





L1 PHONOLOGICAL INFLUENCES AMONG MALAY SPEAKERS LEARNING KOREAN



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ABSTRACT

Article History

Received: 13 August 2019

Revised: 20 September 2019

Accepted: 24 October 2019

Published: 3 December 2019

Keywords

Foreign language learning
First language phonological
Influences
Malay
Korean.

Phonologically, Korean disallows several consonant sequences emerge in the syllable boundary. The occurrence of consonant sequences at this morphological domain is resolved by assimilation process. Hence, this study intends to discuss the pronunciation patterns produced by Malay speakers when speaking Korean particularly on consonant clusters. This study also intends to examine the influence of L1 phonological system of Malay when learning Korean as foreign language. Classroom learning observation in a Korean language class was carried out at the Universiti Kebangsaan Malaysia. This language class is offered to undergraduate students who are interested to learn Korean. Three students from level one to three from this class were chosen based on their competency. A list of Korean words was prepared before interview session with the students started. During the interviews, students were asked to pronounce the words in the word list. The pronunciations produced by the students were recorded and transcribed. The data analysis shows that coronal consonant clusters assimilate to other places of articulation namely dorsal and labial. The data also reveals that Malay speakers learning Korean incorrectly pronounce nasal-lateral assimilation found in Korean. The incorrect pronunciation produced by Malay speakers was due to the native phonological system. They tend to produce certain consonant clusters in Korean when the clusters are not in their native language. This study hence, provides an added value of phonological knowledge to language learners of Korean. In conclusion, this study gives exposure to Malay speakers who wish to learn Korean as their foreign language.

Contribution/ Originality: This study contributes in the existing literature in the way that it provides the current understanding of how a particular phonological process applies in a language to get rid of consonant clusters which is disallowed in the language is not always adapted by others especially for foreign learners.

1. INTRODUCTION

Language acquisition and language learning have received much attention among scholars. Extensive studies on language acquisition have begun after existence of the phonological theory namely, Transformation Generative which was proposed by Chomsky (1965) and its continued until the Optimality theory which was proposed by Prince and Smolensky (1993). Non-native accent which emanated from speaker's utterances would typically show that the speakers are non-native speakers of the language. Cheon (2005) states that the production of non-native accents occurred in language contact when there are interactions from at least two languages.

Generally, the sounds of the first language (L1) among adults have much influenced the pronunciation of their L2 or foreign language which is also known as phonological interference or transfer. Broselow (1987) had stated that speakers of L1 would show their accent in L2 acquisition due to the phonological transfer from L1 phonological system to the L2 production. Cho and Park (2006) had commented that learners have always transferred some of L1 processes into L2, as it occurred among Korean learners which has resulted in language errors. The L1 phonological processes which have been transferred into L2 occurred despite the fact that the processes do not exist in the L2 system.

With regard to the phonological transfer from L1 to L2, sound production does not independently occur. Instead, it is a combination from one sound to another sound. In phonology, the combination of sounds is known as assimilation process. Assimilation is a unique process which creates accent to language learners' utterances. According to Song (2005) the combination of sounds occur because there is a particular constraint that allows the production of it. The similarities and differences in languages are the main factor in accent production, particularly when the L1 and L2 phonological systems are quite distinct. Due to similarities and differences between languages, interference of L1 has always occurred in the L2 language learning process. As mentioned above, the phonological transfer of L1 into L2 has interfered L2 learners' pronunciation.

Phonological process always occurs in non-prominent position than prominent ones in a language. Non-prominent position is always a subset of those in prominent positions. If a phoneme in a prominent position did not act as a trigger for assimilation, it would prevent this process from occurring. Hence, the focus of this study is on consonant assimilation in foreign language learning that is, Malay speakers learning Korean. In general, assimilation occurs when the same articulators are needed to produce two consecutive signals which have distinction openness (Davidson, 2003). As claimed by Jun (2011), assimilation between consonant clusters occurs when one of the consonants (C1) has the features of the adjacent consonant (C2). In this case, C1 plays a role as target, while C2 plays its role as trigger.

