

# Production of Korean Vowels by Polish Learners - An Experimental Phonetic Approach -

**Anna Izabella Paradowska**  
(Seoul National Univ., Korea)

## 1. Introduction

The main purpose of this paper is to examine the production of Korean vowels by experienced Polish learners and to discover which Korean vowels are difficult to acquire and which are not.

## 2. Experiments

There are three experiments undertaken in this study and each of these aims to analyze F1 and F2 of the vowels.

- a) To establish the standard values of F1 and F2, Korean vowels produced by the speakers of standard Korean are analyzed,
- b) Polish vowels produced by Polish speakers are analyzed,
- c) Korean vowels produced by Polish speakers are analyzed.

Then, I compare Korean and Polish vowels (produced by native speakers of both languages), and Korean vowels pronounced by Koreans and Poles respectively.

### 2.1 Material

Korean vowels /i, e, ε, a, ʌ, ɐ:, o, u/

Polish vowels /i, e, a, o, u, i/

2.2 Subjects

Korean subjects - 6 female speakers of standard (Seoul) Korean

Polish subjects - 6 female speakers, all experienced in Korean and living/studying in Seoul for at least 4 years

2.3 Procedure

To record the material the dynamic microphone of Shure Inc. and DAT (TCB D8) of Sony were used.

For the analysis of formants PitchWorks Version 5.9 of SCICON R and D was used.

3. Results

The results of the comparison between Korean and Polish vowels (Fig. 1, Fig. 2) appear as follows. Korean [a], [i], [ʌ], [o] didn't show any significant (statistically) differences from Polish [a], [i], [o], [u] respectively. Korean [u] and [ɛ] have no counterparts among Polish vowels, while all the other Korean vowels ([e, ə:, u]) prove to have a similar counterpart among Polish vowels.

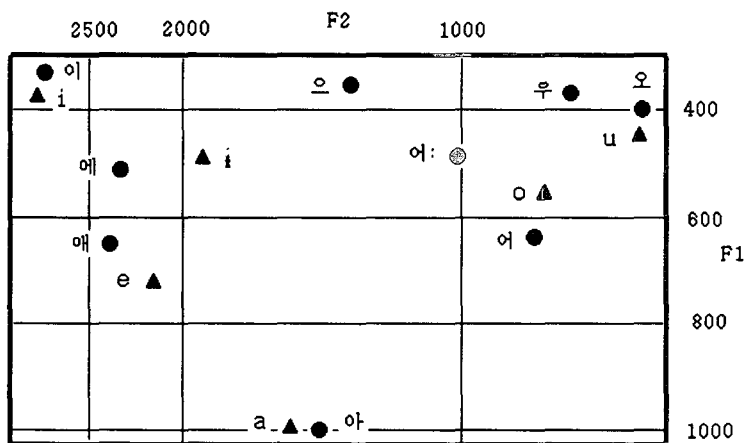


Fig. 1 Formants of Korean and Polish vowels

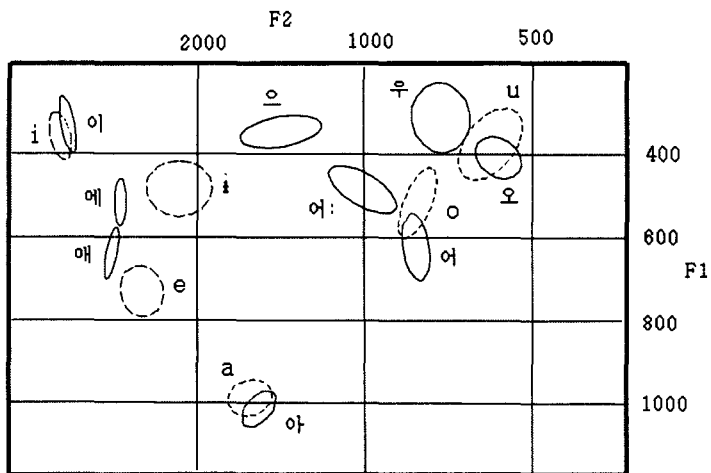


Fig. 2 Formants of Korean and Polish vowels (confidence region)

The results of the comparison of the formants of Korean vowels pronounced by Koreans and Poles (Fig. 3, Fig. 4) prove that only Korean [i] and [a] produced by each of the Polish informants, are the same as those produced by Koreans. All the other vowels show some big discrepancies among the informants. However, none of the Polish informants distinguishes Korean [e] and [ɛ], [ʌ] and [ə:] the way Koreans do.

