

DEGREE AND DIRECTION OF FOREIGN ACCENT IN L2 AND L3 KOREAN SPEECH

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ABSTRACT

The current study explores the potential influence of an L2 on the acquisition of L3, in the context of English speaking learners of Japanese (the L2) and Korean (the L3). As a mean to assess the degree of influence of the L1 accent and L2 accent in L3 production, an experiment involving the perceptual judgment of a foreign accent was developed. Two groups of native English speakers [(i) five who had not learned any languages other than Korean, and (ii) five who had learned Japanese before learning Korean] produced Korean sentences, and 15 native Korean speakers ranked each production according to the speaker's dominant accent, either English or Japanese. Based on the results of the quantitative analysis, it is suggested that L2 exerts an influence on L3 accent; however, this interference is decreased with an increase in L3 proficiency.

Index Terms: accent transfer, second language status, second language influence, Acquisition of Korean

1. INTRODUCTION

Much recent work on foreign language acquisition has focused on cross-linguistic influences in third language acquisition [1, 2, 3, 4, 7, 10, 11, 14]. L3 acquisition researchers believe that L3 acquisition is qualitatively different from L2 acquisition because L2 knowledge plays a role in the acquisition of a subsequent non-native language. There is continued debate, however, regarding whether metalinguistic awareness of a previously acquired language will benefit or interfere with learning another language and how the three languages interact with one another during the language-learning process.

This paper draws attention to an intriguing finding of earlier studies on L3 acquisition that, in the initial stage of L3 acquisition, L3 productions are more easily transferred from L2 than from L1, and learners often produce interlanguage forms derived from L2 [1, 5, 7, 9, 11, 12, 13, 14, 15]. Because most studies of L2's influence on L3 have

focused on the lexis and syntactic patterns, this paper addresses the issue of language transfer in terms of phonetic aspects, particularly L2 accent transfer in L3 production. If learners actively draw upon their L2 knowledge, more than that of L1, in their syntactic structure and lexicon of L3 learning, the same transfer effect is expected in regard to their L2 intonation, accent, and pronunciation when attempting to achieve proficiency in L3.

Therefore, in the current study, an experiment involving the perceptual judgment of a foreign accent was conducted to assess the degree of influence of L1 and L2 in L3 productions. Given that the data on L3 in the earlier studies are mostly from learners of Indo-European languages, such as English, German, or Spanish, this study, which focuses on learners of an Asian language, i.e., Korean, will provide pioneering data.

Two groups of native English speakers, i.e., (i) who had not learned any languages other than Korean and (ii) who had learned Japanese before learning Korean, participated as speakers. In regard to perceptual judgment, the native speakers of Korean ranked each production according to the speaker's dominant accent, either English or Japanese. The listeners used a 9-point scale, ranging from "definitely English" (1) to "definitely Japanese" (9), to rate the response each stimulus [6].

The primary aim of this study was to determine whether the perceived foreign accent in a Korean L3 production reflects L2 more than L1, which was expected, based on earlier studies on lexicon and syntactic structure [1, 14] that found that the L2 accent overrides the L1 accent in L3 production. Accordingly, it was hypothesized that native English speakers who learned Japanese before learning Korean would have a stronger L2 Japanese accent than an L1 English accent in their L3 Korean production, while native English speakers who had not learned any other languages before learning Korean would have an L1 English accent in their L3 Korean production.

2. EXPERIMENT: FOREIGN ACCENT RATINGS

The experiment was designed to compare perceptual judgments of a foreign accent (L1 English vs. L2 Japanese accents). Two groups of native English speakers, five who had not learned any languages other than Korean and five who had learned Japanese before learning Korean, produced Korean sentences, and 15 native Korean speakers ranked each production according to the speaker's dominant accent, either English or Japanese.

