The Phonological Errors by Dutch Exchange Students in Reading Indonesian Texts

Theodorus Yohanaes Mustamu, Henny Putri Saking Wijaya

1English Department, Petra Christian University, Surabaya, INDONESIA
e-mails: hennypsw@petra.ac.id, theodorusyohanaes@gmail.com

ABSTRACT

In this study, the five non-existing Indonesian sounds in Dutch sound system were observed because these sounds cause a problem. Moreover, the writers analyzed the phonological errors produced by the Dutch exchange students. The theories were from Moeliono and Darwowidjojo (2003) for the Indonesian consonants and from Mennen, Levelt and Gerrits (2006) for the Dutch consonants. The findings show that there were five Indonesian sounds that do not exist in Dutch sound system. Furthermore, the Dutch exchange students produced phonological errors in initial, medial and final positions. In conclusion, the phonological errors in five observed sounds produced by the Dutch exchange students happened because of the L1 transfer and the lack of knowledge of Indonesian consonants.

Keywords: Phonological error, Dutch consonants, Indonesian consonants.

INTRODUCTION

When learning a new language, learners have a tendency to transfer the knowledge from their L1. There are two kinds of transfer or cross-linguistic influence: positive and negative transfers. When the L1 and L2 patterns are identical, learning can take place easily through positive transfer; however, when they are different, learning difficulty arises and errors resulting from negative transfer are likely to occur (Ellis, 2003, p.300). “Cross-linguistic influence occurs in all levels of interlanguage: vocabulary, pronunciation, grammar, and all aspects of language structure and use” (Saville-Troike, 2012, p.19). This study will focus on pronunciation because it “is the most common and most easily recognized aspect of L1 influence” (p.19). According to Odden (2013, p.2), pronunciation is related to phonology, the core area of linguistics that deals with scientific study of the sound structure in language. It should be noticed that to the same extent as phonology, pronunciation also deals with sounds. A phonological analysis can be used to explain various general patterns in the pronunciation of words (ibid, p.11).

When observing Dutch exchange students when they joined Community Outreach Program held by Petra Christian University, the writers recognized that the Dutch students mispronounced [ʤ] when they pronounced Indonesian words /Java/ and /Perjalanan/ ‘Travelling’. They pronounced the words into /Yava/ and /Peryalanan/. These are the examples of negative transfer. Negative transfer is a condition when “an L1 structure or rule is used in an L2 utterance and that use is inappropriate and considered an “error”” (p.19). In Dutch [j] symbol is used to represent the [y] sound (Fenoulhet, 1992, p.12). It means the students used their L1 knowledge when they pronounced /Java/ and /Perjalanan/. Because of this observation, the writers want to observe further the pronunciation produced by Dutch students, especially in relation to negative transfer and non-existing Indonesian consonants in Dutch sound system. The writers choose Dutch exchange students because they stay quite long in Indonesia and have more inputs about Indonesian language in order to pursue their educational experiences. Moreover, the Dutch students are likely to make some errors in several sounds that do not exist in Dutch sound system, especially in three different positions namely initial, medial and final sound. Due to those errors produced by Dutch students, the writers want to observe the phonological errors made by the Dutch students in producing the non-existing Indonesian sounds in Dutch sound system that may pose a problem to the students and find out the most difficult sound to pronounce.

In order to find the non-existing Dutch sounds in Indonesian sound system, the writers compare two tables. The first table is the Indonesian consonant sounds (Table 1) from Moeliono and Darwowidjojo (2003, p. 66) and the second one is the Dutch consonant sound (Table 2) from Mennen, Levelt & Gerrits (2006, p.2).
From these two tables, the writers can identify differences in the production of both Indonesian and Dutch consonantal sounds. The following table 3

In Table 3, the ‘Black’ color is for consonants that exist in both Indonesian and Dutch. ‘Red’ color shows the consonant sounds found only in Indonesian, and ‘Blue’ presents the consonant sounds existing only in Dutch.
(voiceless, palatal, approximant), [(c)] in Dutch language is usually pronounced as ‘say’ or as [k] if it appears in the middle of the word. Meanwhile, [j] symbol in Dutch is used to represent the [y] sound (Fenoulhet, 1992, pp.7-12).

