

DIFFERENCES IN THE PRODUCTION OF ENGLISH WORDS OF SEQUENCES CVC AND CVCV BY BRAZILIAN LEARNERS: AN ACOUSTIC ANALYSIS

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1. The problem

Brazilian learners may mispronounce English words ending in oral stops (CVC) because of the influence from Brazilian Portuguese (BP) phonotactics. Studies (Baptista & Silva Filho, 1997 and Koerich, 2002) have shown that learners sometimes produce an epenthetic vowel to conform the English word into the Portuguese most common syllabic pattern (CV). If they do so, how do they differentiate pairs of words such as pop/poppy or luck/lucky? This study was designed with the intent of finding how Brazilian learners produce English words in sequences CVC and CVCV, with the latter ending in the grapheme -y.

2. Aims of the study

- Acoustically describe CVC and CVCV English words produced by Brazilian learners;
- Verify the rate of vowel epenthesis and other processes such as palatalization, aspiration and affrication;
- Check the duration of CVCV final vowels as well as phonetically describe them; compare the vowels' duration produced by Brazilians and the native speaker.

3. The subjects

- 12 Brazilian learners, ages 13 to 17, intermediate level of instruction (250 to 300 hs), never exposed to pronunciation formal instruction or lived in English-speaking countries;
- 1 native speaker, 16 years old, from Nashville-Tennessee (USA), living in Brazil for four months before recording.

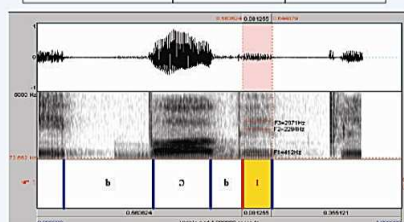
4. Procedures

- Recording the subjects reading a carrier-sentence (Say X, please), containing the target words (pop/poppy, Bob/Bobby, pet/petty, dad/daddy, luck/lucky, bug/buggy);
- Analyzing data in relation to their acoustic events with the use of Praat (vowel formants, vowel duration, presence or absence of bursts, spectrum, voicing bar, fricatives frequency)
- Measuring the duration of CVCV final vowels;
- Data were first described by subject, then quantified to generate rates.

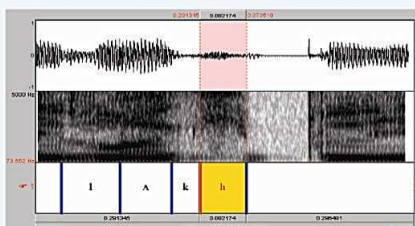
5. Results

- Results showed a low rate of vowel epenthesis production: 7,4%;
- Learners do not seem to have accomplished the process of acquisition of oral stops in coda position because of the recurrent production of affrication, aspiration and palatalization;
- Learners produce CVCV words correctly most of the time. However, the Brazilians' final vowel duration is often shorter than the native speaker's. This fact indicates a possible influence that unstressed word-final vowels in BP have on Brazilian learners' production of CVCV English words.

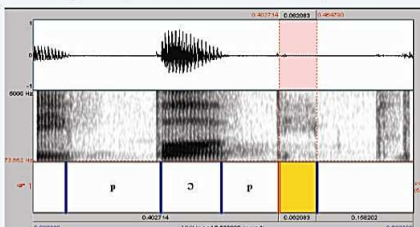
CVC words	Number of occurrences	Rate in %
Targetlike	146	67,6
Affrication	26	12
Aspiration	25	11,6
Epenthesis	16	7,4
Palatalization	3	1,4
Total	216	100



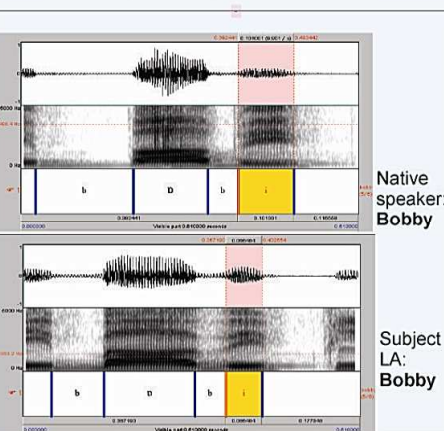
Subject HE: production of Bob with vowel epenthesis



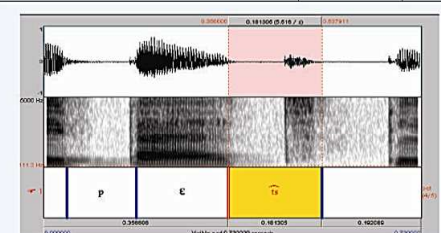
Subject RI: production of luck with C2 aspiration



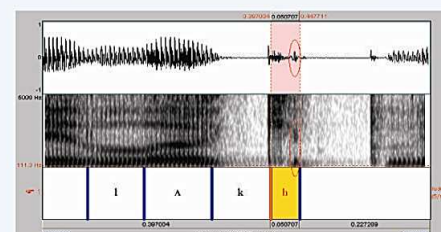
Subject FA: production of poppy with V2 deletion



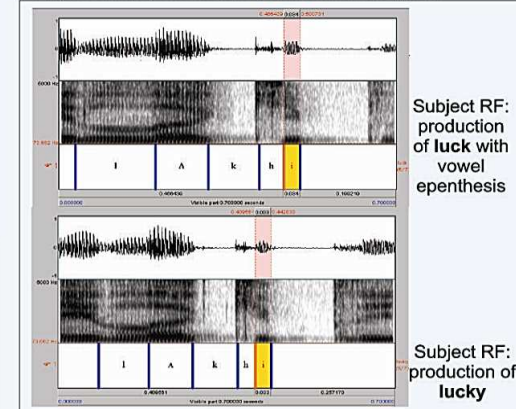
CVCV words	Number of occurrences	Rate in %
Targetlike	180	83,3
C2 affrication	15	6,9
C2 affrication and V2 deletion	9	4,1
C2 palatalization and V2 deletion	6	2,8
V2 devoicing	4	1,9
V2 deletion	1	0,5
C2 aspiration	1	0,5
Total	216	100



Subject JU: production of pet with C2 affrication



Subject RA: lucky with C2 aspiration and vowel-like segment



Subject RF: production of luck with vowel epenthesis

Subject RF: production of lucky

6. Conclusions

- Brazilian learners at intermediate level of proficiency mostly produce the differences between CVC and CVCV English words;
- Vowel epenthesis seems to be linked to a lower level of proficiency;
- Affrication of alveolar voiceless stops indicates that learners may be undergoing developmental processes;
- Unstressed word-final vowels in BP are reduced in duration and amplitude. This pattern seems to influence the production of CVCV English words.

7. References

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