Field: SLA

Age of arrival at a target language country as a factor affecting English proficiency measured by production patterns and TOEIC score

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1. Introduction

The purpose of this study was to investigate the effects of living in the U.S. on the acquisition of English, regarding English proficiency measured by TOEIC and proficiency measured by production patterns. We were especially interested in investigating the effects of living in the country of a target language on the acquisition of English rhythmic patterns with respect to interstress intervals (ISIs). We also attempted to find out the type and degree of effects which the age of arrival in the U.S. exerted on the learners' proficiency level.

2. Methods

Production experiments were carried out to investigate the durational patterns used by three groups of speakers: 10 adult native speakers of American English (AMR), 11 Japanese learners of English who had lived in the U.S. (RTN), and 8 Japanese learners of English who had neither lived nor studied abroad (JPN). The Japanese learners were all college students and took TOEIC. The participants of RTN had been in the U.S. for over one year at least, and 10 years at the longest. The age of arrival in the U.S. was 0 to 17.

All the subjects produced two sets of English sentences (a total of 10) and were recorded. The sentences in each set differed in the number of nominally unstressed syllables that intervened between a target stressed syllable and the next stressed syllable. These sets of sentences contained the ISIs between words in Set 1 and ISIs within and between words in Set 2. We carried out acoustic analysis of the linguistic materials, measuring durations of target ISIs.
3. Results and Discussion

The TOEIC average score of JPN was 454 (Listening section: 249, Reading section: 205), while the average score of RTN was 830 (Listening section: 458, Reading section: 372). The differences in the TOEIC scores—both the total scores and the scores of the Listening section and Reading section between JPN and RTN were statistically significant (p < 0.01). The scores of the Listening section were statistically higher than those of the Reading section for both of the two subject groups (RTN: p < 0.01, JPN: p < 0.05).

We divided RTN into two groups according to the age of arrival in the U.S. (RTN 1: the ages of arrival were 0 to 9, RTN 2: the ages of arrival were 13 to 17). The TOEIC average score of RTN 1 was 887 (Listening section: 481, Reading section: 406). The average score of RTN 2 was 729 (Listening section: 416, Reading section: 313). RTN 1 showed higher English proficiency than RTN 2. The differences in the total TOEIC scores between RTN 1 and RTN 2 were statistically significant (p < 0.05). In addition, the scores of Listening section of RTN 1 were statistically higher than those of RTN 2 (p < 0.01). We did not observe a significant difference in the scores of the Reading section between these two subject groups. Learners seem to be able to acquire reading proficiency even when they are past the critical period of acquisition.

Regarding durational patterns of ISIs, RTN 1 and AMR showed very similar durational patterns of ISIs. RTN 2 showed that they reached a more advanced stage of acquisition than JPN, but not in the same level as RTN 1. The differences in the structure of ISIs, i.e. whether the target ISI was within a word or between words, were observed as a factor affecting the durational control of ISIs by JPN, and not by RTN. In addition, RTN 1 exhibited overlengthening of ISI durations, which seemed to be a necessary step for attaining a target language.

The present study demonstrated the profound effect of living in the country of a target language on not only speaking proficiency but also listening/reading proficiency. It also showed that the age of arrival is a significant factor affecting English proficiency.