Moreover, based on the comparison table above, the [r] sound exists in Dutch language. However, the [r] is produced in different manner of articulation namely by flapping or tapping the alveolar ridge which is different from Indonesian. According to Mennen, Levelt & Gerrits (2006, p.2), [r] sound in Dutch language has three variations: voiced uvular fricative [ɾ], uvular trill [R], and alveolar trill [r] or tap [ɾ]. The variation of [r] sound happens because of the differences across dialects, sociolinguistic membership and styles.

Furthermore, it can be seen from the comparison table that there are five consonants that do not exist in Dutch language namely [c], [ñ], [š], [ʤ], and [w]. In this study, the writers will limit on these five non-existing consonants and explain each sound with the example of each sound in three different positions, initial, medial, and final.

a) Voiced bilabial approximant sound.
[w] sound is made by pronouncing with both lips closer without blocking the air exhaled from the lungs (Moeliono and Darwowidjojo, 2003, p.70).
Example:
Initial : [waktu] waktu (time)
Medial : [awal] awal (beginning)
Final : [kalaw] Kalau (if)

b) Voiceless palatal affricate sounds.
In Indonesian language, there are two affricative consonants: [c] (voiceless) and [ʤ] (voiced). Affricative palatal sound [c] is made by placing tongue on palate then putting the tongue off, so the air moves and makes hiss sound. Meanwhile, the voice cord is not vibrating. Affricative palatal sound [ʤ] is made by the same way as [c]; however, the vocal cord is vibrating (p.69).
Example:
Initial : [Cari] Cari (find)
[ʤari] Jari (finger)
Medial : [Acari] Acar (fermented vegetables)
[Adjar] Ajar (to teach)
Final : [Mancur] Mancur (to stream)
[Manʤur] Manjur (effective)

c) Voiceless Palatal fricative sound.
[ð] sound is made by placing the front tongue on palate. However, the air flows through the side of tongue with hiss sound (p.68).
Example:
Initial : [Sarat] Syarat (condition)
Medial : [dahšat] Dahsyat (tremendous)
Final : There is no [s] sound available in final position.

d) Voiced palatal nasal sound
[ɲ] sound is pronounced by attaching the front of the tongue to the hard palate to keep the air from the lungs. The obstructed air is removed to the nasal cavity to cause nasalization. [ɲ] as if composed by two sounds /n/ and /y/, but the two sounds has become one (p. 67).
Example:
Initial : [ɲiur] Nyiur (Coconut tree)
Medial : [Taña] Tanya (Question)
Final : [Brəbuhi] Berburuji (Sound)

**METHOD**

**Data Collection**

This research was conducted by using the qualitative approach in which the source of data was from the phonetic transcription of the recorded pronunciation of eight Dutch exchange students. In collecting the data, the writers created two sections of pronunciation tasks in order to get more data. In the first section, the writers wrote a list of Indonesian words that consisted of five sounds that do not exist in Dutch, in three different positions for each sound. Each sound consisted of twelve words which are divided into three positions namely four words for initial, four words for medial and four words for final. Except for [s] sound, there were only eight words provided for the all sections, because [s] never appears in Indonesian final position. Then, in the second section the writers provided five Indonesian passages consisting of the non-existing Indonesian phonological consonants. All the Indonesian passages were written in the formal Indonesian language based on Kamus Besar Bahasa Indonesia (2008). One reading passage ranged from 50 to 100 words.

Then, the writers contacted the Dutch exchange students who were studying in Petra Christian University and University of Surabaya, and asked their permission to record their pronunciation. There were eight Dutch exchange students in total. Four of them studied at Petra Christian University, and the other four students studied at University of Surabaya. The Dutch students who were chosen by the writer were those who fulfilled the criteria such as growing up in Netherland, having input about Indonesian language whether in the classroom or outside the classroom, and having lived in Indonesia for several months. Those criteria were set because the writers wanted to find out the negative transfer done by the Dutch students when pronouncing the five Indonesian consonant sounds that do not exist in their consonant system.
The recording session was done in an isolated area namely in Classroom and Independent Learning Center in Petra Christian University, and in an isolated room in International Village Office in University of Surabaya, where other students could not help the Dutch students who was articulating the words.

