Does hearing as different mean anything in L2 perception?

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The paper is devoted to the discrimination between stimuli drawn from English high back vowel continuum by Polish learners of English and English native speakers. The results of the discrimination study are compared to categorization study results. The discussion points out to the unique nature of vowel discrimination within L2 category boundaries and to the fact that it does not enhance categorization.

8 stimuli from 'who'd' – 'hood' continuum were presented to 37 Polish advanced learners of English and a control group of native speakers in categorization (each stimulus presented in three temporal steps) and discrimination tasks. Native speakers of English perceived the stimuli categorically in the categorization task and did not pay attention to duration. Polish learners of English did not categorize different spectral stimuli as different, but paid attention to their duration. In the discrimination task, however, Polish subjects perceived more differences between the stimuli than English native speakers did. For both groups, the distance between the stimuli in the acoustic vowel space was important. Native speakers of English's discrimination was, however, lower within category boundaries. Polish subjects obtained much higher scores than English subjects did in discriminating between neighboring stimuli categorized as belonging to a single category by English subjects. The analysis of the results leads to four conclusions.

The results show that Bohn's (1995) claim that where L1 does not use spectral cues in a given area of acoustic vowel space, duration differences will be used to differentiate the non-native vowel contrast, is true only for categorization but not for discrimination.

Although Polish learners of English are able to detect the auditory difference between English /u/ and /ʊ/ in the experiment when they are asked to discriminate between the sounds, in other contexts they do not perceive the vowels as different, which is evident from the debriefing and categorization test. Hearing differences between vowels in experimental conditions does not prevent L2 learners from categorizing the vowels to one category on the basis of equivalence classification. This would be in line with the Perceptual Assimilation Model's (Best 1994) Category Goodness contrast, in which L2 sounds classified into one native category are discriminated. Speech Learning Model (Flege 1995) suggests furthermore that perception of the differences between L1 and L2 sounds may be blocked by the mechanism of equivalence classification, and not necessarily by the inability to detect auditory differences.

The results clearly refute Rochet's (1995) concept of absolute phonetic information, which is postulated to play a crucial role in perception of L2 sounds. Speech perception is a far more complicated process involving equivalence classification and universals.

Only spectral differences influenced discrimination of English vowels by Polish subjects. The fact that they were categorized as belonging to one category did not negatively influence their perception. In L2 perception one phonological category may be used to process two sound which can be discriminated. This seems to be an important difference in comparison to discrimination in L1, which is mediated by category boundaries.

The results suggest that a phonological category involving L2 sounds differs from an L1 category as far as discrimination potential is concerned. Within the L1 category discrimination is much lower than across L1 category boundaries. Within a phonological category involving L2 sounds, discrimination resembles auditory mode of processing and is not limited within category boundaries. Discrimination itself is not indicative of category formation in L2.

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