2.1. Participant

2.1.1. Speakers

Two groups of speakers, each with five native English speakers, were formed for the present study. The five speakers in one group (Group I) were native English speakers who had not learned any other language before learning Korean. The Group I participants were required to have been born in an English-speaking community, to have learned English from native English-speaking parents, and to report not speaking any language other than English. Their Korean proficiency was varied, i.e., 1 beginning level, 2 intermediate level, and 2 advanced level.

The five participants in the second group (Group II) were restricted to the native English speakers, who learned Japanese before learning Korean and self-evaluated their Japanese proficiency is above intermediate level. Their Korean proficiency was varied, i.e., 2 beginning level, 2 intermediate level, and 1 advanced.

2.1.2. Listeners

A total of 25 native speakers of Korean (15 females, 10 males; aged 20-45) were recruited as raters. They were born and raised in South Korea, and 10 still live in Korea. Five spoke only Korean for at least 25 years before coming to the U.S. They still speak Korean among their family and community. None reported a hearing disorder. The listeners were all linguistically naïve, and none had special training in speech or language.

2.2. Procedures

The 10 speakers of the two groups read the same story, which consisted of 12 Korean sentences (see

Appendix 1). Speakers were asked to read the materials first for practice and then again for recording. Recordings were made directly into a laptop using a Sennheiser headset microphone and a PCquirer software package from SciConRD in a quiet office.

The sentence stimuli that were recorded were rated by 15 adult native speakers of Korean. The listeners were tested one at a time in a quiet office, where they heard sentences binaurally over headphones at a comfortable level.

The ten stimuli were randomly presented first to permit the listeners to become familiar with the range of possible foreign accents present in the stimuli. Thus, the responses to this randomised presentation of the stimuli were not analysed. After the practice session, the 10 Korean stimuli produced by the 10 speakers were given to the listeners in random order, with two repetitions. Therefore, the listeners were presented with a total of 20 stimuli for analysis.

The listeners ranked each production according to the speaker's dominant accent, either English or Japanese. The listeners used a 9-point scale, ranging from "definitely English" (1) to "definitely Japanese" (9), to rate the response each stimulus (Flege et al., 2006). When the listener did not find a strong accent, either English or Japanese, the production was ranked (5), which is the midpoint. The listeners were not given any other instructions regarding how to use the scale. There was a two-second interval between stimuli.

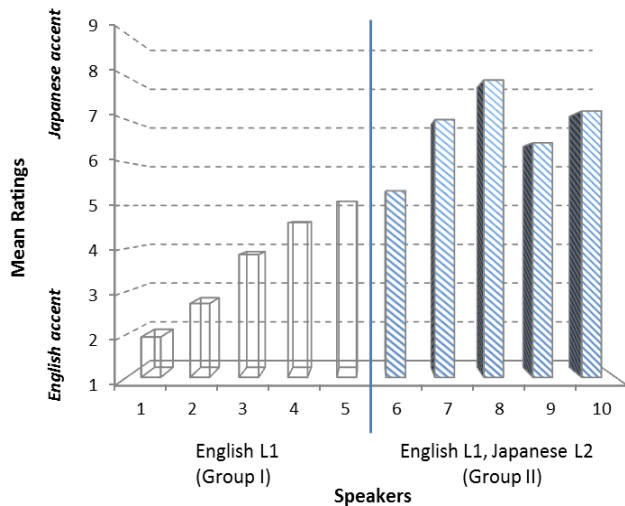
3. RESULTS

The listeners' responses were treated as ratings of degree of foreign accent along a scale that ranged from "definitely English" (1) to "definitely Japanese" (9). The findings concerned the relation between the perceived foreign accent and the experience of L2 Japanese study. Figure 1 shows the mean foreign accent ratings for the two groups of native English speakers.

As shown in Figure 1, the results confirm the strong L2 Japanese effect on L3 Korean production of the speakers in Group II. That is, native English speakers who had learned Japanese before learning Korean were more frequently identified as having a strong Japanese, rather than English, accent in their Korean production. In addition, the results indicated that the speakers who were categorized as "advanced" Korean proficiency level (i.e., speakers 4, 5, and 6) were often identified as not

having a strong foreign accent, which suggests that the L1 or L2 inference on L3 production can be diminished with the approximation to the L3 target language.

