The effect of context on L2 speech perception difficulty: Evidence from learners of French

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When testing L2 learners' phonological abilities, one of the striking differences between perception and production studies is the degree of stimuli contextualization. Production research regularly uses tasks that differ along this variable (e.g., isolated word lists versus read text or semi-spontaneous speech; e.g., Lin, 2003). Moreover, more target-like production may be found in more isolated speech (e.g., Saunders, 1987; Hansen, 2004). In contrast, in L2 perception studies, participants are typically presented with isolated vowels or consonants (e.g., Cebrian, 2006) or individual words (e.g., Levy & Strange, 2008). Such tasks lack ecological validity, given their lesser performance demands compared to real-world communication. Moreover, given the findings of an effect on stimulus contextualization in production studies, one might expect a parallel effect in perception. Accordingly, in the present study, we explore the degree to which L2 learners' perceptual behaviour may be affected by the degree of stimuli contextualization. We predict an inverse relationship between the degree of contextualization and perceptual accuracy given the higher demands on attention and working memory as well as the less categorical nature of target contrasts due to greater lenition and co-articulation in contextualized speech.

Using a forced-choice orthographic word-identification task, 30 L2 learners of low-beginner to low-advanced proficiency as well as 10 native speaker controls were tested on their perception of the French vowels /i,e,u,y,ø,ã,õ/, consonants /g,v,ʒ/, and sequences /kʁ,bʁ,sɥ/, chosen because of the difficulty that they pose to L2 learners of French based on previous research. In order to control for possible lexical frequency effects, all contrasts were presented in bisyllabic nonwords (e.g., target /y/, nonword *risu* /ʁizy/) created using WordGen (Duyck, Desmet, & Verbeke, 2004). The stimuli were recorded by two native speakers – one male, one female – of European and Quebec French and each speaker's recordings were randomly chosen to constitute half of the prompts. To test for the possible effect of degree of stimuli contextualization, each target word was presented aurally, first in isolation, then later in a sentence (e.g., *Mon frère est trop risu pour vous croire* 'My brother is too risu to believe you'). In terms of orthographic response options, for vowel and consonant items, these included the target as well as three distractors created by changing one phonological feature of the target segment (e.g., target /y/: stimulus /ʁizy/, response options <risu>, <riseux>, <risit> and <risou>). For consonant sequence items, responses included the target as well as distractors involving a change in a single feature of one of the two consonants, and deletion of the second member of the sequence or epenthesis (e.g., stimulus /abʁo/, response options <abraux>, <apraux>, <ablaut>, and <aberaux>). While response order was randomized across items, the items themselves were presented in the same randomized order to all participants, with the 14 isolated words followed immediately by the 14 sentences. Participants were told, "Listen to the recording then identify the word (A, B, C or D) that corresponds to what you hear".

The results provide partial support for the general hypothesis. Whereas no difference between isolated and sentence-contextualized presentation was found for the contrasts /i,ø,g,v,ʒ,kʁ,sɥ/, in the case of the vowels and sequence /y,ã,bʁ/, there was 17-27% greater accuracy with the isolated words and a lesser variety of non-target responses. Consistent with a contextualization effect but in the opposite direction than predicted, with the vowels /u,õ/, learners were more accurate when the relevant nonwords were presented in sentences (17% and 27%, respectively). In summary, the present findings demonstrate the effect of stimuli contextualization on L2 speech perception and highlight the need to expand current practises in task design.

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