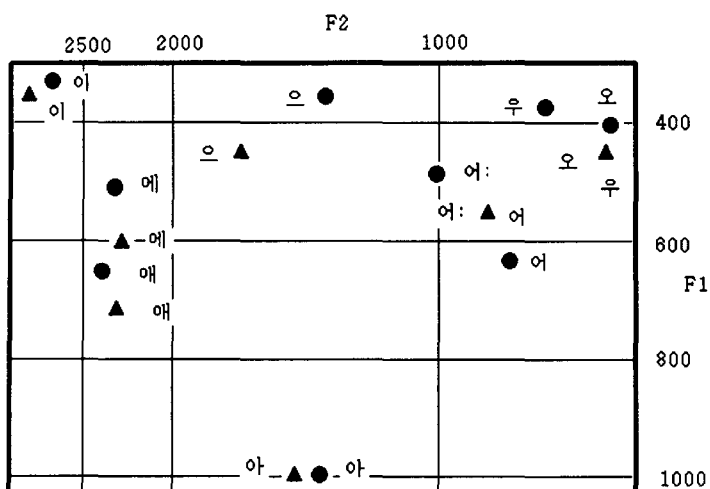


Fig. 3 Formants of Korean vowels produced by Koreans (●) and Poles (▲)

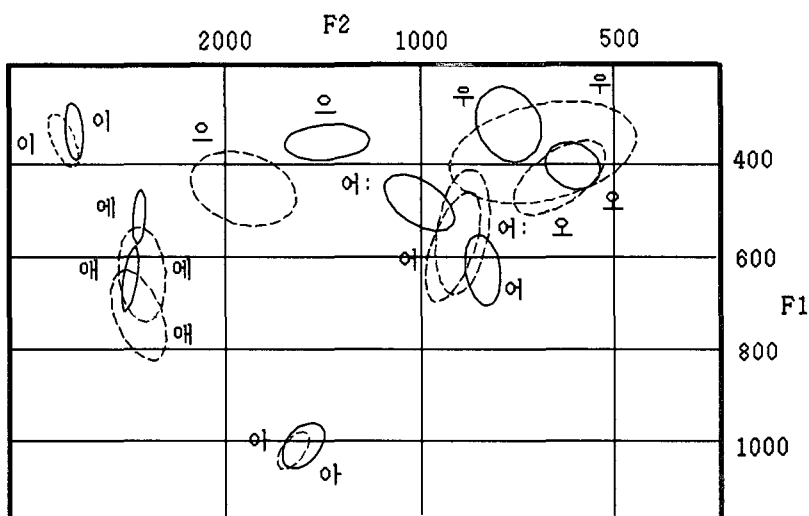


Fig. 4 Formants of Korean vowels produced by Koreans (straight line) and Poles (dotted line)

#### 4. Discussion

First of all it is important to note that none of the Polish subjects showed performance equivalent to that of Koreans.

According to many theories on foreign language acquisition (f.ex. Flege) vowels of L2 that are present in L1 are the easiest to produce but it is not the case here. F1 and F2 of Korean [ʌ] didn't show any significant differences with Polish [o] but the production of Korean [ʌ] proved to be poor. Only 3 out of 6 Polish speakers pronounced this vowel the same way Koreans did. The others produced a sound that is different to both Korean [ʌ] and Polish [o]. It proves that for some Polish learners of Korean [ʌ] is different than Polish [o]. Production of Korean [o] (which proved to be identical to Polish [u]) wasn't as good as expected. The reason for that poor performance might be the romanization of Korean. There are two different symbols used (Korean [o] and Polish [u]) for vowels whose formants didn't show any significant differences (in this experiment). This might be considered the reason for poor performance of Poles. Also, many Polish subjects confused Korean [o] and [u], some of them pronounced both as either Korean [o] or Korean [u]. This supports the hypothesis of confusion caused by the romanization of Korean.

The production of Korean [ɯ] and [ɛ] varied greatly among the Polish subjects. 3 out of 6 subjects produced vowels that didn't show any significant differences with Korean [ɯ]. The other informants pronounced Polish [i] instead. Polish [i] differs in F1 and F2 from Korean [ɯ] and is perceived by Koreans as [i] in most cases.

## 5. Results

Since none of the Polish subjects achieved performance close to that of Koreans the length of stay in Korea, average 4.5 yr., is not enough to acquire the vowels as the natives do.

Basing on the results of this experiment, it is hard to predict whether the vowels that are new and unknown to the learners (Korean [ɯ] and [ɛ]) or the vowels that are similar to the sounds of the mother tongue (Korean [e, ə, u]) are harder to acquire.