2. PREVIOUS STUDIES

Holliday (2012) had asserted that previous studies have already proved that L1 speakers influenced L2 sound production. Some of the previous studies are Kim (2001) and Holliday (2012). Meanwhile, some of L2 language learning model which have contributed to the field are *Speech Learning Model* (SLM), *Perceptual Assimilation Model* (PAM), and *Contrastive Analysis Hypothesis* (CAH). All the models are discussed below.

2.1. *Speech Learning Model* (SLM)

SLM was proposed by Flege (1995) who claims that the main mechanism in achieving the representational category of new sound into the existing language system is the same throughout human life (Rohena-Madrado, 2013). This means that speakers of a new language are able to learn the language though they have passed the critical stage (Bilbao, 2002). By using SLM; Flege *et al.* (1996) have proved that an Italian who has migrated to Canada could learn English effectively with no Italian accent when speaking English. Flege *et al.* (1996) however, had agreed that motor skill plays an important role in producing language sound. They are in agreement with Locke (1980) who claimed that the main factor of L1 segmental sounds in L2 pronunciation is more to motor level compared to the organisational linguistics at mental level.

In short, this model supports the idea that L1 and L2 have clearly interacted from one to another. Assimilation to the native category occurs when L2 sound and segment are similar to L1. In contrast, new L2 category exists when L2 sound and segment are not similar at all. L2 would be grouped into the same category as L1 when the L2 system is slightly distinct from L1. Nevertheless, the sound production of L1 interferes when it is grouped into the same category with L2. This idea as raised by SLM is much closer to the case in Malay that is, assimilation, when

learning Korean as a foreign language. As the discussion goes further, we will get to know how this idea of language learning is relevant to Malay context being examined in this study¹.

2.2. *Perceptual Assimilation Model (PAM)*

PAM was proposed by Best and Tyler (2006). It also discusses the pattern of observation of language among non-native speakers as in SLM. This framework is slightly different from SLM whereby it emphasizes phonetic analysis rather than phonemic analysis, as in SLM. This is because PAM assumes that speakers do not hear the acoustic signals rather than gestures that generate the signal (Bilbao, 2002). PAM, therefore, operates at the gestural phonetic level whereby the movement of articulation organs is seen as playing a significant role in human pronunciation. Best and Tyler (2006) argues that the object which was observed in speech is the actual gesture generated through the speakers' vocal tract.

Initially, PAM claims that the difficulty faced by L2 students in L2 learning process is determined by the limitation in observation (Zahariah, 2005). PAM also suggests that L2 listeners would classify the differences in L2 sound into different categories depending on the degree of similarity and difference in observation between the native and non-native sounds (Zahariah, 2005). This model focuses on the speech observation by inexperienced speakers (naïve). This group of speakers was classified by Best and Tyler (2006) as the group which does not learn or use L2 actively and this is called 'linguistically naïve' (Debaene, 2013).

In short, PAM predicts difficulty in the observation through phonetic differentiation between natives and non-natives based on the degree of phonetic signal equations. Speakers would find it difficult when the distinguished sounds resemble any category of L1 speakers. In contrast, sounds observation would be much easier when the non-native phonemes vary from each others, as it could be categorized into different categories of natives. The phonemes are assimilated as foreign sounds when non-native sounds are much different compared to different categories of gestures.

2.3. *Contrastive Analysis Hypothesis (CAH)*

Most of phonology studies agreed that in the process of learning L2 has much been influenced by L1 speakers. The Contrastive Analysis Hypothesis (CAH) proposed by Lado (1957) was one of the earlier theories on this (Cheon, 2005). This hypothesis compares systematically two or more languages to identify the differences and similarities between the languages (Johansson, 2008). The main goal of CAH is to provide a good description and teaching materials for learners. CAH was developed specifically to assist linguists in language teaching and preparing teaching materials (Wardhaugh, 1970).