Figure 1: Mean foreign accent ratings for native English speakers who had not learned any other language before learning Korean (Group I) and who learned Japanese before learning Korean (Group II).



A statistical analysis was conducted to assess the claim that the native English speakers who learned Japanese before learning Korean would receive a higher rating on the 9-point scale, which would indicate that the speakers have a stronger L2 Japanese accent than L1 English accent in their Korean production. The results of a one-way analysis of variance (ANOVA) showed a significant difference between having learned Japanese as an L2 and the points assigned for foreign accent [$F(1, 498) = 1556.250, p < .001$]. On a 9-point scale, the speakers who learned Japanese before learning Korean received a mean rating of 6.74, whereas the mean rating for the speakers who had not learned another language before learning Korean was 3.50 (Table 2).

Furthermore, a univariate test, with foreign accent ratings as a dependent variable and speakers' group (Group I and Group II) and Korean proficiency (beginner, intermediate, and advanced) as fixed factors, was conducted to measure the correlation between group category and Korean proficiency on the foreign accent ratings. The results revealed a significant main effect of group category [$F(1, 498) = 495.35, p < .001$] and Korean proficiency [$F(2, 497) = 41.68, p < .001$] as well as a significant interaction of group and Korean proficiency [$F(5, 494) = 56.53,$

$p < .001$]. The results indicate that L3 Korean proficiency also was significantly related to a foreign accent in L3 Korean acquisition.

It is noteworthy that the Group I participants showed a gradual increase in their mean ratings, as their Korean proficiency was higher. This was not the case, however, for the Group II participants. Although the L3 Korean proficiency of speakers 7 and 8 was higher (intermediate level) than that of speakers 9 and 10 (beginning level), the former speakers were ranked as having a stronger Japanese accent than the latter speakers. This implies that the L2 interference in L3 speech can be diminished with an approximation of the L3 target norm. Nevertheless, proficiency should be at a fairly high level (i.e., advanced) to reduce the L2 accent. This pattern is discussed in more detail in the discussion section.

Table 1. Descriptive statistics of foreign accent ratings

Group	Korean proficiency	Mean
Group I (English L1)	Beginner	2.33
	Intermediate	4.23
	Advanced	4.38
	Total	3.50
Group II (English L1, Japanese L2)	Beginner	6.83
	Intermediate	7.35
	Advanced	5.34
	Total	6.74

4. DISCUSSION AND CONCLUSIONS

The results of this experiment provided further support for the claim that it is L2 rather than the native language that functions as the major source of the L3 accent, especially at the initial stages of acquisition. The analysed data suggests that the learner's L2 Japanese accent played a role in L3 Korean production.

Another focus was the correlation between the speaker's L3 proficiency level and the degree of the perceived foreign accent. As predicted, there was a tendency for advanced proficiency speakers to be frequently identified as not having foreign accents, whereas beginner or intermediate participants were often identified as having either Japanese or English accents. Taken together, these findings are in line with Hammarberg and Hammarberg's (2005) claim that it is the second language rather than the mother tongue that

constitutes a stronger source of cross-linguistic transfer at the initial stages of phonological acquisition, thus leading to L2-accented speech in L3 performance. This tendency to resort to L2-articulatory routines becomes less dominant with the development of L3 proficiency.

