact, they found learners with heavy accent are not always judged to have intelligibility problems. In their study, 10 native speakers of Mandarin, who had learned English after puberty, and who were all proficient speakers of English, took part in a cartoon-description task in English. These were recorded and were listened to by 18 English NNSs. In the first listening session, the NSs were asked to write out exactly what they heard. After the completion of the transcription they rated the recording in terms of its comprehensibility (the scale ranging from "extremely easy to understand" to "impossible to understand"). In the next session, they listened to the same recording but this time they were asked to rate the degree of foreign accent in each sample (the scale ranging from "no foreign accent" to "very strong foreign accent"). The listeners sometimes rated the samples as "moderately or heavily accented" even when they were able to transcribe them perfectly. However, this result is not to be interpreted as foreign accent being totally separate from intelligibility. The researchers conclude as follows:

If comprehensibility and intelligibility are accepted as the most important goals of instruction

in pronunciation, then the degree to which a particular speaker's speech is accented should be of minor concern, and instruction should not focus on global accent reduction, but only on those aspects of the learner's speech that appear to interfere with listener's understanding. (Munro and Derwing, 1995, p. 93)

From my discussion of intelligibility, two important implications for EFL teachers can be gleaned. First, we should not ignore the reality that perceptions of nonnativeness and accentedness, with their associated intelligibility difficulties, can be a manifestation of negative attitudes of the NS listeners, and specifically against Asian speakers, as both Rubin (1992) and Lindemann (2002) show. For EFL teachers, and particularly for EFL teachers in Japan, the pedagogical implication of this realization would be that we must at least warn students against such negative attitudes so that they can expect some degree of the disadvantage and resist it and/or counter it by some strategy. Second, Munro and Derwin (1995) make us cautious against blindly incorporating everything in pronunciation instruction. Rather, it is important to disentangle specific aspects of pronunciation that have a significant effect on the intelligibility of the speaker in order to prioritize such areas in the purposeful design of L2 pronunciation instruction.

What should we teach when we teach EFL pronunciation? The case for suprasegmentals in EFL Japanese contexts

I hope to have made a convincing case so far that L2 pronunciation can be taught under a framework which posits intelligibility as the reasonable and desirable goal, while at the same time cautioning that intelligibility itself is not an unproblematic notion. The next question in most teachers mind, however, would be: What then should be the scope and focus of L2 pronunciation instruction? In this last part of the paper, I attempt to give a coherent answer to this question, and an answer not only grounded in theory and research but also relevant to the specific teaching context of EFL in Japan.

There is agreement among current proponents of the teachability of L2 pronunciation that suprasegmental errors have more serious effect on intelligibility than segmental errors (Anderson-Hsieh, Riney, and Koehler, 1994; Anderson-Hsieh, Johnson, and Koehler, 1992; Gilbert, 1995; Morley, 1994; McNerney and Mendelsohn, 1992; and Celce-Murcia, et al., 1996). Anderson-Hsieh, et al. (1992), in reviewing the literature, state that this is because "prosody provides the framework for utterances and directs the listener's attention to information the speaker regards as important" (p. 531). This view is also widely held among teachers and textbook writers (Burgess and Spencer, 2000).

Suprasegmentals

Anderson-Hsieh, et al. (1992) investigated the relationship between impressionistic judgments of nonnative pronunciation and actual deviance in segmentals and prosody. They used speech samples pooled on tape for the oral reading passage in the SPEAK test, an English oral proficiency test developed by ETS (Educational Testing Service, 1982). They selected 60 samples so that there was a balance between high and low proficiency speakers, as defined by their SPEAK comprehensibility scores. The speakers in the sample were from 16 different L1 backgrounds.

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These were rated by three native speakers in terms of intelligibility and acceptability, with the lowest point on the scale represented “heavily accented and unintelligible”; the mid point, “accented but intelligible”; and the highest, “near-native”. Each of the speech samples was transcribed, and all phonological errors were identified by comparing the transcription with the native speaker norms for reading the passage that had been established by the researchers. The major error categories established were errors in sound segments, syllable structure, and prosody, although in my view the distinction between errors in syllable structures and prosody was not entirely clear. They found that the phonological variable that was most strongly correlated with the pronunciation scores was the prosodic one, no matter what the language proficiency group was.