Owing to the discussion above, L2 learning system has been influenced by L1 speakers. Reflecting on this issue that arises in the language learning process, Lado (1957) cited in Yang (1992) observes that speakers are more inclined to transfer a few aspects such as form and meaning from their native language and culture into the foreign language or L2. This issue is claimed as a phenomenon of transferring the natives' cultures and utterances into the foreign culture (Yang, 1992). CAH assumes that all L2 speech errors are caused by negative transfers from L1. If the two languages are identical then the positive transfer takes effect. On the other hand, when there is a huge gap between the languages, the negative transfers occur. Yang (1992) adds that if the structure between the two languages is similar, then the positive transfer prevails. It is the opposite when the two languages are different, where negative transfers occur. It is called zero transfer when there is no connection between the two.

¹ This study does not intend to make use of the model into the analysis. Instead, this study agrees with the idea raised by SLM which suits with the situation occurs among Malay speakers when they learn Korean.

3. RESEARCH METHOD

3.1. Research Subject

In order to ensure the quality of the study, three non-native subjects to whom Malay is their first language (L1) and English is their second language (L2) were selected based on their achievements at every level of Korean at the National University of Malaysia (*Universiti Kebangsaan Malaysia - UKM*). Every subject scored A at three levels that is level 1, 2 and 3 in Korean courses. All of the subjects were female as no Malay male students completed the course.

There were conditions put on the selection of subjects for this study. The conditions were the three subjects to have received L1 since birth, while L2 since five years old when they were at kindergarten. They had to have come either from middle to high-educated families in middle-class socio-economic groups. They had to have been born in Malaysia and never settled abroad for more than two weeks. The subjects had also to have perfect articulation.

Each subject had different backgrounds in Korean. One of them had learned Korean a bit earlier compared to others before enrolling into the 1st level of Korean. This student was chosen because, although the exposure period to Korean was slightly longer than others, he had seldom practiced the language. Therefore, he had not acquired much knowledge in Korean and yet had produced incorrect pronunciation as other subjects did. Two other more subjects in contrast received minimal exposure to Korean and only practiced the language when they were with their Korean classmates. These subjects were selected because they were fairly active and excellent in the class. Despite being good students, pronunciation problems still occurred among them.

As well as the three non-native subjects discussed above, a native speaker of Korean was also needed to confirm the pronunciation between the two, native and non-native. It is realised that it is difficult to get a native Korean speaker in Malaysia hence, a native Korean's utterances was recorded from a Korean drama from the original video. The recorded video had to be edited in order to get the required pronunciation to be compared to the non-native speakers. Additionally, the online dictionary was also helpful for this study. It produced raw sound of the lexical which was easy to be observed more clearly. The corresponding lexical was included into the dictionary and their terms were transcribed into phonetic symbols for comparison.

4. DATA COLLECTION

4.1. Pilot Study

A pilot study was carried out before commencing a fieldwork. At this stage, students in Korean classes at the Universiti Kebangsaan Malaysia from level 1 to level 3 were observed. Differences in pronunciation were identified. It was observed that students in level 1 acquired basic and non-smooth references. They were encouraged to memorize references rather than to understand the pronunciation system of Korean. As the consequence, they failed to pronounce new words given to them as they did not memorize words whereas they have learned it.

In contrast, students at the second level showed slight improvement in their pronunciation. Although their pronunciation sounded awkward due to the monotonous intonation, their pronunciations were smooth. Students at this stage also recognized a quite number of vocabularies. Meanwhile, students in level three were asked to communicate using appropriate grammar system based on the real situation in Korea. As the result, most of the students at this level were highly competent in speaking the language. Observation at this level has proven that the more the exposure to Korean the more the students' competence is achieved.

4.2. Observation

Observation was carried out with two female students and one male Malay undergraduate student. The sex ratio is not the same as there were not many male students in the Korean class. All of the three students sat for Korean class from level 1 to level 3 at UKM. They were selected based on their competency in Korean. This criterion was mainly to ensure only the best students were referred to for this study.

4.3. *Speech Method*

A list of Korean lexical containing consonant clusters was given to the three students once they were identified. Each lexical item in the list was not given with a relevant picture as this to encourage more realistic pronunciation produced by the students. Every lexical was pronounced three times by the students because every pronunciation was different. Students' pronunciations showed improvement when the word was pronounced more than once. The first pronunciation usually sounded a bit weird while the second pronunciation was a bit convincing and smoother than before. The last pronunciation was much more convinced and smooth.

