## Investigating the English Speech Processing System of EFL Japanese Older Children

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Abstract: This study investigates the nature of EFL older children's L2 perceptive and productive abilities using classroom data, in order to find a pedagogical solution to the teaching of L2 sounds at an early stage of learning in a formal school setting. It is still inconclusive whether older children with only EFL formal school instruction at the initial stage of L2 learning are able to attain native-like perception and production in English within the very limited amount of exposure to the target language available. Based on the notion of the lack of study of EFL Japanese children's acquisition of English segments, the researcher uses a model of L1 speech processing which was developed for investigating L1 English children's speech and literacy difficulties using a psycholinguistic framework. The model is composed of input channel, output channel, and lexical representation, and examines how a child receives information from spoken or written language, remembers and stores it within the lexical representations and how the child selects and produces spoken or written words. Concerning language universality and language specificity in the language acquisitional process, the aim of finding any sound errors in L1 English children seemed to conform to the author's intention to find abilities of English sounds in older Japanese children at the novice level of English in an EFL setting, 104 students in Grade 5 (between the ages of 10 and 11 years old) of an elementary school in Tokyo participated in this study. Four tests to measure their perceptive ability and three oral repetition tests to measure their productive ability were conducted with/without reference to lexical representation. All the test items were analyzed to calculate item facility (IF) indices, and correlational analyses and Structural Equation Modeling (SEM) were conducted to examine the relationship between the receptive ability and the productive ability. IF analysis showed that (1) the participants were better at perceiving a segment than producing a segment, (2) they had difficulty in auditory discrimination of paired consonants when one of them does not exist in the Japanese inventory, (3) they had difficulty in both perceiving and producing English vowels, and (4) their L1 loan word knowledge had an influence on their ability to perceive and produce L2 sounds. The result of the Multiple Regression Modeling showed that the two production tests could predict the participants' auditory ability of real words in English. The result of SEM showed that the hypothesis that perceptive ability affects productive ability was supported. Based on these findings, the author discusses the possible explicit method of teaching English segments to EFL older children in a formal school setting.

Keywords: EFL older children, english segments, perception, production, speech processing system

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