

自然環境での子供の英語習得：
滞在期間と発音・聴解力の関係について

The Acquisition of English by Japanese Children in an
English Speaking Environment :
The Effects of the Length of Residency on
Pronunciation and Oral Comprehension

(1992年4月8日受理)

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Key words: length of residence, phoneme, ESL

Abstract

Children are believed to acquire authentic pronunciation and listening comprehension skills very fast. How long does it take for them to acquire such skills when they are placed in a natural environment? Is the length of residence in the host country the only factor that decides a child's degree of competence in the target language? This paper deals with 26 Japanese children who had different degrees of competence in English. It reveals the fact that the length of residence in the host country alone does not decide the child's degree of pronunciation skills.

1. Introduction

Children are believed to be better language learners than adults. Although there are some reports that adult learners can surpass younger children in the development of syntax and morphological development at least at the earlier stages when the exposure time to the target language is the same, (Krashen et al., 1979, Olson and Samuels, 1973, Snow and Hoefnagel, 1977) adults who can attain the native-like fluency in pronunciation are exceptional (Scovel, 1969, Schumann, 1976). Not only can children produce authentic sounds, but also they can recognize the phonemes that adult learners cannot differentiate. How long does it take for young children to acquire such skills? Do all children acquire such skills equally well when they are exposed to the language for a certain period of time? Does the age at arrival in the host country decide the degree of achievement in authentic pronunciation? How do children come to recognize the differences of phonemes that their native language does not have? This paper seeks to answer these questions.

2. Subjects

The subjects were 26 Japanese children (11 girls and 15 boys aged 5 to 12) who were enrolled in Farmland Elementary School in Metropolitan Washington, D.C. area in the spring of 1989. These children were learning English in both formal and informal settings (at school and on the street) and were exposed to English most of their awaken time. The lengths of their residence in America varied. Some of them had recently arrived in America and others had been there for a long time. The longest residence in this study was 7 years. Most of them were temporary residents in America, and would go back to Japan in future. Therefore, most children also attended a week-end Japanese language school, and they were not necessarily encouraged to interact with American peers by their parents. Most of them spoke Japanese at home.

3. Method

All these children were told to read a book aloud and answer some questions about the book. They were also asked to pronounce certain words. The following words were chosen because they have become domesticated Japanese words and are hard for the speakers of Japanese to pronounce them without accent. An American woman who was an adult ESL teacher judged their pronunciation. She did not know any child, so her judgement was solely based on the result of the test. All children were also tested on their listening comprehension skills. They listened to a tape and chose which word was read.

Pronunciation word list

McDonald, milk, girl, animal, vanilla

Listening Comprehension Test

read / lead	red / lead	rake / lake	right / light
van / ban	vase / base	vest / best	vent / bent
think / sink	thank / sank	thick / sick	thought / sought

4. Results

These children were judged into 4 categories according their pronunciation : A ; native-like, B ; near-native, C ; some accent, D ; heavy accent. The children were also grouped into 4 categories according their lengths of residence. Figures 1 through 4 show the results of the relation between their pronunciation skills and the lengths of residence.

Figures 5 through 16 show the results of their listening comprehension test. Here again, children were divided into 4 groups according their lengths of residence.

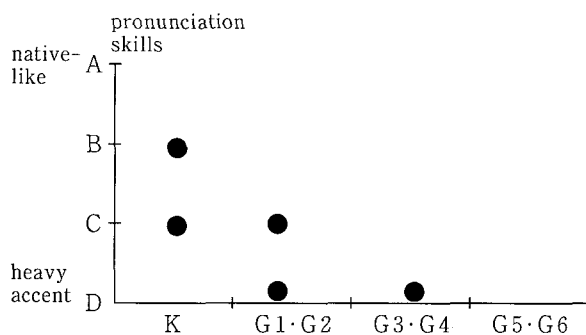


Fig. 1. The relationship between a child's pronunciation skills and his length of residence.

Group 1 : length of residence = less than one year

*each dot stands for each child

(K ... Kindergarten

G 1~G 6 ... first grader to sixth grader

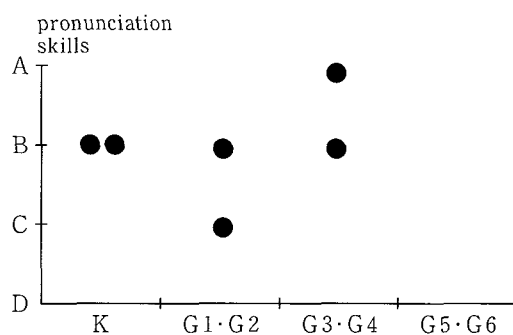


Fig. 2.