4.4. *Recording*

All the pronunciations produced by the students were recorded. The recorded data could be replayed to confirm the pronunciation before the analysis started. A recorder with noise filter was used to record the data as it is able to filter any background noises which were unnecessary.

4.5. *Transcription*

After obtaining relevant linguistic data, speech recording was replayed for analysis. All the collected data obtained from the fieldwork were raw data, hence they had to be relooked and before data analysis could be commenced. In this study the data were transcribed first using the phonetic symbols from the International Phonetic Alphabet (IPA). The transcribed data were grouped according to the assimilation processes found in the language learning among Malay speakers when they learn Korean. Data analysis allows us to come out with hypothesis and conclusion.

5. FINDINGS AND DISCUSSION

5.1. *Assimilation in Korean*

Due to differences in the phonological processes between Malay and Korean, Malay speakers have difficulty in producing some consonants particularly when the consonants undergo assimilation. For example, the liquid consonant in Korean which has been influenced by Chinese causes difficulty to Malay speakers to pronounce.

The lateral and rhotic consonants in Malay have significant differences and therefore there is no confusion in their production compared to the way of how the consonants are pronounced in Korean. However, Malay speakers could properly produce any consonant assimilation in Korean because of the similarities between the two languages. For example, the processes of nasalization of obstruents as well as the articulation of coronal phonemes/consonants to labial and dorsal in Korean are quite similar to Malay.

Some of consonant assimilations in Korean are unique and they are rarely found in other languages except in neighbouring languages such as Mandarin and Japanese. This is because Korean does not allow certain consonants to be present at syllable boundary. The Korean syllable structure consists of CVC and V. The V syllable structure is able to stand alone without C. A consonant which follows another consonant at a syllable boundary for example CVC.CVC needs to undergo either manner assimilation or place assimilation due to the requirement of the language which does not permit consonant cluster at a syllable boundary. Therefore, the occurrence of consonant cluster at syllable boundary undergoes simplification through assimilation which results in one of the consonants being deleted (Kim, 2001). As claimed by Kuroda (2004) the assimilation process is seen as more of a plausible strategy to resolve a phonological issue of consonant cluster at a syllable boundary particularly when the consonants are not compatible in terms of the sonority.

Generally, this phonological process occurs due to the differences in sonority between the coda consonant and the onset at the following syllable. As required by the Sonority Contact Law (Morelli, 1999) a coda consonant should not be more sonorous than the following onset consonant.

Sonority scale:

Obstruent > Nasal > Liquid > Glide

Kuroda (2004) classifies assimilation into two according to the sonorisation process involved. They are nasalisation and lateralisation. As for nasalisation, there are two groups of assimilation: obstruent-nasal and obstruent-liquid, while lateralisation includes obstruent-liquid and nasal-lateral. Below, are the examples of obstruent nasalisation in Korean (Kim, 2001):

- (1) a. obstruent-nasal: O + N → N + N
 /kot-namu/ → [kon.na.mu] ‘flowers’.
 /ap^h-nal/ → [am.nal] ‘in the future’.

As can be seen in the above examples, the initial consonant of obstruent-nasal sequence undergoes assimilation, while nasal segment remains unassimilated. In this case, nasal segment triggers the assimilation to occur. Song (2005) states that an obstruent that precedes a nasal segment assimilates to the features of nasal segment which results in assimilation. This can clearly be seen in the above example (1a) whereby an obstruent that precedes a nasal segment is nasalised. This phonological process of assimilation occurs as the sequence of obstruent-nasal has violated the Sonority Contact Law, as has just been discussed above. Assimilation therefore, is a way to get rid of the obstruent-nasal sequence. In this regard, /p/ and /t/ present before nasal segment would emerge as [m] and [n]. Likewise obstruent-liquid sequence also undergoes assimilation, the same as obstruent-nasal in Korean. Below, are the examples of liquids nasalisation in Korean (Kim, 2001):

- (2). obstruent-lateral: O + L → N + N
 /pəp-lyul/ → [pəmnyul] ‘law’.
 /suk-bak-ljo/ → [sukbaŋjo] ‘room charge’.

