Brazilian Portuguese Interphonology: Consonant Clusters

Ciarra Proulx

Northern Arizona University

Abstract

This paper discusses how Brazilian students who study at the Program for Intensive English (PIE) at the Northern Arizona University (NAU) pronounce consonant clusters that are word-initial, -medial, and –final, in order to better understand their interlanguage phonology, particularly since most research on Portuguese phonology pertains to European Portuguese, not Brazilian Portuguese. Ten students were invited to participate, with the expectation that some will decline. Students filled out a background questionnaire and, using Praat, they were asked to say a set of 30 words containing consonant clusters in the three aforementioned positions, in order to pinpoint any consonant deletion, assimilation, or epenthesis. This data will be compared to the pronunciation of the same set of words by a native speaker of American English. Results showed that epenthesis was the highest occurring process, particularly word-initially, whereas deletion was most commonly found word-finally. Word-medially, all three processes occurred with similar frequencies. The results show the necessity of incorporating explicit pronunciation instruction, including consonant clusters, within the PIE in order to better aid students in their endeavors to quickly and efficiently learn enough English to move on to university instruction taught in English.

Background

European Portuguese (EP) and Brazilian Portuguese (BP) have diverged to a point where, phonologically, BP warrants its own studies; however, research Portuguese phonology largely pertains to EP. One major difference is that BP has severe restrictions on consonant clusters on a phonological level, and that word-initially, some consonant clusters are possible, but only those containing an obstruent followed by a liquid (i.e., /p/, /t/, /k/, /b/, /d/, /g/, or /f/ plus /l/ or /r/). Additionally, EP allows for a greater number of word-final clusters than BP. In BP, it is extremely common in the majority of dialects for clusters of obstruents to undergo epenthesis (e.g., *agradável* becomes [agiradavel]), giving it a greater tendency toward a CVC structure (Parkinson, 1988). In a more recent study involving paragoge (one type of epenthesis, where a sound is added to the end of the word), Koerich (2006) discovered that because English and Portuguese vary so greatly in syllable structure, resyllabification becomes a common occurrence, particularly amongst Brazilians because of their move toward a CVC structure. This study seeks to identify which processes, if any, occur during the pronunciation of English words containing consonant clusters by native Brazilian Portuguese speakers, and both the placement of and frequency in which they occur.

Research Questions

1. What phonological processes emerge during the pronunciation of consonant clusters, and with what frequency?

2. How does the position of cluster (i.e., word-initial, -medial, or –final) affect the pronunciation of the cluster?

Methods

Ten currently enrolled, level 5 (out of 6) Brazilian students who have been in the U.S. for at least six months were asked to participate. They were asked to first fill out a questionnaire regarding the extent of their background in the English language in the home and in both ESL and EFL contexts. The questionnaire was also to gauge their experience with explicit pronunciation instruction. Upon completion of the questionnaire, participants were given a list of 30 words in total with ten words each representing consonant clusters found word-initially, -medially, and –finally. Participants then signed up to come in once individually to be recorded on a laptop using Praat software to positively identify any phonological processes that arose during their pronunciation of each word multiple times. For each word, the participant was asked to repeat it three times, and then follow it with two sentences: This word is _____. _____ is this word. This was also done with a native speaker for comparison. Once the all the recordings were finished, phonetic transcriptions were written based on the recordings in Praat to pinpoint the processes involved. Types of processes were identified. Additionally, the frequency and place (i.e., word-initially, -medially, or –finally) in which they occurred were tallied.

Results

Based on the transcriptions and a comparative analysis of the Brazilian speakers versus a native speaker of American English, three types of phonological processes emerged:

1. Epenthesis*:* a vowel phoneme (either schwa /ə/ or the high front vowel /ɪ/) was placed between or before consonants.

2. Elision: also known as 'deletion,' whereby the speaker deleted a phoneme within the consonant cluster for ease of articulation.

3. Assimilation: where the speaker altered one phoneme within the cluster, making it more similar to the following sound.

Word-initially, epenthesis and assimilation were the only occurring processes. These often went together due to words like 'smell,' which students added a vowel sound before /s/, and then assimilated /s/ to its voiced counterpart /z/ due to the voiced nature of the vowel and the following nasal. Word-medially, all three processes were involved, and word-finally only assimilation and deletion occurred. Epenthesis and deletion were the most frequent processes, particularly epenthesis, since it was often put at the beginning of a word with /s/ as the starting phoneme, and any cluster that had an obstruent not followed by liquid.

Relevance to PIE

While several countries are represented at the PIE, it has primarily been comprised of students from China and Saudi Arabia. Thus, teachers currently working at the PIE have fairly good background knowledge of typical mistakes that Chinese and Arabic speakers are likely to make, both grammatically and with pronunciation. However, because Brazilian students are a relatively new addition, there is not much familiarity with their language. Classroom preparation is not simply lesson planning and resource development, but also acquaintance with students' L1 backgrounds. Thus, the incorporation of explicit pronunciation instruction, practice, and production is quite necessary at the PIE in order to aid students' aural and oral skills, as well as assist students in successfully assimilating into day-to-day life in America by being understood with minimal effort to native speakers. In order to do this, teachers may find it helpful for both themselves and for grammar/translation explanations for their students.

References

Celce-Murcia, M., Brinton, D., & Goodwin, J. (2010). *Teaching pronunciation: A course book and reference guide* (2nd ed.). New York, NY: Cambridge University Press.

Flege, J. E. (1995). Second language speech learning: Theory, findings and problems. In W. Strange (Ed.), *Speech perception and linguistic experience: Issues in cross-linguistic Research* (pp. 233—277). Baltimore, MD: York Press.

Freed, B., Dewey, D., Segalowitz, N., & Halter, R. (2004). The language contact profile. *Studies in Second Language Acquisition*, *26*(2), 349-356.

Koerich, R. D. (2006). Perception and production of vowel paragoge by Brazilian EFL students. In B. O. Baptista & M. A. Watkins (Eds.), *English with a Latin beat: Studies in Portuguese/Spanish-English interphonology* (pp. 91—104). Amsterdam, the Netherlands: John Benjamins Publishing Company.

Parkinson, S. (1988). Portuguese. In M. Harris & N. Vincent (Eds.), *The Romance Languages* (pp. 131—169) . New York, NY: Oxford University Press, Inc..