Suspecting that prosodic and other suprasegmental features of L2 speech play a central role in shaping perceptions of accentedness, Munro (1995) conducted a study to explore the extent to which listeners can actually rate native and accented speech by nonsegmental information only. She collected speech samples from 10 Mandarin native speakers, and 10 English NSs. These were digitally manipulated to remove all the segmental information on the samples. The resulting stimuli therefore only contained the musical portion of the samples. It was made sure that these stimuli were unintelligible. Twenty English NSs listened to these “filtered” samples and rated the likelihood that each of them was spoken by a native speaker of English. The listeners were able to tell native English speech from nonnative speech by just listening to the nonsegmental, unintelligible samples. This finding lends support to the hypothesis that “there is a sufficient information in the nonsegmental components of accented speech to betray a foreign accent” (p.30). In other words, accentedness can be reduced by instructions that focus on suprasegmentals.

These studies show that suprasegmentals play an important role in the effect of the speaker’s intelligibility. However, it must be noted at this point, that none of these studies indicates which aspects of prosody are most crucial for intelligibility. We will return to address this issue later.

Segmental Versus Suprasegmental: Jenkins’s Lingua Franca Core

A novel view in terms of the goal of pronunciation is that developed by Jenkins (2000), who argues that pronunciation instructional efforts should be guided by the needs and roles for communication among NNSs of various L1s who use English as a lingua franca. This constitutes a third view, different from the two views characterized in the beginning of this paper, in that it neither sees native-like mastery nor intelligibility as a goal. Jenkins’ innovative proposal is based on the fact that “for the first time in the history of English language, second language speakers outnumber those for whom it is the mother tongue, and interaction in English increasingly involves no first language speakers whatsoever” (p. 1). She claims that the model to be taught should be neither native-like English nor the intelligible English, but it should be based on how NNSs use English as a lingua franca with other NNSs. More specifically, Jenkins advocates the pronunciation goal towards which teacher should work in their EFL classrooms is mutual intelligibility between NNSs, rather than between NS-NNS interaction. In its entirety, her proposal is twofold: First, the model for EIL should be now based on what NNS learners do in interlanguage talk, instead of making NS English as a model; and second, most of the intelligibility problem arise from segments, rather than prosody. Here I will challenge the second

position: even when the first position stands to reason, the suprasegmental instruction is still more important than segmental one.

Based on her field observation, Jenkins proposes what she calls the Lingua Franca Core (LFC) in order to facilitate more intelligible communication in the interlanguage talk among NNSs. The proposed LFC can be divided into three categories, which can be seen as imposing more constraints to less constraints in this order: features that put some new limit of standard that has a nature of prescriptive grammar, features of native English accuracy that should be preserved, and features that permits some degree of deviation from native English standards. This is expressed in Table 1, with examples relevant to Japanese learners except where noted.

Jenkins collected data while the learners (six learners of English, two Japanese, three Swiss-German, and one Swiss-French) engaged in such pair-work as social conversation, information-exchange, and joint problem-solving task. Looking at the data from different L1 dyads, she analyzes forty occasions on which a receiver was unable to understand the intended meaning of his/her interlocutor during these tasks. Of the forty cases, she designated twenty-seven instances as cases of pronunciation difficulties (17 of which were made by the two Japanese learners in her study). She concludes from the data that most of the pronunciation problems can be attributed to the difficulty in producing segments. She goes on to argue that although the most problems derive from the combination of both segmentals and suprasegmentals, instruction in segments should be prioritized. Below, I will show that most of the Japanese data she claims to be segmental are in fact problems deeply related to suprasegmental aspects of pronunciation.

In Table 2, I present a summary of my reanalysis of the 17 instances of errors made by the two Japanese learners that led to unintelligibility while they engaged in an interaction with another L2 learner from different L1 (Jenkins, 2000, pp. 85 - 86), classified by source of difficulty. Although Jenkins analyzes all 17 errors as caused by segmental difficulties, I argue that only 6 of them (or 35%) are purely segmental. The other 11 errors can (and should) be interpreted as either “suprasegmental” or “neither suprasegmental nor segmental” (“Other” in Table 2).