**Data Analysis**

Having the phonetic transcription of the data which was done manually, the analysis began with the identification of the phonological errors by comparing each student’s actual pronunciation with the standard phonetic transcription. Then, those pronunciation errors found were listed down based on each sound and each position of occurrences in a table, as seen in Table 4.

| Sound Position | University | Task 1 | Task 2 | Task 3 | Task 4 | Task 5 |
|----------------|------------|--------|--------|--------|--------|--------|
|                | Initial    |        |        |        |        |        |
|                | Medial     |        |        |        |        |        |
|                | Final      |        |        |        |        |        |

Then, the writers started to count the percentage of error in each word in every observed sound produced by the Dutch exchange students, and put it in the percentage of errors in Table 5.

**Table 5. Percentage of Errors of the Five Consonantal Sounds**

| Consonantal sounds & Position | Words | Standard Phonetic transcription | Students’ Actual Pronunciation | % of pronunciation errors | Note |
|------------------------------|-------|--------------------------------|--------------------------------|--------------------------|------|
| Initial                      |       |                                |                                |                          |      |
| []                           |       |                                |                                |                          |      |
| Medial                       |       |                                |                                |                          |      |
| Final                        |       |                                |                                |                          |      |

The formula used was:

\[ A = \frac{a_1 + a_2}{\text{Tot}} \times 100\% \]

Note:

A : The result of errors made in two tasks

a1 : The word error that occurs in one sound from task 1 from the whole students

\[ E.i + E.m + E.f \]

\[ T.O.W \]

\[ T.O.W = o.w \times t.o.s \times o.s \]

Besides giving the formula for counting the percentage of error per word in one sound, the writers also made a formula for counting all the errors made in initial, medial and final by Dutch exchange student in one sound. By creating this formula, the writers were able to show the most difficult Indonesian sound to be pronounced by the Dutch exchange student in overall. The result of overall error of one sound was shown in Table 6 below. The formula used was:

\[ T.E = \frac{E.i + E.m + E.f}{T.O.W} \times 100\% \]

**Table 6. The Total Percentage of Error of each sound from the whole Pronunciation**

| Sound | Percentage |
|-------|------------|
| [w]   | 2.18%      |
| [c]   | 3.95%      |
| [ʤ]  | 0.6%       |
| [š]   | 7.1%       |
| [ñ]   | 10.4%      |

**FINDINGS AND DISCUSSION**

The findings show that the Dutch exchange students failed in pronouncing five Indonesian consonants in three different positions namely initial, medial, and final. The consonants are [w], [c], [ñ], [š], [ʤ]. However, based on Table 7 below, Dutch exchange students produced an error mostly in [š] and [ñ] sounds.

**Table 7. The Total Percentage of Errors from All Observed Sound**

| Sound | Percentage |
|-------|------------|
| [w]   | 2.18%      |
| [c]   | 3.95%      |
| [ʤ]  | 0.6%       |
| [š]   | 7.1%       |
| [ñ]   | 10.4%      |
It is also interesting to find that even though the students were asked to read the words in isolation and in texts, the data got in relation to the phonological errors were similar. Therefore, the writers decided to combine the results of both data. Each consonant sound is discussed as follows.

**Pronunciation of [w]**

The Dutch exchange students pronounced [w] as the soft [v] in English sound and the [w] consonant itself does not exist in Dutch language (see Table 2). Thus, [w] sound has a chance to cause some errors for the Dutch exchange students while they tried to pronounce it. The table below shows the data of the phonological errors of [w] in three different positions.

