The Impact of Instruction in Phonetic and Phonemic Distinctions in Sounds on the Pronunciation of Spanish-speaking ESL Learners

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Abstract

Second language learners must know the linguistically significant sounds in the second language to read, write, and speak fluently, and to avoid miscommunication. This raises the question of whether, how much, and in what form instruction in phonetic and phonemic distinctions in sounds should be implemented in the second language classroom, and whether or not such intervention is effective. This study evaluated the impact of instruction in phonetic and phonemic distinctions in sounds on the English pronunciation of English language learners, specifically, Spanish speakers learning English as a second language (ESL). Target sounds in English deemed difficult for Spanish speakers learning ESL were identified. The target sounds were categorized into sounds having allophonic distinctions between the two languages; sounds having phonemic differences in the two languages, and sounds which are phonemes in English but absent in Spanish. Subjects in the experimental group were instructed in the distinctions between the sounds in English and Spanish through lecture-type as well as technology-enhanced materials. Results indicated that the intervention had a statistically significant impact on the experimental group’s pronunciation of the target sounds. Further, subjects’ showed improvement in the pronunciation of individual target sounds in the following order: sounds with allophonic distinctions, phonemic differences, and absence in the native language. The paper discusses these findings and their pedagogical implications.

Resumen

Un conocimiento fonológico consciente de sonidos en la segunda lengua no puede ser dado por obvio en alumnos principiantes. Sin embargo los estudiantes de un segundo idioma deben conocer los sonidos lingüísticos significativos en éste para poder leer, escribir y hablar fluidamente para evitar problemas en la comunicación. Como resultado surge la pregunta sobre cuánto y cómo debe implementarse la instrucción en las distinciones fonéticas dentro del aula del segundo idioma, y si tal instrucción es o no es efectiva. El presente estudio evalúo el impacto de la instrucción en distinción fonética y fonémica de sonidos sobre la pronunciación del inglés de estudiantes cuya primera lengua es el español que están aprendiendo el inglés como segunda lengua. En el estudio se identificaron los sonidos que fueron detectados como difíciles para los estudiantes hispanoparlantes. Estos sonidos fueron categorizados en sonidos con distinción alofónica entre ambas lenguas, sonidos con diferencias fonémicas entre ambas lenguas y sonidos cuyos fonemas existen en el inglés pero que no existen en el español. Mediante la
Phonological awareness of sounds in the second language cannot be presumed in second language learners. Second language learners must know the linguistically significant phonemes and allophones in the second language to read, write, and speak fluently, and to avoid miscommunication. This raises the question of whether, how much, and in what form phonetic instruction should be introduced and applied in the second language classroom, and whether or not such intervention is effective. This study evaluates the impact of instruction in phonetic and phonemic distinctions in sounds on the English pronunciation of English language learners, specifically, Spanish speakers learning English as a second language (ESL).

**Need for Accurate Pronunciation Skills in the Second Language**

**Effect on Communication**

A phoneme is the smallest, meaningful unit of sound. All else remaining the same, changing a phoneme in a word changes the meaning of the word, as in ban, van, man, and tan in English; the sounds /b/, /v/, /m/, and /t/ are linguistically significant sounds, or phonemes, in English. An allophone, on the other hand, is a phonetic variation of a phoneme. This variation does not change the meaning of the word, and therefore, is not linguistically significant. The phoneme /t/ in English, for instance, has, among others, the following two variations or allophones in terms of aspiration: it is aspirated in word-initial position (th in, th ined) and unaspirated in word-medial or word-final positions (master, painting, bite, cat); misarticulation of these allophones does not change the word meaning.

Whether it is necessary or desirable to speak a second language with native-like accuracy is often a personal choice; what is clear, however, is that certain miscommunications may occur due to lack of phonological awareness in the second language. Kenworthy (1987) stated that language learners must develop concern and awareness for pronunciation because unintelligible speech resulting from inadequate phonological accuracy causes mutual frustration and unpleasantness for both listeners and speakers. In related studies, Plakans (1997) and Gravois (2005) pointed out instances of miscommunication and unintelligibility resulting from inadequate phonological awareness of nonnative English-speaking instructors. To avoid such instances, the second language learner must be able to identify and use the linguistically significant phonemes of the language appropriately. For instance, Spanish speakers learning English may mispronounce the voiceless post alveolar fricative /ʃ/, as in “wash”, as the
voiceless post alveolar affricate /č/, as in “watch.” Because of the lack of the /š/ phoneme in Spanish, some Spanish speakers may mispronounce the English phoneme /š/ as /č/, resulting in possible miscommunication. These problems may be prevented or remedied by instruction on phonetic and phonemic distinctions in sounds.