For the sake of brevity, I will elaborate on only two kinds of non-segmental reanalysis in Table 2. First of all, cases under “nasal that occur only at the end of syllable” (p. 144) are analyzed by Jenkins as the those of postvocalic /n/ dropping, which is accompanied by the nasalization of the preceding vowel. She sees this as involving segmental transfer of Japanese sound. However, the problem with this analysis is that dropping of postvocalic /n/ does not happen in Japanese, and the formulation of this rule is not motivated by any condition, nor is the process found in other phenomena in Japanese. Therefore the existence of /n/ dropping process cannot be supported. Instead, what the Japanese L2 learner is doing here is the replacement of alveolar nasal with the uvular nasal [N]. Since the uvular closure only occurs at the very back of the mouth, it can be hard to detect to foreign ears. It is only the uvular nasal sound (and the second part of a geminate as in *kap.pa* ‘a legendary being’ and *gak.koo* ‘school’, where a dot ‘.’ denotes a syllable boundary) that can occupy the syllable final position in Japanese. Japanese also has an alveolar nasal as in *namae* ‘name’, *neko* ‘cat’, *nishi* ‘west’, *nobori* ‘flag’, and *nusumu* ‘to steal’. Thus, Japanese EFL learners (or all Japanese for that matter) are perfectly capable of producing the alveolar nasal. However, when it is placed at the syllable-final position, it is replaced by the uvular nasal, as in the alternation of *nani* ‘what’ with *na[N]* ‘what (colloquial)’. It follows that only segmental

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instruction of the alveolar sound is unlikely to help learners produce the correct version of the sound at the end of the syllable unless there is an explicit reference to the syllable structure.

Second, the cases under “non-reduction of weak syllable” in Table 2 also concern the syllable structure. All the deviant forms here involve non-reduction of weak syllables. If the learner knows and internalizes the process in which weak syllables get shortened in duration, this kind of errors might as well be reduced. Reduction of duration is particularly problematic for Japanese L2 learners because in Japanese prominence is marked only by pitch. This type of error is never avoided if the instruction only focused on segments.

In sum, Table 2 shows that 11 out of 17 or 75% of the Japanese data presented by Jenkins, by which she contends that the major source of communication breakdown is segmental, can be reanalyzed as involving suprasegmental aspects. It follows that her argument that puts more importance on segmental instruction is no longer justified, at least for Japanese learners. Even though her insistence on LFC as a model may be found to be correct, we should still not accept the part of her proposal that suggests suprasegmental instruction should be disregarded. In fact, of the suprasegments, we have seen that the difference of syllabic structure caused most of the problems, to which I shall turn.

Importance of Syllable Recognition for Japanese ESL Learners

In discussing Japanese EFL learner’s difficulty in pronunciation, it becomes important to identify the influence of L1 transfer. While in the areas of morpho-syntax and lexicon, researchers sometimes have cautioned against the overgeneralization of L1 transfer as a panacea to explain interlanguage errors (e.g., Bley-Vroman (1989) and VanPatten (1998) estimate that only five to twenty-five percent of the total errors by learners can be traced to their first language), in interlanguage phonology L1 transfer is believed to be probably the major source of difficulty (Odlin, 1989; Ioup and Weinberger, 1987; Major, 2001). And although Jones (1996) summarizes the literature in favor of a weaker influence of transfer on interlanguage phonology than previously claimed, the sources he cites (Flege, 1987; Eckman, 1977; Maken and Ferguson, 1987) are largely concerned with transfer on segmental features. If I am right in arguing that most problems in the errors of Japanese EFL learners derive from the difference of possible syllable structures allowed in the two languages, then it follows that syllable recognition should play a central role among the suprasegmental features to be targeted by formal L2 pronunciation instruction. Indeed, as we will see in this section, differences in English and Japanese syllable structure systems impose many difficulties for the Japanese learners. It is therefore surprising that in the specialized literature, when the importance of syllables is addressed, only the addition or deletion of sounds is mentioned (see, for example, Anderson-Hsieh, et al., 1997). In classrooms, it so happens that syllable is not a popular suprasegmental feature among teachers, as well (Burgess and Spencer, 2000).