**Table 8. The Phonological Errors of [w]**

| Consonantal sounds & Position | Words | Standard Phonetic transcription | Students’ Actual Pronunciation | % of errors |
|-------------------------------|-------|--------------------------------|-------------------------------|------------|
| Initial                      | Wisatawan | [wisatawan] | [visatawan] | 50% |
|                              | Warga    | [warga]      | [varga]    | 18.75% |
|                              | Wisata   | [wisata]     | [visata]   | 18.75% |
|                              | Walaupun | [walaupun]   | [valaupun] | 6.25% |
| [w] Medial                   | Kicauan  | [kicauan]    | [kicauan]  | 18.75% |
|                              | Persawahan | [persawahan] | [persawahan] | 12.5% |
|                              | Awalnya  | [awalnya]    | [avalaunya] | 6.25% |
|                              | Suara    | -             | -          | 0% |
| Final                        | Risau    | -             | -          | 0% |
|                              | Galau    | -             | -          | 0% |
|                              | Prabowo  | -             | -          | 0% |
|                              | Katulistiwa | -         | -          | 0% |

It can be seen from the table that the Dutch exchange students made errors only in initial and medial positions. In the initial position they made errors mostly when pronouncing ‘wisatawan’ (50%) and in medial position they had difficulties when pronouncing ‘kicauan’ (18.75%). The deviation both in the initial and medial positions is [w→v].

[w] sound in both initial and medial positions was pronounced [v] sound for example, [wisatawan] became [visatawan] and [persawahan] became [persavahan]. It is because the Dutch [w] sound is more like English [v] sound but it is less aspirated and must be pronounced with upper teeth on the lower lips (Hintzen 1968, p. 13).

**Pronunciation of [c]**

The pronunciation of [c] in Indonesian language is voiceless and affricative. Meanwhile, in Dutch consonant sound system, the [c] sound does not exist. There were a lot of errors that occurred when these students wanted to pronounce it correctly. Table 9 below shows the errors of [c] sound.

**Table 9. The Phonological Errors of [c]**

| Consonantal sounds & Position | Words | Standard Phonetic transcription | Students’ Actual Pronunciation | % of errors |
|-------------------------------|-------|--------------------------------|-------------------------------|------------|
| Initial                      | Cerpelai | [cerpelai] | [sarpelai] | 31.5% |
|                              | Cepat   | [cepat]      | [sepel]   | 25% |
|                              | Ciremai | [ciremai]    | [siremai] | 25% |
|                              | Cabe    | [cabe]       | [kabe]    | 18.75% |
| [c] Medial                   | Meloncati | [meloncati] | [melonkati] | 25% |
|                              | Mencuri | [mencuri]    | [mekuri]  | 25% |
|                              | Buncis  | [buncis]     | [bunsis]  | 25% |
|                              | Kacang  | [kacang]     | [kaang]   | 12.5% |
| Final                        | Pasca   | [pasca]      | [paska]   | 68.75% |
|                              | Suci    | [suci]       | [susi]    | 18.75% |
|                              | Kunci   | [kunci]      | [kunsi]   | 12.5% |
|                              | Benci   | [benci]      | [beni]    | 12.5% |

The table above shows that the highest error occurred in the final position. The students had difficulties when they tried to pronounce [c] in the word “pasca” (68.75%). From the three positions, the total percentage of errors in the medial position was the lowest. It shows that [c] sound in the medial position does not cause many problems for the students. The deviations in all positions are [c→s] and [c→k].

[c] sound was changed into [s] and [k] sounds for example [cabé] became [kabé] and [kunci] became [kunsi]. It is because [c], [s] and [k] sounds share the same feature namely vocal cord. Moreover, it is easier for Dutch students to change [c] sound into [s] and [k] sounds because in Dutch words [c] is pronounced [s] or [k] (Berendsen, 2017), for example “cent” is pronounced [sent] and “cacao” is pronounced [kakao]. Thus, this shows that the negative transfer happens because their L1 influenced their Indonesian pronunciation. Besides, they lacked of knowledge about the basic rule of [c] sound pronunciation in Indonesian that should be pronounced with voiceless, palatal and fricative.

**Pronunciation of [ʤ]**

Based on Table 3, the official /ʒ/ sound does not exist in Dutch sound system. The symbol /ʒ/ itself is used to represent the /ʃ/ sound in Dutch. The following table shows the errors made by the students when pronouncing [ʤ] sound.