Group 2 : length of residence = less than 2 years

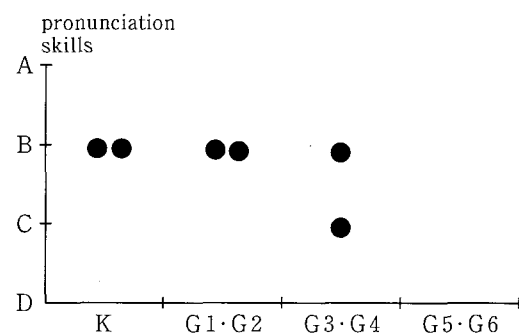


Fig. 3.

Group 3 : length of residence = less than 3 years

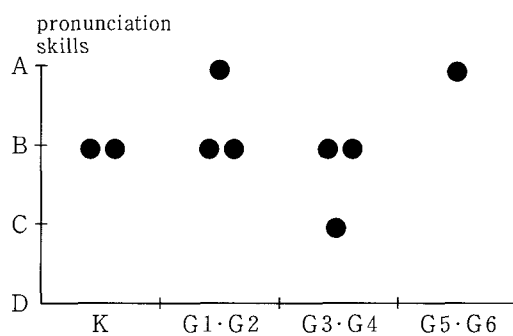


Fig. 4.

Group 4 : length of residence = over 3 years

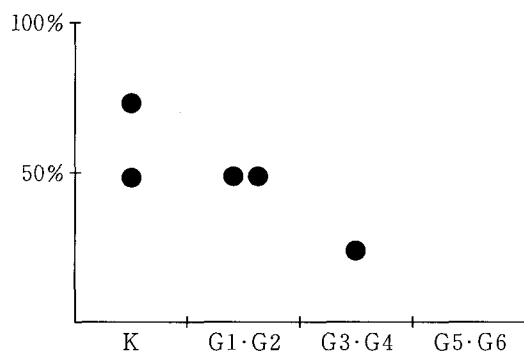


Fig. 5. The percentage of correct recognition of problematic English phonemes / b / and / v /