What are the main areas related to syllable structure in which L1 transfer has noticeable consequences for EFL pronunciation by Japanese learners? First of all, linking of words is often said to constitute a big role in intelligibility (Celce-Murcia, et al, 1996). Failure of Japanese learners to link in such junctures is caused by the Japanese condition that prohibits consonants to appear at the end of the syllable. Since Japanese only permits a very limited number of consonants

in this position, almost all English closed syllables are pronounced as open syllables. This makes all word junctures to be always vowel-to-vowel. For example, the configuration *left arm*, which English native speakers restructure as *lef tarm* in pronunciation (CV linking), is realized as [lef(u)to aamu] by Japanese learners. It follows that the configuration CV never arises in Japanese pronunciation of these junctures, unless they learn to produce syllable final consonants. It may be worth noting that all consonant clusters are thus subject to vowel epenthesis from the same constraint.

Second, in English prominence is determined in the units of syllables. Therefore when a speaker tries to stress a certain part of his/her speech, it is the whole syllable that gets strengthened or weakened. On the other hand, Japanese rhythmic structure is almost always decided in the units of mora. A mora is made up of one short vowel with an optional consonant that precedes it, or one moraic consonant (either a uvular nasal [N] or the first part of a geminate). The consequence of this structural difference is that in Japanese production of English, (1) all English coda consonants belong to a different rhythm unit (mora), and (2) all long vowels receive two rhythmic counts (morae). For example, the word *pen* (pronounced as [peN]) receives strong prominence on [pe], and weak prominence on [N], despite the fact that they only constitute one rhythmic unit in English. The same is true with the word *tea*, in which case the long vowel [i:] is reanalyzed as a sequence of [i] followed by another [i], occupying two moraic positions, the first of which receiving strong, the latter, weak prominence, yielding ['ti,i]. In other words, the difference of the basic rhythmic structure, namely, syllable vs. mora, plays an important role in the overall rhythmic patterns. Note that Japanese prominence is realized as pitch difference, rather than duration which is employed in English, and this also produces a great difference in rhythmic impression. Although this does not constitute a support for the importance of syllable recognition, it does for the significance of suprasegmentals over segmentals.

Some features of English that are traditionally considered segmental involve suprasegmental aspects as well, and so long as instructions for these features are approached from a segmental perspective only, they are never going to be properly acquired. Such features include what Jenkins calls nasalization of vowels and velarization of the lateral liquid /l/, the former of which I already discussed in the previous section. The argument for the suprasegmental nature of the occurrence of velarized lateral liquid is parallel to the discussion of vowel nasalization. Velarized /l/, or what is more commonly known as “dark /l/” occurs only in coda.

There are other principles for effective selection of content for L2 pronunciation instruction in Japanese classrooms. A more traditional possibility which is well worth considering is the introduction of segmental instruction coupled with the recognition of syllables. Aspiration of voiceless plosives would be a typical example. The fact that aspiration generally occurs in stressed syllables (Cruttenden, 2001) is seen as a conspiracy effect of an English phonology that tries to make strong syllables more prominent. First, aspiration can be seen to be one of a strengthening process, which is realized by the strong puff of air made possible only by the voiceless plosives. Second, by making the consonant stronger, it makes the sonority of the consonant even lower. This in turn highlights the relative strength of sonority of the vowel which is emphasized in the stressed syllable.

In sum, my contention is that the influence of L1 transfer of syllable structure extends to

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various aspects of pronunciation, including what is traditionally seen as segmental problems, and helps to better understand the nature of L2 pronunciation difficulties by EFL Japanese and to suggest principles for the selection of effective instructional content.

Conclusion

My goal in this paper has been to present a coherent framework for understanding what pronunciation instruction in Japanese EFL classroom should be like. I have synthesized diverse strands of literature from SLA, both theoretical and empirical as well as pedagogical, in order to argue for the non-futility of pronunciation instruction. My position is that setting intelligibility, rather than native-like mastery, as a goal of instruction is the only reasonable option for EFL teachers. In order to pursue this goal, however, we needed more research that clarifies the nature of intelligibility and we should not forget that this is a complex and problematic notion, sometimes as much in the “eye” as in the ear of the beholder. I hope to have contributed substantially to the discussion of what the content of instruction should be when planning formal L2 pronunciation interventions in EFL classrooms in Japan. Specifically, I hope to have provided convincing evidence for the promise of suprasegmental-oriented instruction over segmental one, and to have described in detailed and useful ways how suprasegmentals (and specifically syllable structure) contribute to sources of difficulty for EFL Japanese learners in attaining the goal of satisfactory intelligibility. This paper has only begun to elucidate the possibility of prioritizing suprasegmentals and syllable structure in teaching English pronunciation to Japanese learners. Future empirical research should examine the effects that instruction of suprasegmental aspects of English may have on EFL Japanese learners’ intelligibility.

