## Effects of Beliefs about Orthographic Diacritics on Acquisition of L2 Vowels

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## Introduction

- The English alphabet has 26 letters, none of which have diacritics.
- The Polish alphabet has 32 letters, some of which have diacritics.
- The Swedish alphabet has 29 letters, some of which have diacritics, specifically å, ä, ö.
- English learners may believe that the Swedish letters å, ä, and ö are the same letter (with a diacritic) rather than different letters of the alphabet rather than different letters. Does this affect their learning of perception and production of the associated vowel sounds?


## Introduction

- Previous results (Haslam, 2014) indicated that there may be a relationship between beliefs about letters and perception and production results.
- However, this previous study did not control for proficiency level.
- The current study analyzes new data with proficiency level in mind.


## Method: Participants

- English and Polish speakers were chosen because English and Polish have similar vowel inventories in comparison to Swedish, but different alphabets.

|  |  | beginner | intermediate advanced | native |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Participants: N=52 | English | 12 | 5 | 3 | 0 |
|  | Polish | 11 | 9 | 3 | 0 |
|  | Swedish | 0 | 0 | 0 | 8 |
|  | Total | 24 | 14 | 6 | 8 |

## Method: Procedure

1. Training on Swedish words containing the letters $\grave{a}$, ä, ö - words were associated with images
2. Test on the learned words
3. Perception test - participants saw an image and heard a yes/no question. The word in the question was either the word they learned or its equivalent without a diacritic, e.g. "råd" or "rad"
4. Production test - participants saw an image and were asked to say the word associated with that image
5. Survey on beliefs - participants answered questions about whether two letters were the same letter or different letters. This included letters that were intentionally the same (control), letters from Swedish, letters from Polish, and letters from Hungarian.
/Name Name, Institution or similar

## Method: Production Judging

- Production data were judged by native speakers of Swedish, N=60
- Each judge heard a random selection of 150 of the productions made by the participants. Forced-choice judgments: e.g. "råd" or "rad", or no answer if the word was completely different or noise
- (9000 total judgments, those which were not answered were not analyzed)


## Results: Perception



## Results: Perception



## Results: Production


$\square$ Production Proportion Correct à
Production Proportion Correct à
Production Proportion Correct ö

Stockholm University

## Results: Production



## Results: Letters Survey



## Results: Survey Responses to Swedish Letters



## Results: Summary

- No differences in perception or production across native languages.
- Differences in perception across proficiency levels, but not in production.
- No difference in the way different language groups or proficiency levels respond to the survey about letters.
- All survey results (beliefs scores) relatively high across native languages.


## Discussion

- The hypothesis that beliefs about the alphabet influence participants' vowel learning is not supported. Instead, proficiency level seems to be a better explainer of vowel learning.
- There is not a correlation between perception and production data, which would be expected based on other studies. Forced-choice judgment task possibly yields uninteresting production data, possibly because judges know what the right answer "should be".
- Repeat the judgment task using open-response task, such as dictation.
- Previous results (Haslam, 2014) indicate that English speakers responded much less to differences between letters if they were surveyed before participation in training, perception, and production tasks. In this study, all surveys took place after these tasks, and survey results were quite high. Exposure to tasks such as the ones in this study is potentially enough to teach English speakers that differences between letters are important.


## References

- Haslam, M. (2014). Effects of beliefs about first language orthography on second language vowel perception. The Journal of the Acoustical Society of America, 136(4), 2108-2108.

