

**The influence of non-tone English on the speech rhythm of tone language Setswana in the speech of Setswana-English bilingual children.**

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**Abstract:**

Previous studies have demonstrated that bilingual children of 5 years of age keep the rhythmic pattern of their two languages separate, i.e., they maintain first/second language-specific syllabic stress or prosody patterns during parallel or sequential acquisition of the two languages. (Bunta & Ingram, 2007; Kehoe, Lleó, Rakow, 2011). This study tests this claim by investigating the nature of speech rhythm in the Setswana speech of private English-medium educated early sequential Setswana-English bilingual children aged 6 years growing up in Botswana, a country with a diglossic setting, where English is the dominant high-status language in educational and public contexts. For this group of children, taught full-time in English from the age of 3 years, the second language (L2) becomes their dominant language through exposure to English-medium education. The study aims to ascertain if this group of children maintain the syllable-timed rhythmic pattern of tonal language Setswana, their first language (L1), or if the high-status L2 English (Nyati-Ramahobo, 2004) has an effect on the timing of the Setswana syllable in comparison with children educated in public schools for whom English is a learner language. The theoretical implication is how far exposure has an effect on predicted separate phonological representation and phonetic prosodic production, or whether L2 sequential exposure reveals transfer back to L1, i.e., English-affected syllable timing, due to the change in language dominance. A secondary consideration is whether “English-timed Setswana” additionally causes any lack of intelligibility in Setswana conversations where one speaker is producing a different rhythmic pattern from another.

Setswana is a tonal language where syllabic pitch is used to distinguish between the meaning of words at both lexical and grammatical level (Batibo & Mae 1999). Unlike Setswana, English is intonational; i.e., it uses pitch variation to distinguish meaning at the word, phrase and sentence level without changing the meaning of a word (Roach, 2010). Tone is described by Katamba (1989) as the differences in the pitch level of a syllable, where pitch is the auditory sensation arising from the frequency of vibration of the vocal folds; the higher the vibration, the higher the pitch. Tone is a prosodic element which contributes towards speech rhythm as it has an effect on the vowel duration of syllables (Mok, 2011). It is plausible that any changes in tone brought about by sequential bilingualism in non-tonal L2 English, especially where the L2 becomes dominant, will result in changes to the speech rhythm.

The study primarily uses spontaneous speech based on the retelling of the wordless picture story *Frog where are you?* (Mayer, 1969). Using the normalised vocalic Pairwise Variability Index (n PVI-V) (Grabe & Low, 2002), twenty participants were analysed. The Setswana speech rhythm of ten early sequential Setswana-English bilingual children were compared to that of ten non-bilingual children of the same age, who are educated in public schools where English is not the main language. The results showed that the bilingual group's L1 rhythmic pattern diverged from that of the non-bilingual group. The evidence in this population, of evident transfer effects from English bilingualism on L1 Setswana speech rhythm challenges the assumption that speech rhythm in dissimilar languages is separately established by age 6.

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