Group 1 : length of residence = less than one year

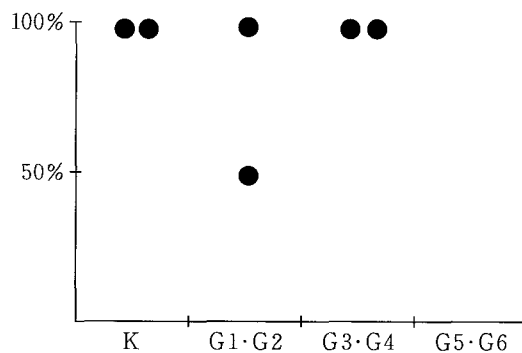


Fig. 6. / b / and / v /

Group 2 : length of residence = less than two years

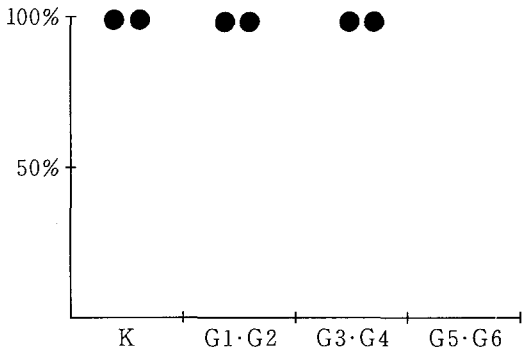


Fig. 7. / b / and / v /
Group 3 : length of residence = less than 3 years

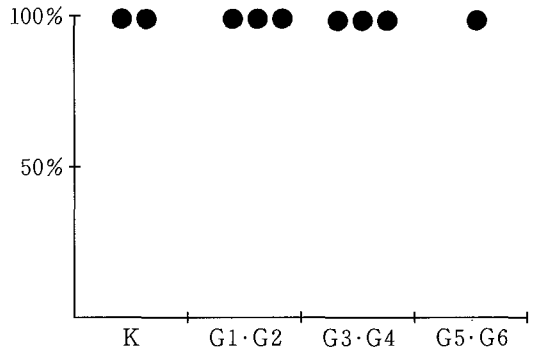


Fig. 8. / b / and / v /
Group 4 : length of residence = over 3 years

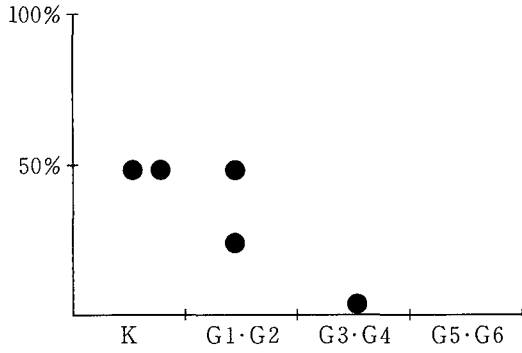


Fig. 9. / S / and / θ /
Group 1 : length of residence = less than one year

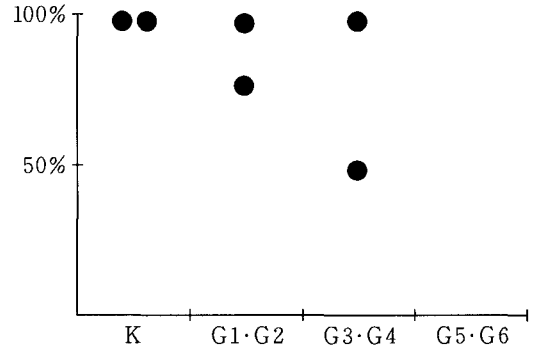


Fig. 10. / S / and / θ /
Group 2 : length of residence = less than two years

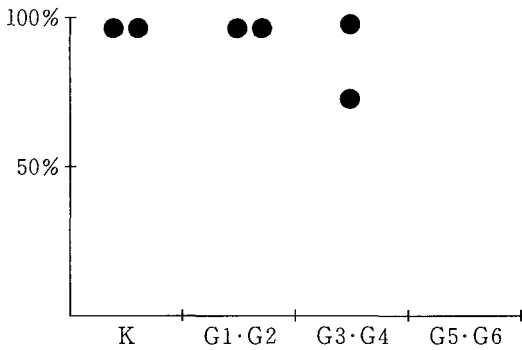


Fig. 11. / S / and / θ /
Group 3 : length of residence = less than 3 years

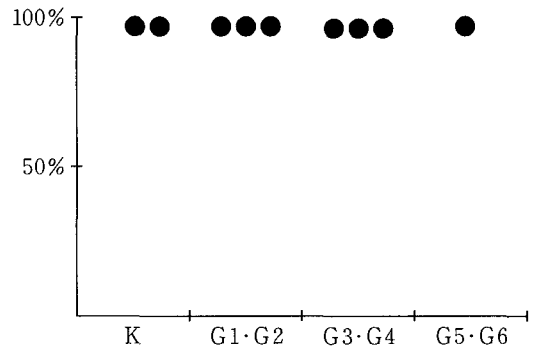