Acknowledgements

I am indebted to Lourdes Ortega for constant support and guidance throughout. I am also grateful to William Crawford for discussions and suggestions. All remaining errors are naturally mine.

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Intelligibility, suprasegmentals, and L2 pronunciation instruction
for EFL Japanese learners

Table 1

Jenkins's (2000) proposal of Lingua Franca Corea

Features that are more restrictive in LFC than in "standard" Englishes	Features of "standard" Englishes to be preserved in LFC	Deviations from "standard" Englishes to be tolerant in LFC
<ul style="list-style-type: none"> Retroflex approximant of General American [ɹ] to be used for /r/, rather than the Received Pronunciation variety of post-alveolar approximant [ɹ], e.g., <i>four books</i> [fɔ:ɹbʊks] and <i>four eggs</i> [fɔ:ɹegz] rather than [fɔ:bʊks] (preconsonantal /r/s not pronounced in RP), [fɔ:ɹegz] Intervocalic /t/ not to be flapped, e.g., <i>butter</i> as [bʌtə] to be favored over [bʌɾə] 	<ul style="list-style-type: none"> Aspiration of voiceless plosives Certain approximation of core consonants not permissible (i.e. where there is a risk that they will be heard as a different consonant sound from that intended) Fortis/lenis differential effect on preceding vowel length Initial consonant cluster not to be simplified The vowel for <i>bird</i> Accurate nuclear stress production Placement and division of utterance into appropriate intonational phrases (or "thought groups" and "word groups") 	<ul style="list-style-type: none"> Substitutions of interdental (/θ/, /ð/), e.g., <i>this</i> as [zɪs] Substitutions of velarized /l/ ([ɫ], also known as dark /l/), e.g., <i>milk</i> as [mɪɫk], <i>pill</i> as [pɪɫ] (without the velarization) Close approximations to core consonant sounds Medial and final clusters simplified only according to L1 rules, e.g., <i>product</i> [puroɾakuto] (simplification by epenthesis better than deletion, e.g., [padak] (Taiwanese version)) L2 regional vowel qualities if consistent, e.g., neutralized distinction between <i>hut</i>, <i>hat</i>, and <i>hot</i>, all pronounced as [a]

*Adapted from Jenkins (2000, pp. 158 - 159)

Table 2

Reanalysis of Jenkins's (2000) data on Japanese learners

<i>Errors that Jenkins designates as segmental</i>	<i>Reanalysis</i>	
	<i>Description</i>	<i>Category</i>
<ul style="list-style-type: none"> • ‘wood chair’ [w] pronounced as [ɔ] • ‘You want to work in England?’ as [wəʊnt] • ‘three red cars’ as [led] • ‘I’d take the bird’ as [bɑ:d] • ‘grey house’ as [gleɪ] • ‘curtain’ as [kɑ:ɹtən] 	—	Purely segmental
<ul style="list-style-type: none"> • ‘cushions’ as [kʊʃɔ̃] • ‘Japanese animation films’ with final syllable as [ʃɔ̃] 	nasal that occur only at the end of syllable	Suprasegmental
<ul style="list-style-type: none"> • ‘soccer club’ as [sʌkɑ: klʌb] • ‘after I return to Japan’ as [dʒæ'pæ̃] • ‘scissors’ as [sɪzɑ:z] • ‘zipper’ as ['dʒɪ:pə:] 	non-reduction of weak syllable	
<ul style="list-style-type: none"> • ‘football match’ as ['fʊ:təbɔl 'mætʃ] 	vowel epenthesis after every consonant due to Japanese syllable structure	
<ul style="list-style-type: none"> • ‘it looks more sad, much sadder’ as [sæt] and ['sætə] 	word-final devoicing, or possibly from prohibition against voiced geminates	
<ul style="list-style-type: none"> • ‘mall’ as [mɑ:l] 	error from misunderstanding of spelling-to-sound correspondence	Other
<ul style="list-style-type: none"> • ‘are they English’ as ['ɪŋɡrɪʃ] 	did not lead to communication breakdown (not to be designated as an error)	
<ul style="list-style-type: none"> • ‘man’ as [mɑ:n] 	permissible in Scottish English (Cruttenden, 2001) (not to be designated as an error)	