At a time when several studies have explored the development of parallel phonemic inventories in simultaneous bilinguals (see Hambly, Wren, McLeod & Roulstone, 2013 for an overview), longitudinal studies on early sequential bilinguals are still rare. Available studies report negative cross-linguistic influence to varying degrees in one or both directions (idem). At the same time, phonetic–phonological studies on older learners rather focus on specific aspects, e.g. vowel quality or voice onset time (VOT). Nevertheless, little is known about the potential relationship between the development of a new phoneme inventory and that of more specific phenomena. This study aims to (i) describe the development of parallel phoneme inventories in four early sequential Swedish-French bilinguals and (ii) relate the observations to the children’s performance on tests focusing on VOT and French liaison.

This multiple case study follows the development of the French and Swedish phoneme inventories in three early sequential bilinguals (L1: Swedish, L2: French) during their first years in an immersion nursery school, from approximately 3 to 6 years of age. All children started learning French when they started at the school (age of onset of acquisition: 3;0–3;5). The analysed material consists of two recordings at approximately one-year apart. Each recording consists of specific tests used in speech language pathology (SLP). The tests are based on pictures elicit single-word utterances and target the two language’s phonemes in different syllabic positions. The children were tested in both Swedish and French each time. The tests were scored and errors were classified as affecting (i) segments or categories of segments (e.g. producing [j] for /r/ or devoicing stops), (ii) syllable structures (e.g. cluster reductions: /str/ → [st]), or (iii) word structures (e.g. syllable reductions or reduplications, [s:o] for /sizo/).

Results indicate both differences and similarities between the three participants. As a general – and unsurprising – difference, the children represent different levels of phonological development in their L1, Swedish, and are more or less intelligible at the beginning of the observation period. This variation is also reflected in their French productions. More specific differences regard the number of errors and the categories present, Swedish influence on French productions, and the state of the phoneme inventories at the end of the observation period. As for similarities, the three children display development in both languages over time. Moreover, they all show difficulties with French segments at some point, only some of these can be explained by a contrastive analysis. Finally, the children’s French phonologies do not seem to influence the their L1, Swedish.

The results from the SLP tests are put into the perspective of previously published data on the same children’s productions of liaison and VOT (Splendido 2014). Although the child with the fewest errors in the SLP test also performed the most L1-like on liaison and VOT, such parallels between the tests are less clear for the other children. Indeed, a qualitative analysis of the children’s SLP tests seems more relevant than a mere quantitative one.