Fig. 12. / S / and / θ /
Group 4 : length of residence = over 3 years

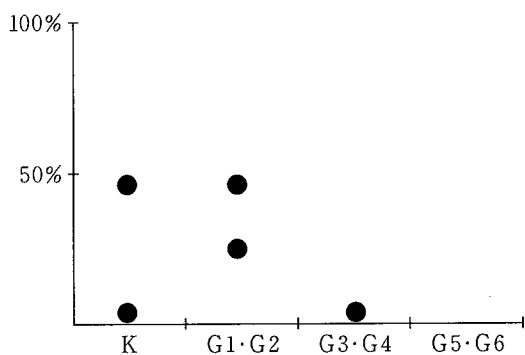


Fig. 13. /r/ and /l/
Group 1 : length of residence = less than one year

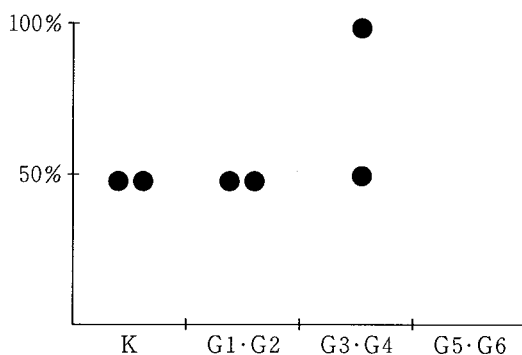


Fig. 14. /r/ and /l/
Group 2 : length of residence = less than two years

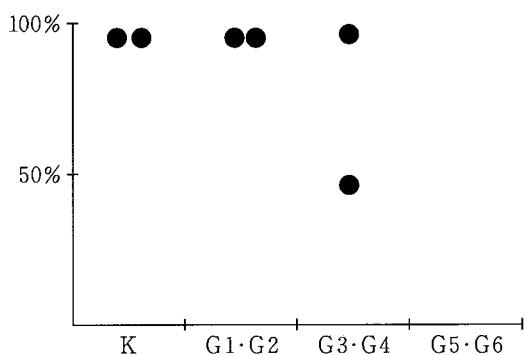


Fig. 15. /r/ and /l/
Group 3 : length of residence = less than 3 years

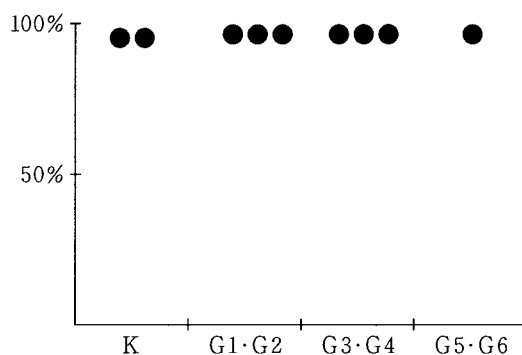


Fig. 16. /r/ and /l/
Group 4 : length of residence = over 3 years

Figures 17 through 20 show the relationship between their ages at arrival in America and their pronunciation skills.

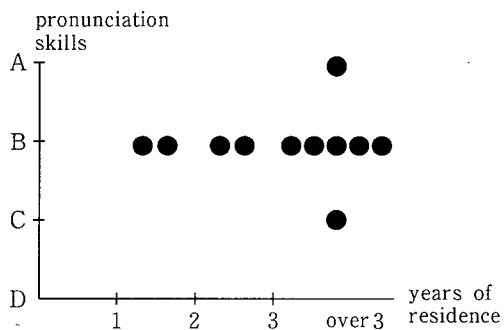


Fig. 17. The relationship between a child's age at arrival and his pronunciation skills
Group 1 : age at arrival is 0~3 years old

