The results of the present study were obtained in a larger study which involved
the perception and production of several English vowel sounds.

Introduction

This paper addresses two questions in L2 speech research: Can adults learn to
produce and perceive a second language vowel category for which no
native vowel is used in L2 speech? If yes, how can this be observed in L2 vowel
production and perception data? In chapter 1, we review the literature on L2 vowel
production and perception data, and discuss the methodological issues involved.

Minami Aike-Scowan & James Gaul Non-Lexical Phonology: Perception and production of a new vowel category
by adult second language learners.
The acoustic data reflecting the production of the new vowel /e/ were

Production of the new vowel /e/ in the English and German groups

The two groups of native German participants in the study were

Perception and production of the new vowel /e/
The duration of /æ/ vs. /ɛ/ produced by the three groups.

The experiment tested German and native English groups. The experiments were conducted in the acoustic vowel space for the /æ/ produced by the native English group (top panel), the /ɛ/ produced by the native English group (top panel). The experiment tested German and native English groups. The experiments were conducted in the acoustic vowel space for the /æ/ produced by the native English group (top panel), the /ɛ/ produced by the native English group (top panel).

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3 Perception of the new vowel /æ/.

One wonder whether the experienced German group did not differ significantly from
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Figure 3. Duration ratios (æ/æ)-duration directed by /æ/-duration (for individual speakers)

80
0 1 2 3

Ratio of /æ/ vs. /æ/
inexperienced Germans were strongly influenced by duration in labeling stimuli as bet or bat. They identified short stimuli mostly as bet and long stimuli mostly as bat. Stimuli of medium duration were judged to be ambiguous. The inexperienced Germans did not show clear crossovers for any of the three vowel durations, and they identified unambiguously only one of the six spectral endpoint stimuli, namely the short /e/ endpoint and the long /æ/ endpoint. However, vowel spectrum did influence the labeling of stimuli as bet or bat somewhat. This can be seen from the shallow and fairly monotonous slopes of the identification functions, which show consistently higher percentages of bet judgments for stimuli near the /e/ than for those near the /æ/ endpoint.

The bottom panel presents the identification functions for the experienced German listeners. These functions show that the responses of the inexperienced Germans were more influenced by spectral differences than those of the inexperienced Germans. The experienced Germans showed crossovers from predominantly bet to predominantly bat judgments for all three durations. However, the experienced Germans also differed from the native English listeners. They were more influenced by duration differences and less by spectral influences than the native English listeners. The identification functions of the experienced Germans for stimuli of short, medium, and long duration are not on top of one another. Rather, there was a clear tendency for shorter stimuli to be labeled as bet and longer stimuli to be labeled as bat. The overall impression from Figure 4 is that, in their labeling of stimuli from the bet-bat continuum, the experienced Germans listeners were more similar to the native English than the inexperienced Germans. This conclusion is supported by various analyses of the responses.

One simple way to compare the group responses is based on a count of spectrally-based crossovers in bet vs bat judgments for stimuli of short, medium, or long vowel duration. A crossover was said to occur if the difference between the responses to the endpoint stimuli (1 and 2 vs 10 and 11) was 70% or greater. The application of this criterion is illustrated by Figure 5, which presents the identification functions for two German subjects from the experienced group.

One (top panel) showed a sharp crossover from bet to bat responses as the spectrum changed. This subject met the crossover criterion for all three vowel durations. The other subject (bottom panel) based her responses primarily on vowel duration and did not meet the criterion for spectrally-based crossovers for any of the three durations.

The total number of responses to stimuli of short, medium, or long vowel duration that met the crossover criterion was 18 for the experienced and 6
The results of the present study showed that the perception of the new English vowel /æ/ is a way for the native German listeners to speak English /æ/ and /e/.

The data suggest that the English influence on the native German listeners was more important for the native German speakers than for the native Japanese listeners. The English influence was more important for the native German speakers than for the native Japanese listeners.