The table above shows that even though [ʤ] sound does not exist in the Dutch sound system, the students did not make any significant errors. Even in the medial position, they could pronounce all the words correctly. The percentage of errors in initial and final positions is also low (12.5%). The deviation is [ʤ→y].
The [dʒ] sound was pronounced [y] by the Dutch students for example, [dʒaŋka] became [yaŋka] and [ʃaŋdʒa] became [sonya]. It is affected by their first language in which [dʒ] is normally pronounced as [y] (Fenoulhet, 1992, pp.10-11, Berendsen, 2017).

### Pronunciation of [ʃ]

The pronunciation errors happened not only in [w], [c], and [dʒ] sounds, but also in [ʃ]. When they tried to pronounce this voiceless fricative palatal sound, they made mistake in both initial and medial positions. The following table shows the errors when the students pronounced [ʃ] sound.

**Table 11. The Phonological Errors of [ʃ]**

| Position & Consonantal sounds | Words   | Standard Phonetic transcription | Students’ Actual Pronunciation | % of errors |
|-------------------------------|---------|--------------------------------|--------------------------------|-------------|
| Initial                       | Jaka    | [dʒaŋka]                        | [yaŋka]                         | 12.5%       |
|                               | Jajah   | -                               | -                              | 0%          |
|                               | Jurak   | -                               | -                              | 0%          |
|                               | Jarang  | -                               | -                              | 0%          |
| Medial                        | Hijau   | -                               | -                              | 0%          |
|                               | Sejak   | -                               | -                              | 0%          |
|                               | Menjual | -                               | -                              | 0%          |
|                               | Majikan | -                               | -                              | 0%          |
| Final                         | Senja   | [ʃaŋdʒa]                        | [sonya]                         | 12.5%       |
|                               | Bekerja | [ʃaŋdʒaŋka]                     | [bækərəŋka]                     | 12.5%       |
|                               | Panji   | -                               | -                              | 0%          |
|                               | Menuju  | -                               | -                              | 0%          |

The findings in Table 11 shows that the Dutch students made a lot of errors when producing this sound. The highest error was in the initial position when they produced the word “syahwal” (81.25%). The lowest error happened in the medial position when they pronounced the word “dahsyat” (25%). In addition, the errors in the final position are not available because there are no Indonesian words that end with [ʃ] sound. In the [ʃ] sound, the deviations are [ʃ → s], [ʃ → s] and [ʃ → dʒ].

### Pronunciation of [ŋ]

The palatal nasal sound [ŋ] known as /ny/ was the last non-existing Indonesian consonant sound that caused the pronunciation errors for Dutch students. The table below shows that the errors in [ŋ] sound are more various in all positions compared to the other sounds.

**Table 12. The Phonological Errors of [ŋ]**

| Position & Consonantal sounds | Words   | Standard Phonetic transcription | Students’ Actual Pronunciation | % of errors |
|-------------------------------|---------|--------------------------------|--------------------------------|-------------|
| Initial                       | Nyiar   | [niŋjə]                         | [niŋjə]                         | 56.75%      |
|                               | Nyaros  | [niŋjəɾis]                      | [niŋjəɾis]                      | 50%         |
|                               | Nyoman  | [niŋjəmən]                      | [niŋjəmən]                      | 25%         |
|                               | Nynam  | [niŋjəmən]                      | [niŋjəmən]                      | 18.75%      |
| Medial                        | Bernyanyi | [berɲaŋjəɾi]                   | [ bernjəŋjəɾi]                   | 87.5%       |
|                               | Senyap  | [ʃəŋjəp]                        | [ʃəŋjəp]                        | 37.5%       |
|                               | Meryala | [məɾjəla]                       | [məɾjəla]                       | 37.5%       |
| Final                         | Datangnya | [də탄ɲəɾiŋya]                  | [dətanɲəɾiŋya]                  | 62.5%       |
|                               | Syangi  | [ʃiŋi]                          | [sunˈjı]                        | 56.75%      |
|                               | Penyuu  | [pənjuu]                        | [pəndjuu]                       | 56.75%      |

From the Table above, the percentage of errors in the final position is the highest. In each word in the final position, the percentage of errors is more than 50%. The word “bernyanyi” is the most difficult one to pronounce by the students. The lowest percentage of errors occur in the initial position. The students made less errors in the word “nyaman”. Thus, Table 12 shows that for [ŋ] sound the Dutch exchange students produced errors in all three positions with high percentage. The deviations are [ŋ → ni], [ŋ → n], [ŋ → ndʒ] and [ŋ → y].

