A Phonological and Prosodic Analysis of English Pronunciation by Japanese Learners

Jamie Lesley Rikkyo University

Abstract

This study considers the pronunciation of Japanese learners of English. Its first intent is to offer a brief overview of Japanese phonological and prosodic features to highlight anticipated L1 transfer issues in spoken English output. It then explores the segmental and suprasegmental aspects of a short recorded performance by two intermediate Japanese learners of English against a sample of Received Pronunciation [RP]. Through contrastive analysis, the paper reflects on the pedagogical implications raised by the findings and makes suggestions for greater focus on three interrelated areas: prosodic skills development, awareness-raising of L1 and L2 differences, and accommodation strategies to support and enhance intelligibility. It does this from a perspective of English as an International Language [E1L] and the acknowledgment of its growing importance in global communication between non-native speakers.

Introduction

The task of making one's pronunciation patterns intelligible to others when communicating



Figure 1. Vowels of standard Japanese (Okada, 1991, p. 94)

Consonants found in English but not in Japanese are notably the dental fricatives /!/ and /ð/ and lenis labiodental fricative /v/. When speaking English, Japanese learners commonly replace /!/ and /ð/ with either alveolar fricatives /s/ and /z/ or post-alveolar fricatives / / and /d /; while /v/ is frequently articulated as the voiced bilabial plosive /b/. The lateral approximant /l/ and the post-alveolar approximant /r/ are typically conflated and pronounced as just one sound, using the Japanese /r/, which Thompson (1987) called "a flap almost like a short d" (p. 214). Other absences are /si/, /zi/, /zu/, /ti/, /tu/, /di/, and /du/, which accordingly become / i/, /d i/, /dzu/, /t i/, /tsu/, /d i/ and /dzu/ (Shibatani, 1987). Finally, the initial glottal in /hu:/ may be articulated using a voiceless bilabial fricative / / so as to produce / u:/ or foo instead of who (Thompson, 1987). As these examples suggest, there are significant differences.

Tsujimura (1996) offered a succinct summary of the five Japanese vowels, listing them as "high front, high back, mid front, mid back, and low central" (p. 17). The high front vowel /i/ is akin to its English equivalent, although there is reduced lip spreading in



Figure 2. RP Pure Vowels (Roach, 2004, p. 242)

In addition, English utilizes eight diphthongs or gliding, double vowels. Diphthongs are noticeably absent in Japanese and always considered to be two separate sounds of equal length (Nishikiori, 2007). Roach (2009) reported that the first sound in a diphthong is both

- switching / :/ for / :/ turning lurk into lark
- ignoring schwas in favor of a pronounced / :/ so that sister becomes /sist :/
- changing the diphthongs /e#/, / / and / / into /e :/, / :/ and / :/ producing the likes of /ðe :fo :/ as an approximation of *therefore*.

These tendencies are exacerbated by gairaigo, or words of foreign origin, that increasingly appear in the Japanese lexicon. Loanwords are reformulated using the katakana syllabary, a writing system that enforces rigid consonant + vowel (CV) codification for spellings. Aside from the exception of final position /n/, all words in Japanese must *end* in a vowel. This distorts original pronunciations so that consonant clusters, which are not permitted in Japanese, undergo epenthesis, and are split up by extraneous vowels to facilitate easier pronunciation, as in /m k don r do/ for the famous burger restaurant chain of the same name. The same is true of final position consonants, which are extended, oftentimes unintentionally (Carruthers, 2006), with insertions of / and /o/. This attempts to maintain standard Japanese moraic CV structure (Shibatani, 1987), and for example, would turn the pronunciation of

Research Questions

With an awareness of key differences between the phonological and prosodic features of Japanese and English, this paper aims to examine what elements of L1 transfer Japanese learners exhibit in comparison with a standard RP sample.

Method

Participants

The learners in this study were two Japanese females in their early 20s, who at the time of recording had both achieved IELTS Band 6, a score identifying them as "competent users" in the 2014 IELTS test takers information. At this level of proficiency, public band descriptors for the IELTS speaking test indicate that a learner who achieves Band 6:

- uses a range of pronunciation features with mixed control
- shows some effective use of features but this is not sustained
- can generally be understood throughout, though mispronunciation of individual words or sounds reduces clarity at times

(IELTS, 2014)

The RP sample was provided by two female native English speakers from the south-east of England, both in their mid-30s.

Procedure

The native English speakers were paired together to create an RP sample of an 8-line dialogue, while the Japanese learners were paired together for a separate delivery of the same dialogue in another separate reading. On each occasion, all lines for speaker A were read by one of the two participants, and all lines for speaker B were read by the other. The 8-line dialogue was as follows:

- A: Did you have a good journey yesterday?
- B: Not too bad, just one short delay waiting in Manchester.
- A: Good. Would you like something to drink? Tea, coffee?
- B: Tea would be lovely. Thank you.
- A: It's great that we could meet today.
- B: It's a real pleasure and it's not out of my way at all.
- A: Oh, let me put the kettle on.

The learners previewed the dialogue in advance of recording to familiarize themselves with its content. A number of practice readings allowed the participants to rehearse lines, minimize hesitation or nerves, and achieve a smooth final delivery that would benefit the subsequent analysis. Their recorded performance was transcribed for comparison with the RP sample of the same dialogue.