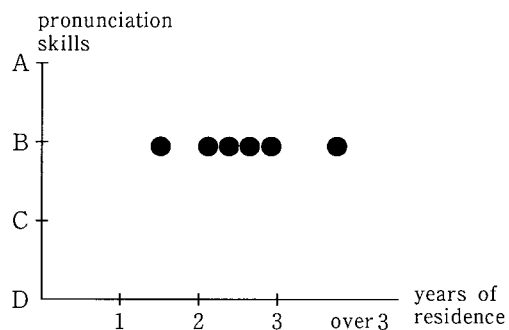


Fig. 18.
Group 2 : age at arrival is 4~6 years old

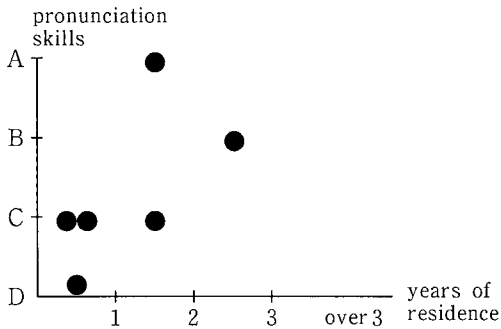


Fig. 19.
Group 3 : age at arrival is 7~8 years old

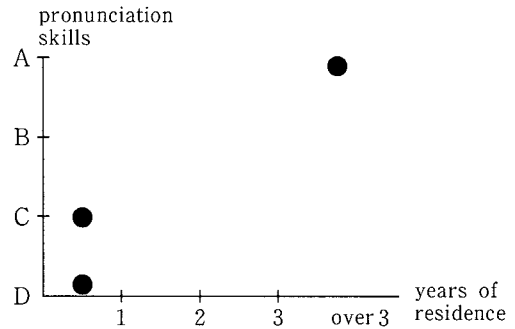


Fig. 20.
Group 4 : age at arrival is over 9 years old

5. Discussion

Only three children were judged to have native-like pronunciation skills. Even among group 4, there were only two children who were judged to be native-like. However, there is a good reason to explain this slow development of their pronunciation skills. At this elementary school, more than 45% of the children were of foreign born. Larger minority groups were Japanese, Korean, and Israeli. If the number of children who speak English with accent exceed a certain percent, they will be less likely to receive enough peer pressure to rid of their accent. However, there were three Japanese children who attained native-like pronunciation. Personal interviews with the children, their mothers, and their ESL (English for speakers of other languages) teachers revealed the fact that they had lost their accent very quickly (within two years). Therefore, the length of residence in the host country alone does not explain the fact that some children acquire native-like pronunciation skills very quickly, but some children do not improve much even after an extended period of residence in the host country. In fact, the girl who had been living in America the longest (7 years) did not show native-like pronunciation.

Figures 5 through 16 show that the children first acquired the difference between / b / and / v /, then / s / and / θ /, and lastly / r / and / l /. All the children who had been in America for more than three years recognized the phonemes correctly. How the children came to recognize the phonemes was not clear, however. Many children answered that they had recognized the differences from the beginning. Some answered that they had started to hear the differences naturally. A third grader gave a clearer answer. He said that he started to hear the difference after he had received formal linguistic instruction about English phonemes at ESL class. Another third grader gave a similar answer. He said, however, even after he received the instruction, he did not understand the difference between / r / and / l /. His friends laughed at him and corrected his pronunciation, but he could not hear the difference. Gradually, he started to hear the difference. At this point of time, he clearly recognized the difference between these two phonemes. He could not answer, however, how he started to hear the difference. Unlike what I had expected, children do not acquire foreign phonemes very easily. Kindergarteners who did not re-

ceive formal language instruction at ESL class recognized the differences only after two years' exposure to the language. This finding that younger children are superior to older children in comprehension skills is consistent with the study of Fathman (1982, pp. 115-121), but the sample number is too small to draw the conclusion. Even if they can indeed acquire listening skills faster than older children, it is not clear why they can recognize the differences very quickly. Younger children may have closer social relationship with American children or maybe they have more flexible listening abilities.

Generally speaking, the longer a child lived in America, the better the chances were for him to develop native-like pronunciation skills. However, the length of residence does not explain the fact that some children had acquired native-like pronunciation within a short period of time while others did not show much improvement even after a relatively longer period of time in the host environment. It is possible to speculate that these successful children had closer social relationship with native speakers of English than other children, but it is necessary to perform another research to draw that conclusion.

Figures 17 through 20 show the relationship between the children's pronunciation skills and their ages at arrival in America. The sample number is too small to draw a definite conclusion, but these figures show that there is a tendency that the younger the age at arrival in the host environment, the faster the child's acquisition of authentic pronunciation skills is. Younger children seem to acquire the new phonology system easily and have less difficulty in understanding the differences between problematic phonemes.

Young children are said to be unconscious language learners (or to be more precise, acquirers) by some researchers (David Wolfe, 1967, cited by Scovel, 1969), but what I have found through personal interviews and observation suggests that they are rather conscious learners. At least children over 6 or 7 years old were making conscious efforts to learn the language. Many of them said ESL was most useful to decode the language, although some people believe that formal language instruction does not benefit young children. There may be a fundamental difference in the cognitive development of children over 6 or 7 years old and the younger children, but it is beyond the scope of this study to discuss the difference.

6. Conclusion

Children who are learning a new language in a natural environment seem to acquire listening comprehension skills of foreign phonemes in about three years. Although it is not clear how they acquire listening comprehension skills, certain amount of exposure to the language is necessary for a child to develop such skills. It seems that the development of listening comprehension skills is a gradual one. Even though they may correctly recognize foreign phonemes, they cannot necessarily pronounce the language without accent. The length of residence alone does not explain the different speeds of acquisition of authentic pronunciation among the children. The difference in the degree of socialization with American peers seems to be the only possible explanation, but it is necessary to perform another research to draw this conclusion. The age at arrival in the host country had some relationship with the degree of pronunciation and listening skills of a child : the younger the child is, the better the chances are for him

to acquire authentic pronunciation and to recognize new sound patterns quickly. It is not clear, however, whether the younger children's better pronunciation and listening comprehension skills are age-related or environment-related. Further research is needed to clarify the relationship between the speed or the degree of English language acquisition of a child and the degree of his social relationship with English-speaking peers.

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