



The aspiration of the Spanish grapheme 'h'

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Background

One aspect of Spanish pronunciation that differs from English pronunciation is the phonetic treatment of the letter 'h'. While this grapheme corresponds to a voiceless glottal fricative [h] in English (also known as "aspirated [h]"), it has no phonetic realization in Spanish. In other words, the letter 'h' in Spanish is not pronounced at all or is "silent". This difference often results in Spanish pronunciation errors by L2 learners of the language.

The present study aims to deepen our understanding of the erroneous pronunciation of 'h' by exploring *how prevalent* the error really is in the speech of beginning and intermediate L2 learners and whether or not the *phonetic shape of words* has any effect on its occurrence.

Research questions

The aim of this pilot study is to investigate the factors that play a role in the treatment of the Spanish grapheme 'h' by adult learners of Spanish as a second language (L2) who are native speakers (L1) of English. Two research questions are explored:

RQ1: Do beginning- and intermediate-level adult L2 learners inaccurately pronounce the letter 'h' using a voiceless glottal fricative [h] instead of accurately associating this grapheme with silence?

RQ2: What linguistic factors affect the treatment of 'h' by adult L2 learners?

The linguistic factors considered include:

- 1) the learner's level of L2 acquisition: first-semester Spanish (SPAN 1000), second-semester Spanish (SPAN 1010), or third-semester Spanish (SPAN 2000);
- 2) the frequency in the language of each target word written with 'h': low or high;
- 3) the visual influence of the 'h' grapheme: present (with responses elicited through reading) or absent (with responses elicited spontaneously through images);
- 4) prosodic stress (or spoken emphasis) on the syllable containing the 'h' grapheme: present or absent.

Our **hypotheses** are that all three groups of L2 learners will aspirate 'h' and that the first-semester group will aspirate more frequently than the second-semester group, which will aspirate more frequently than the third-semester group. Furthermore, we expect there to be more aspiration: a) in low-frequency words, b) when the visual influence of 'h' is present, and c) when 'h' appears in the stressed syllable of the word.

Methodology

Data from students in first-, second-, and third-semester Spanish courses were recorded, including 5 students from SPAN 1000, 6 students from SPAN 1010, and 6 students from SPAN 2000, for a total of 17 students (WMU HSIRB protocol 11-02-43).

Participants were asked to complete two tasks:

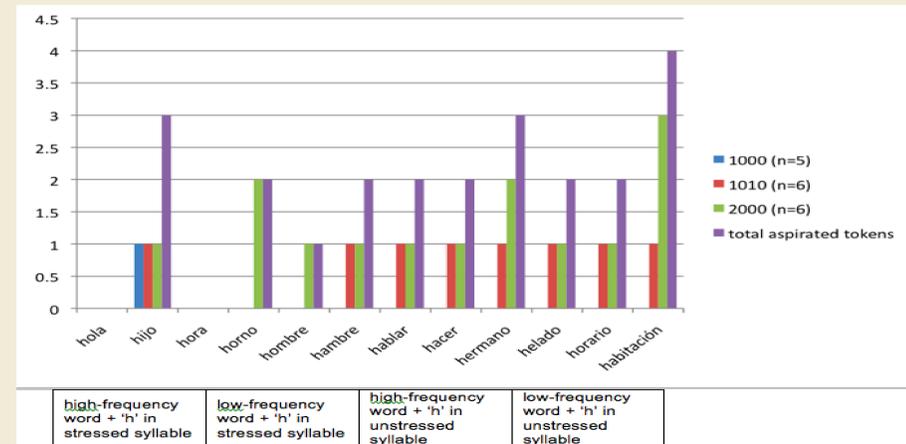
- 1) read aloud a list of 22 words (including 10 distracters) by inserting each word in a specific carrier phrase;
- 2) look at 22 images one-by-one, and answer a question posed by the researcher in order to spontaneously elicit each target word (including 10 distracters).

A total of 408 responses were recorded (17 speakers x 2 tasks x 12 target words). The responses were classified according to the four linguistic factors under consideration.

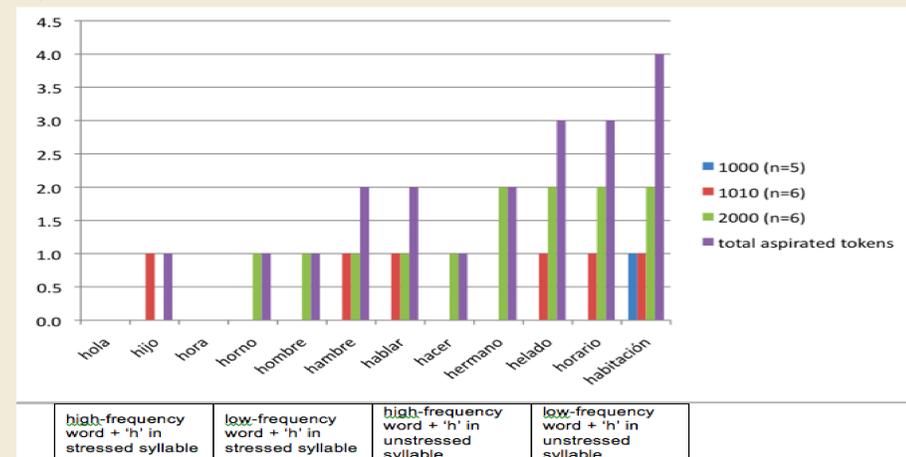
Results

Due to space limitations, only the summary graphs are presented below:

Reading task



Spoken elicitation task



Discussion

RQ1: Adult L2 learners at all three levels (i.e., first through third semester) inaccurately pronounce the letter 'h' using a voiceless glottal fricative [h] instead of accurately associating this grapheme with silence.

RQ2: With regard to the linguistic factors that may affect the treatment of 'h' by adult L2 learners, the following tendencies are observed, where the conditions ordered first (i.e., on the left) show a *higher occurrence of aspiration* than those on the right:

- 1) 2000-level > 1010-level > 1000-level;
- 2) 'h' in low-frequency words > 'h' in high-frequency words;
- 3) 'h' in read words > 'h' in spontaneously spoken words;
- 4) 'h' in unstressed syllables > 'h' in stressed syllables.

Statistical analyses will be performed to determine whether or not these tendencies are statistically significant.

Implications

The results of this pilot study are promising and indicate that this topic merits further study. While we expected the results presented above for factors 2 and 3, we expected the *opposite* results for factors 1 and 4. The most surprising result concerns factor 1: why is it that the most advanced of the three groups of adult L2 learners shows the highest occurrence of aspiration (i.e., inaccurate pronunciation)? Is this result perhaps related to the more recent explicit instruction about 'h' at the earliest level, or does it simply reflect a natural process of L2 sound acquisition?

Improvements for expanded study

The following improvements will be made in the post-pilot study phase of this research project:

- increase the number of participants per course level;
- consider the role of explicit instruction by examining the textbooks used and by talking with instructors about their treatment of pronunciation in the classroom;
- add a third task: a talk-aloud protocol that will provide insight into the participants' explicit knowledge or awareness of the treatment of the letter 'h' in Spanish;
- integrate statistical analyses of the expanded data sets.