Seo (2004) says that scholars who have studied Korean assumed that there is a constraint imposed on lateral consonant particularly when it occupies at the onset position of a syllable. This assumption was based on their observation that there are no initial lateral and liquid consonants in Korean words yet occupying onset position of a syllable. Lateral and liquid consonants at this position would be realised as [n] in Sino-Korean words².

5.2. Obstruent Nasalisation

The assimilation process usually occurs because speakers want to make their speech easier. To simplify the pronunciation, features of strong consonants have always been transferred to the weak one. This phenomenon is quite common in both Korean and Malay. The following data show the process of obstruent nasalisation in Korean:

Table-1. Obstruent nasalisation.

Lexical	Input	Output (Native)	Output (non-native)
있는 (present)	/it.nən/	[in.nən]	[in.nən]
업무 (duty)	/ʔəb.mu/	[ʔəm.mu]	[ʔəb.mu]
-합니다 (to do)	/hab.ni.da/	[ham.ni.da]	[hab.ni.da]
-습니다 (to be)	/səb.ni.da/	[səm.ni.da]	[səb.ni.da]
없는 (absent)	/ʔəb.n□n/	[ʔəm.nen]	[ʔəb.nen]
꽃미남 (handsome)	/kot.mi.nam/	[kom.mi.nam]	[kot.mi.nam]

Source: Data from the interview sessions.

The above examples presented in Table 1 were grouped according to the process of obstruent nasalisation. Malay speakers have difficulty to pronounce properly words with obstruent assimilation despite this phonological system also operate in Malay. Malay speakers often pronounce the above words based on the syllable by ignoring the assimilation process involved. Thus, the phonological process of obstruent assimilation is not realised by Malay

² Sino-Koreans words are originally from Chinese.

speakers. This means that words like /hab.ni.da/ and /kot.mi.nam/ are realised as *[hab.ni.da] and *[kot.mi.nam], respectively by Malay students being examined.

Korean strictly prohibits a sequence of obstruent consonant with a nasal segment to obey the Sonority Contact Law (Morelli, 1999). The order of phonemes must adhere to the sonority scale proposed by Clement (1990). From the data above, it can be seen that the initial consonant that is obstruent (/t/ and /b/) are the ones that undergo assimilation. The obstruent assimilates to the following consonant at the coda position of the next syllable. Therefore, this type of assimilation which occurs in Korean is called assimilation regressive. Assimilation regressive is a process where the feature of the next consonant moves backward.

5.3. Nasal-Lateral Assimilation

As can be seen in the above discussion, obstruent before nasal segments would be nasalised whereby the obstruent would become a nasal segment which has the same feature with the following nasal. In Korean, a sequence of /nl/ is one of the difficult assimilations to pronounce by native speakers of Korean. As Seo (2004) observes that there is no lexical item in Korean containing /nl/ in any combination of words. A study conducted by Seo (2004) has shown that a lexical item with nasal-lateral sequence is replaced by lateral-lateral where nasal assimilates to the lateral. Therefore, nasal lateralisation takes place to overcome this. There is a phonological rule in Korean where a nasal segment at a coda position of a syllable alternates to the same segment that is, a lateral consonant follows it. The phonological process where a nasal segment becomes a lateral consonant is named as nasal lateralisation.

This phonological process however, poses a challenge among Malay speakers learning Korean where /nl/ becomes [ɺ] is difficult to pronounce. From the observation, it shows that Malay learners at the higher level in Korean class also have the same problem. They sometimes could not pronounce it well. The difficulty in pronouncing the sequence of [ɺ] among Malay speakers learning Korean is because [ɺ] does not present in the Malay phonological system. Hence, [ɺ] has always been pronouncing as [n] by Malay speakers. The following data obtained from the observation might give a clearer view of what has just been discussed:

Table-2. Nasal lateralisation.

Lexical	Input	Output (Native)	Output (Non-Native)
연륜이 (experienced)	jon.ljun.i	joɺ.ljun.i	jon.ljun.i
난리 (panic)	nan.li	nal.li	nan.li
인륜 (morale)	?in.ljun	?il.ljun	?in.ljun

Source: Data from the interview sessions.