Although the experiment showed that the strong L2 accent influence was diminished in the case of one speaker who was at an advanced level of L3 Korean proficiency, the direction was not as predicted by prior research. That is, although previous studies hypothesized that L2 accent interference is momentary and that constant L1 influence becomes noticeable when the L2 influence disappears, one speaker at an advanced level of L3 Korean (i.e., speaker 6) was often identified as not having a specific accent, nor was her L1 English accent identified as obvious. In addition, it is interesting to note that two speakers (i.e., 7 and 8) in Group II, categorized as having intermediate L3 Korean proficiency, were identified as having a strong Japanese accent more often than were the other two speakers, who had a beginning level of L3 Korean proficiency (i.e., 9 and 10). The Korean fluency of the two speakers at the beginning level may not have been sufficient for the raters to grasp their particular L2 accent; even so, they were still identified as having a Japanese accent more often than an English accent, as compared to the speakers at the intermediate level who read more fluently. Overall, these findings imply that the effect of L2 in L3 speech is tenacious up to the intermediate level or even more obvious in the intermediate level than in the beginning level but also that L1 and L2 interference on L3 production can be reduced with progress toward L3 proficiency.

5. REFERENCES

- [1] Bardel, Camilla & Falk, Ylva. (2007). The role of the second language in third language acquisition: the case of Germanic syntax. *Second Language Research* 23: 4, 459-484.
- [2] Cenoz, J. (2001). The effect of linguistic distance, L2 status and age on cross-linguistic influence in third language acquisition. In J. Cenoz, B.Hufeisen, & U. Jessner (Eds.), *Cross-linguistic influence in third language acquisition: Psycholinguistic perspectives* (pp.8-20). Clevedon, UK: Multilingual Matters.
- [3] Cenoz, J., Hufeisen, B., & Jessner, U, eds. (2001). *Cross-linguistic influence in third language acquisition: Psycholinguistic perspectives*. Clevedon, UK: Multilingual Matters.
- [4] 4, M. (1997). Some of the things trilinguals do. *The International Journal of Bilingualism* 1, 95-116.
- [5] Dewaele, J-M. (1998). Lexical inventions: French interlanguage as L2 status L3. *Applied Linguistics* 19, 471-90.
- [6] Flege, J., et al. (2006). Degree of foreign accent in English sentences produced by Korean children and adults. *Journal of Phonetics* 34, 153-175.
- [7] Gut, U. (2010). Cross-linguistic influence in L3 phonological acquisition. *International Journal of Multilingualism*, 7(1), 19-38.
- [8] Hammarberg, B., & Hammarberg, B. (2005). Resetting the basis of articulation in the acquisition of new languages: A third-language case study. In B. Hufeisen & R. Fouser (Eds.), *Introductory readings in L3* (pp. 11-18). Tübingen, Germany: Stauffenberg Verlag.
- [9] Herwig, A. (2001). Plurilingual lexical organisation: Evidence from lexical processing in L1-L2-L3-L4 translation. In J. Cenoz, B.Hufeisen, & U. Jessner (Eds.), *Cross-linguistic influence in third language acquisition: Psycholinguistic perspectives* (pp.8-20). Clevedon, UK: Multilingual Matters.
- [10] Hoffmann, C. (2001). Towards description of trilingual competence. *The International Journal of Bilingualism*, 5, 1-17.
- [11] Leung, Y. (2007). Third language acquisition: why it is interesting to generative linguists. *Second Language Research* 23:1, 95-114.
- [12] Llama, R., Cardoso, W., & Collins, L. (2010). The influence of language distance and language status on the acquisition of L3 phonology. *International Journal of Multilingualism*, 7(1), 39-57.
- [13] Selinker, L., & Baumgartner-Cohen, B. (1995). Multiple language acquisition: 'Damn it, why can't I keep these two languages apart?'. In M. Bensoussan, I. Kreindler, & E. Aogáin (Eds.), *Multilingualism and language learning: 8, 2. Language, culture and curriculum* (pp.115-123). Clevedon, UK: Multilingual Matters.
- [14] 13Wei, L.(2006). The multilingual mental lexicon and lemma transfer in third language learning. *International Journal of Multilingualism*, 3 (2), 88-104.
- [15] Wrembel, M (2010). L2-accented speech in L3 production. *International Journal of Multilingualism*, 7 (1), 75-90.