The Dutch students changed [ŋ] into [ni], [n], [ndʒ] and [y]. In the first change, the Dutch students inserted a vowel /i/ in order to break out the consonant...
cluster that seems awkward as [ũ], for example [ũaris] became [nutris]. Besides that, the sound deviation from [ũ] into [ni] is caused by the lack of knowledge about the correct pronunciation of [ũ] itself. Thus, they pronounced the [ũ] not as a single sound that has characteristic as voiceless palatal nasal sound, but as a syllable that is [ni]. Moreover, the phoneme of /y/ and /n/ sound in the pronunciation of [ũ] sound is considered as another phoneme, so they pronounce it as [j] like in English word “Nymph” and “Agony”.

In the second change, they tried to substitute the pronunciation of [ũ] with the closest sound that almost has the same characteristic, which is [ŋ], for example [ũiur] became [niur]. In the third change, they changed the other phoneme [y] into [ʤ] that actually should be in one unit as /yn/, for example [ũiur] became [ndjuər] and [berũni] became [berndʒanʤi]. That kind of error shows that the Dutch exchange students lack of knowledge in pronouncing the correct [ũ] in three different positions, especially in certain environment. In the last change, the Dutch students deleted the phoneme /n/; thus, it was pronounced as /y/, for example [يومان] became [yoman] and [مَايالا] became [mayala].

CONCLUSION

From the findings, it can be concluded that the Dutch exchange students produced errors from the observed five non-existing sounds. The phonological errors in five observed sounds produced by the Dutch exchange students happened because of the L1 transfer and the lack of knowledge of Indonesian consonants. [c], [ũ] and [ʤ] are three sounds that made the Dutch students produced error in all three different positions. For [w] sound, they only produced errors in the initial and medial positions, and for [s] sound, errors produced were in the initial and medial positions because there is no Indonesian word with [s] sound in the final position.

Moreover, the highest percentage of errors produced by the Dutch exchange students is [ũ] sound. They made a lot of errors in all three positions. The most difficult word to produce is “bernyanyi”.

The students had difficulties to pronounce [ũ] sound existing in the word “bernyanyi” both in the medial and final positions. Besides [ũ] sound, they also had a lot of problems in pronouncing [s] sound. Thus, [ũ] and [s] sounds are the most difficult ones to pronounce by the Dutch exchange students.

This study hopefully can be useful for Dutch students who learn Indonesian language and Indonesian language teachers. For one thing, knowing the errors produced by the Dutch exchange students from the observed five consonant sounds can be a good input for Dutch students, the Dutch students can learn how to pronounce some difficult Indonesian words correctly by learning to pronounce the non-existing sounds in the words. Moreover, this study can help Indonesian language teachers provide various pronunciation exercises of the non-existing Indonesian sounds for Dutch students. In addition, this study can motivate others to do a research on the Indonesian vowel and diphthong sounds. It is because there are chances that those sounds may also cause the Dutch exchange students to produce errors.

REFERENCES

Berendsen, B. (2017). Online Dutch grammar tutorial. Retrieved from http://www.dutchgrammar.com/en/?n=SpellingAndPronunciation.22
Ellis, R. (2003). The study of second language acquisition. Oxford: Oxford University Press
Fenoulhet, J. (1992). Dutch in three months: simplified language course. London: Hugo’s Language Books LTD.
Hintzen, R. L. (1976). Collins Dutch phrase book. London: Collins Clear-Type Press
Mennen, I., Levelt, C., & Gerrits, E. (2006). Acquisition of Dutch phonology: An overview. Retrieved from http://eresearch.qmu.ac.uk/152/1/wp-10.pdf.
Moeliono, A.M., & Dardjowidjojo, S. (2003). Tata bahasa baku bahasa Indonesia (3rd ed.). Jakarta: Balai Pustaka.
Odden, D. (2013). Introducing phonology (2nd ed.). Cambridge: Cambridge University Press.
Saville-Troike, M. (2012). Introducing second language acquisition. Cambridge: Cambridge University Press.