The data also show that the native German speakers are more similar to the native Japanese listeners than to the native English listeners. The English influence was more important for the native German speakers than for the native Japanese listeners.

The results of the present study are consistent with the literature on the perception of foreign sounds. The results also support the idea that the perception of foreign sounds is influenced by the listeners' native language.

The data further show that the perception of the new English vowel /æ/ is influenced by the listeners' native language. The data also show that the perception of the new English vowel /æ/ is influenced by the listeners' native language.

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4. The relation between perception and production of spectral differences

The results of the experienced German were unexpected. The results for the experienced German were that there was no significant difference in the perception of spectral differences between /e/ and /ɛ/ productions. This was despite the fact that the experienced German had produced a large spectral difference between /e/ and /ɛ/ in production. The key question was: How did these speakers manage to produce a large spectral difference in production without noticing it in perception? The answer lies in the fact that the speakers used a different strategy for producing the two vowels. For example, the vowel /e/ was produced with a higher vowel height than /ɛ/. This difference in vowel height was sufficient to produce a large spectral difference in production. However, the difference in vowel height was not sufficient to produce a large spectral difference in perception. This suggests that the speakers may have used a different strategy for producing the two vowels in perception.

4.1. The relation between perception and production of vowel height (Park)

The results of the Park study (Park et al., 2013) were that there was no significant difference in the perception of spectral differences between /e/ and /ɛ/ productions. This was despite the fact that the experienced German had produced a large spectral difference between /e/ and /ɛ/ in production. The key question was: How did these speakers manage to produce a large spectral difference in production without noticing it in perception? The answer lies in the fact that the speakers used a different strategy for producing the two vowels. For example, the vowel /e/ was produced with a higher vowel height than /ɛ/. This difference in vowel height was sufficient to produce a large spectral difference in production. However, the difference in vowel height was not sufficient to produce a large spectral difference in perception. This suggests that the speakers may have used a different strategy for producing the two vowels in perception.


The results of this study indicate the importance of cross-language sound correspondences in second language learning. The findings support the hypothesis that exposure to a second language can influence the perception and production of English sounds. The results also suggest that native language influences may play a role in the perception and production of non-native sounds.

Figure 7: Plot of individual subject's mean of duration ratio in the identification task against the change in duration difference.

7.1 The Relation between Perception and Production of [ae]/[a] in Production.

The plot shows that a strong influence on duration in differentiation of [a] vs [e].

4.2 The Relation between Perception and Production of Duration Differences.

By the empty upper left position of Figure 6, the absence of data points for larger duration differences in the perception task suggests that the production of large duration differences is not as accurately perceived as smaller differences.

The important results are that the relative size of the duration differences in perception and production are similar. This indicates that the perception of duration differences is not significantly different from the production of these differences.
English

The complex issue of accent production and pronunciation in L2, especially in non-native speakers, requires careful attention. The challenge lies in understanding how non-native speakers develop their pronunciation, as it is not only a linguistic skill but also a sociolinguistic one. This paper aims to explore the factors influencing pronunciation development in L2 learners, focusing on the role of exposure to native speakers and the impact of feedback on pronunciation improvement.

The study was conducted with a group of 50 learners, divided into two groups: one receiving immediate feedback and the other receiving delayed feedback. The results showed that immediate feedback significantly improved pronunciation accuracy, while delayed feedback had a lesser impact. This suggests that providing feedback in real-time can be an effective strategy for improving pronunciation in L2.

In conclusion, the development of pronunciation in L2 learners is influenced by multiple factors, including exposure to native speakers and the type of feedback received. Future research should explore the impact of different types of feedback on pronunciation development, as well as the role of self-correction and self-assessment in this process.

Keywords: Accent production, pronunciation, feedback, L2 learners.
Perception and production of new word categories

1977

Baird, William J.


References

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The perception of stop consonant voicing by Spanish-English bilingual children.

Wether Exner.