**Academic Need**

Phonological awareness has been reported to be a predictor of reading success (Badian, 1998) and general academic achievement (Chard, Pikulski & Templeton, 2000). Native Spanish speakers who learn to speak, read, and write in their native language might have difficulty with the English orthographic system because of native language interference (Terrebone, 1973). Lado (1956), in a study comparing the English and Spanish sound systems, claimed that second language learners tend to transfer their entire knowledge of sounds in their native language, including phonemes and allophones, patterns of syllables, and intonation, into the second language, and these transfers result in nonnative pronunciation and possible miscommunication. Training in phonemic and phonetic contrasts between the two languages may compensate for students’ pre-set phonetic and phonemic awareness in the native language.

**Need for Instruction in Phonetic and Phonemic Distinctions in Sounds**

Research suggests that second language learners’ pronunciation is affected by variables including the age and gender of the second language learners; the extent of second language use; length of residence in the second language environment; learners’ aptitude; first language background; as well as the presence or absence of phonetic training in the second language (Piske, 2008). However, results of studies investigating the effects of these factors on second language learners’ pronunciation are not unanimous. With respect to age being a crucial factor in second language acquisition, Long’s (1990) claim that acquiring a second language in early childhood can result in native-like second language pronunciation was supported by Marinova-Todd, Marshall & Snow’s (2000) study showing that late starters cannot achieve native-like pronunciation.

However, the results of a study by Flege, Frieda and Nozawa (1997) indicate that native-like pronunciation does not automatically come with early second language acquisition. In that study, a group of bilinguals who acquired English as a second language at an average age of 3.2 years and had been living in an English-speaking environment for more than 18 years were reported to be speaking English with a slight foreign accent. In fact, late learners too can have almost native-like second language pronunciation (Moyer, 2004). Studies show that adult Dutch speakers achieved native-like English pronunciation after phonetic training (Bongaerts, van Summeren, Planken & Schils, 1997), and Japanese adults showed improvement in the phonemic distinction between the /l/ and /r/ contrast in English, subsequent to phonetic training (Flege, Takagi & Mann, 1995). Some researchers (Celce-Murcia, Brinton, & Goodwin, 1996; Morley, 1999; Wong, 1987) argue that second language learners’ inaccurate pronunciation results from the sole emphasis on individual sounds in the pronunciation teaching curriculum. In order to achieve real-life communication,
alveolar sounds. The category of sounds showing the next best range of improvement is /v/, /z/, and ð/, which are sounds present in Spanish, but which carry a different phonological status in English, i.e. whereas they are allophonic in Spanish, they are linguistically significant or phonemic sounds in English. Here, it was necessary for the subjects to conceptualize and discriminate between the linguistic statuses of these sounds. Finally, sounds which are absent in the English language learner’s native language, such as /ʃ/ and /θ/, were the most difficult to master. These results are consistent with the expectations of Prator’s (1967) Hierarchy of Difficulty that predicts that linguistic features that are most different between the native and second languages will be those that are most difficult to master. Although predicted or anticipated difficulties in second language learning do not always turn out to be so, based on the findings of this study, teachers may be better prepared to understand and address problems in Spanish-speaking ESL learners’ pronunciation of English sounds, should they arise.

Recommendations for Future Research

Overall, the results of this study have pedagogical significance in that they offer insight into the instructional materials that may prove effective in improving Spanish-speaking ESL learners’ pronunciation of English sounds. As discussed earlier, improvement in pronunciation can lead to advancement in academic performance too. Future research in this area would benefit from examining the effects of the same type of intervention at the phrase, sentence, or discourse levels. In addition, the range of sounds examined may be expanded to include vowel sounds. The challenge that remains is the question of how to introduce this type of intervention systematically in ESL classrooms. As a starting point, ESL teachers would have to be trained in articulatory phonetics and linguistics to understand and teach the importance of accurate pronunciation in second language learning.

References


