

## Production accuracy of new and similar L2 sounds

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Keywords: new and similar sounds, phonetic category, foreign accent rating, level of proficiency

According to the Speech Learning Model (SLM), the learnability of an L2 sound is inversely correlated with its similarity to an L1 sound (Flege 1995). As Flege (2005) points out, “the greater the perceived dissimilarity of an L2 sound from the closest sound of the L1, the more likely a new category will be formed for the L2 sound.”. In case of similar sounds, the process of equivalence classification reduces the learnability of the L2 sound by forming an L1-L2 merged category whereas new sounds tend to be pronounced with greater accuracy due to lack of perceptual linkage with an L1 category (e.g. Bohn & Flege 1992, MacKay, Flege, Piske & Schirru 2001).

Sypiańska and Constantin (submitted) found further support for SLM when looking at the English schwa production of a group of L1 Romanian, L2 English speakers (N=33) who manifested signs of an L1-L2 merger of their Romanian and English schwas (word-final position allowed to obtain vowel consistency (Flemming & Johnson 2007)) because the English schwa is a similar sound for L1 Romanian speakers. In contrast, the L1 Polish, L2 English group (N=25), for whom the English schwa is a new sound, established a separate category for the L2 English schwa. Both groups were divided into three levels of proficiency (B1,B2,C1) but only the L1 Polish group experienced greater schwa production accuracy with increased proficiency. However, the L1 Romanian group exhibited signs of equivalence classification with a lower L2 English schwa accuracy regardless of level of proficiency.

The aim of the current paper is to improve the above study design in two respects. First of all, a control group that consisted of L1 Romanian speakers with minimal English competence and exposure was recorded and used to investigate the extent of the L1-L2 merger that takes place for the schwa vowel in the L1 Romanian, L2 English group. Second of all, in search of potential factors that condition similar sound production accuracy we decided to include a measure of overall pronunciation competence based on foreign accent ratings (FAR) as overall proficiency does not have to be correlated with phonological ability (Archibald 2018). Phonetically trained non-native judges (N=4) received recordings of separate words (Flege & Munro 1994, Moyer 1999) to rate on a 9-point Likert scale (e.g. Munro & Derwing 1999; Munro, Derwing & Flege 1999; Munro & Derwing 2001). The data set was randomized in order to avoid harsher judgments with increased familiarization with the set (Flege & Fletcher 1992; Munro & Derwing 1994).

We fitted a General Linear Model with Group, FAR and Level of proficiency as main effects and Group\*FAR and Group\*Level of proficiency as interaction effects for two dependent variables: F1 and F2 of the L2 English schwa. The results show strong main effects of Group, Level of proficiency and FAR but only the interaction of Group\*Level of proficiency reaches significance with the L1 Polish group benefitting from higher level of proficiency in terms of schwa production accuracy. The results allow to conclude that a new sound is produced more accurately with greater level of general L2 proficiency whereas the effect of overall pronunciation

competence on accurate sound production does not interact with the new vs. similar sound distinction.

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Word count: 488