As well as the surface representation of [ɺ] is proposed as a replacement of /nl/, there is another form which is also used to replace a sequence of nasal-lateral. Contrast to /nl/, a sequence of velar nasal and lateral consonant /ŋl/ in Korean is replaced by [ɺŋ] where the lateral consonant after the nasal segment becomes a nasal segment (alveolar nasal). This process is called lateral nasalisation.

Table-3. Lateral nasalisation.

Lexical	Input	Output (Native)	Output (Non-native)
강력 (strong)	gaŋ.ljoʔ	gaŋ.njoʔ	gaŋ.rjoʔ
강렬한 (crucial)	gaŋ.ljoɺ.han	gaŋ.njoɺ.han	gaŋ.rjoɺ.han
동료 (colleague)	doŋ.ljo	doŋ.ljo	doŋ.ljo

Source: Data from the interview sessions.

Table 3 above clearly shows that native speakers have replaced the onset consonant that is, lateral /l/ to an alveolar nasal [n]. However, the output for non-native speakers is different where the output has no assimilation element. There is even a mistake between rhotic and lateral allophones. The rhotic and lateral allophones error are commonly performed by non-native speakers as there is a significant difference of symbols used for /l/ and /r/, whereas only one symbol used to represent both allophones / l / and / r /.

5.4. Place Assimilation: From Coronal to Dorsal/Labial

This type of assimilation is quite common in Korean and Malay phonology as well. Malay speakers learning Korean could easily pronounce words containing this type of assimilation even though they have a limited understanding about the structure and the phonological processes compared to the two types of assimilation discussed above. The process of obstruent nasalization requires speakers to understand the phonological process of Korean in order to be able to pronounce it correctly. The data below exemplify these assimilation processes:

Table-4. Coronal-dorsal assimilation.

Lexical	Input	Output (Native)	Output (Non-Native)
순간 (moment)	sun.ŋan	suŋ. gan	sun.ŋan
만큼 (as much as)	man.kəm	maŋ.kəm	man.kəm
주인공 (protagonist)	juin.goŋ	juiŋ.goŋ	juin.goŋ
논문 (graduation)	nun. gəm	nuŋ. gəm	nun. gəm

Source: Data from the interview sessions.

Table-5. Coronal-labial assimilation.

Lexical	Input	Output (Native)	Output (Non-Native)
전부 (all)	jɔn.bu	jɔm.bu	jɔm.bu
반발 (resist)	ban.bal	bam.bal	bam.bal
인물 (character)	in.mul	im.mul	im.mul

Source: Data from the interview sessions.

The data above present place assimilation from coronal to dorsal or labial, as shown in Table 4 and Table 5. From the observation, it reveals that Malay speakers do not have difficulty in pronouncing the words above. They could assimilate the features from coronal to dorsal or labial easily as Malay also has this type of assimilation in the language particularly at prefix boundary.

6. CONCLUSION

Malay speakers show difficulties in producing assimilated consonants in Korean. This is most likely due to the incomplex of assimilation processes in their native language. Furthermore, most lexical in Korean were absorbed from Chinese and thus, this has influenced Korean phonological system.

Obstruent nasalisation is the common assimilation in Korean. Malay speakers have difficulty to produce this type of assimilation despite it is not that complex. Obstruent nasalisation has always been pronounced by Malay speakers based on the syllable where assimilation seems like play no role in the words. Meanwhile, nasal-lateral assimilation which could not find in Malay grammar has certainly posed challenge to Malay speakers to pronounce it. Therefore, the input form of a sequence of nasal-lateral has always been retained when Malay speakers pronounce Korean words.

Place assimilation is a common phonological process both in Korean and Malay. Coronal-dorsal and coronal-labial assimilations are the two types of assimilation observed in the data. These types of assimilation are similar with the nasal assimilation in Malay when prefix is attached such as /məŋ+balas/ →[məmbalas] ‘to reciprocate’. Observation shows that Malay speakers have minimal difficulty in producing this sound.

Funding: This study received no specific financial support.

Competing Interests: The authors declare that they have no competing interests.

Acknowledgement: Both authors contributed equally to the conception and design of the study.

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