Results

Phonetic transcriptions of the RP sample and the learners' performance are presented before examining segmental and suprasegmental features in greater detail.

British English Speakers' Performance

The following transcript provides a sample of the Received Pronunciation by the native English speakers in broad phonetic script. It includes representations of connected speech, weak and strong forms, and primary and secondary stress.

- A: Good. Would you like something to drink? Tea, coffee? %gud || w'' d#'' %la!k s(ms!& t' d(r!&k || % ti: |%k'fi: ||
- B: Tea would be lovely. Thank you. %ti: wud bi %l(vli: || %-e+ kj'' ||
- A: It's great that we could meet today. !ts %gret %.# %wi %kud %mit t#%de! ||
- B: It's a real pleasure and it's not out of my way at all. !ts # %ril %ple"):r ænd its n't %a'd #v ma! %we! æ %\$:l ||
- A: Oh, let me put the kettle on. * \mathbf{w} |%le mi put %+(: |%ketl/%,: \mathbf{n} ||
- B: Yes, then we can catch up on what's been happening since last time. jes|%.en wi k#n kæt) %-p|'n %wæts bin %hæpn?!+ s!ns læs %ta!m ||

Segmental Features

The deviation from the RP sample is relatively minor for consonants. Learner A's /s ms / in *Would you like something to drink*? reflects the absence of /!/ in Japanese. A's inability to close the gap between /d/ and /r/ in the consonant cluster *drink*, said instead as /d#r k/, was also anticipated by earlier contrastive analysis. One curious example of interference occurs in A's opening articulation of *yesterday*, beginning with a distortion of /j/ into something resembling the approximant /r/, although it is hard to determine exactly what sound it is. The subsequent front vowel /e/, which would be present in RP /jest#de / is said closer to / :r/, and may have adversely influenced /j/, through regressive assimilation. In both /d :rni:/ and /j :rst#de / the evidence of rhotic /r/ perhaps indicates the impact of General American (GA) on English pronunciation taught within the Japanese secondary education system.

Generally speaking, rhotic /r/ features more obviously in Learner B's delivery than A's, with / :rt/, /mænt est#r/ and /ple :r/. From a pedagogical or comprehensibility perspective there is of course no reason to correct this. Another typical GA contrast is the substitution of RP's slightly open, mid back vowel / / in words such as /d g/ and /k fi:/ for the longer vowels / :/ or / :/, producing /d :g/ or /d :g/ and /k :fi:/ or /k :fi:/ in GA (Roach, 2009, p. 164). Learner A's articulation of *coffee* however, here resembles RP more than GA. Other instances of GA are apparent in B's pronunciation of /t/ in *waiting*, which is spoken as /we d n/. Roach (2009) noted the American flapped /r/ in instances where RP uses a slightly aspirated, plosive /t/. This recalls Thompson's (1987) description of Japanese /r/ being flapped like a short /d/ and is audible in B's pronunciation of *out* in /a d #v ma we æ :l/. The /æ/ vowel in /æ :l/ is noteworthy for not being a schwa. In RP it would be uttered /# t :l/ (and in GA as /# d :l/). The strong /æ/ is acceptable if the speaker wants to add stress or a contrast, but B's delivery does not suggest this. Furthermore, the elision of /t/ might be common to London or Estuary English accents, but not RP.





This is, of course, just a script reading by students rather than an actual encounter; nevertheless, non-native pronunciation is perhaps most telling through analysis of suprasegmentals. While incorrect segmentals certainly do have an impact, what is conveyed at the sentence level by inappropriate prosody seems to have the greater bearing on how (un)natural the dialogue sounds. For this reason, we may isolate those aspects as especially deserving of classroom attention. The next section looks briefly at some recommendations and teaching techniques.

Discussion and Conclusion

This paper considered the phonological and prosodic background of Japanese and its impact on L2 pronunciation in English. It has identified evidence of both segmental and suprasegmental transfer in the performance of two Japanese learners of English, and on the basis of contrastive analysis, proposed the need for greater pedagogical attention on prosody, and awareness of L1 and L2 pronunciation differences.

However, the investigation is not without its limitations. As a study with just a single pair of learners, it is difficult to make generalizations about the results beyond the immediate parties involved. Clearly, it would benefit future studies to undertake research on a larger scale with a greater number of participants. Moreover, the use of a prepared dialogue, rather than sourcing data from free-flowing, open conversation will also have influenced the quality of the segmental and suprasegmental information collected. Under the conditions of the present study, the native English speakers were far better placed to perform at a level closer to their natural sound production when reading the prescribed content of the dialogue than the Japanese participants. Given that the reading of any script is inevitably shaped by a reader's ability to deliver it naturally and meaningfully, it would be valuable to make fresh comparisons of language retrieved from natural conversation settings.

Despite these limitations, this study's advantage is its in-depth analysis of two learners' interlanguages, which reveal in detail the subtle influences of the L1. As such, the findings bear valuable implications for teaching. To coincide with the proposal to refocus pedagogical attention on prosodic skills development, final considerations arising from this

stronger learning outcomes with more intelligible output as a result. If teachers engage the full "spectrum of imitative, rehearsed, and extemporaneous speaking practice" (Morley, 1991, p. 511), they may feel rightly confident of affecting positive change, by minimizing L1 influence while maximizing more effective prosody in spoken communication (Jenkins, 1998, 2002), if their goal is to approximate native English speakers' pronunciation.

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