PHONIC INTERFERENCE OF FIRST LANGUAGE INTO SECOND LANGUAGE: A CASE STUDY OF NON-INDONESIAN NATIVE SPEAKERS

A THESIS
In Partial Fulfillment of the Requirements
For Master's Degree in Linguistics

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CERTIFICATION OF ORIGINALITY

I hereby declare that this study entitled "PHONIC INTERFERENCE OF FIRST LANGUAGE INTO SECOND LANGUAGE: A CASE STUDY OF NON-INDONESIAN NATIVE SPEAKERS" is really my own work and that, to the best of my knowledge and belief, this study contains no material previously published or written by another or material which to a substantial extent has been accepted for the award of any other degree or diploma of a university or other institutes of higher learning, except where due acknowledgement is made in the text of the thesis.

Semarang, December 2nd, 2015

Nurvita Anjarsari

MOTTO

The Prophet Muhammad

(Peace be upon Him) said:

" The seeking of knowledge is

obligatory for every Muslim"

- Tirmidhi –

DEDICATION

This thesis is dedicated to my dear family: beloved parents, sibling, lectures, teachers, seniors, and friends.

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ABSTRACT

This study focuses on the phonological and phonetic (phonic) interference of first language (L1) by Turkish, English and Malaysian native speakers when learning Indonesian as a second language (L2). This study aims at finding out the kinds of phonic interference done by those three different language speakers and the possible relation between the degree of phonological system differences of L1&L2 and the degree of phonic interference. Data collection methods in this research are observation and interview with recording technique. Afterwards, the data were transcribed by using IPA symbols and analyzed using theories of Phonic Interference by Weinreich (1979) and Distinctive Features by Schane (1973). The results obtained from this study show that, firstly, Malaysian, Turkish, and English speakers produced phonic interference when learning Indonesian. There are four kinds of phonic interference produced by the learners; substitution, under-differentiation, over-differentiation, and re-interpretation. The biggest number of phonic interference is re-interpretation, followed by substitution, over-differentiation, and the least is under-differentiation. Secondly, the greater number of the phonological system differences between L1 and L2, the greater number of phonic interferences will occur. Thirdly, language family also has a big role in determining interference on L2 production. Fourthly, the greater number of phonological system of a language does not give any assurance that there will be less interference. And fifthly, another important factor in determining the degree of possible interference is the identical allophones and their distributions between L1 and L2.

Key words: phonic interference, distinctive features, phonological system differences, language family.

INTISARI

Penelitian ini membahas interferensi fonologis dan fonetis (bunyi) bahasa pertama (L1) yang dilakukan oleh penutur bahasa Turki, bahasa Inggris dan bahasa Melayu ketika belajar bahasa Indonesia sebagai bahasa kedua (L2). Tujuan penelitian ini adalah untuk mengetahui jenis-jenis interferensi bunyi yang dihasilkan oleh penutur dari tiga bahasa yang berbeda dan kemungkinan adanya relasi antara derajat perbedaan sistem fonologi antara L1&L2 dan derajat interferensi bunyi yang terjadi. Pengumpulan data penelitian ini menggunakan metode observasi dan wawancara dengan teknik rekam. Kemudian ditranskripkan dengan simbol IPA dan dianalisis menggunakan teori Interferensi Bunyi dari Weinreich (1979) dan Ciri-Ciri Pembeda dari Schane (1973). Hasil penelitian yang didapat adalah pertama, penutur bahasa Malaysia, Turki dan Inggris memproduksi interferensi bunyi ketika belajar bahasa Indonesia. Ada empat jenis interferensi bunyi yang dihasilkan para pembelajar; penggantian bunyi, perbedaan fonem yang berkekurangan, pengucapan bunyi yang tidak diperlukan, dan penerapan bunyi yang tidak berlaku dari bahasa pertama pada bahasa kedua. Jenis interferensi yang paling banyak terjadi adalah penerapan bunyi yang tidak berlaku dalam bahasa kedua, diikuti oleh penggantian bunyi, pengucapan bunyi yang tidak diperlukan, dan perbedaan fonem yang berkekurangan. Kedua, semakin besar derajat perbedaan bunyi antara L1 dan L2, maka semakin besar pula derajat interferensi bunyi yang terjadi. Ketiga, rumpun bahasa memiliki peran penting untuk menentukan interferensi yang terjadi dalam L2. Keempat, semakin banyak bunyi yang dimiliki suatu bahasa tidak berarti memberikan jaminan bahwa akan terjadi interferensi yang lebih sedikit. Dan kelima, faktor penting yang lain dalam menentukan derajat interferensi bunyi adalah adanya alofon beserta distribusinya yang identik antara bahasa pertama dan bahasa kedua.

Kata kunci: interferensi bunyi, produksi L2, ciri-ciri pembeda, perbedaan bunyi bahasa, rumpun bahasa.

CHAPTER I

INTRODUCTION

This chapter describes background of the study, research problems, objectives of the study, significance of the study, scope of the study, organization of the writing, and definitions of terms.

1.1 Background of the Study

Indonesian is one of the ten most widely spoken languages in the world by the total number of speakers. Since the Minister for Foreign Affairs initiated scholarship program for foreign students to study Indonesian, the number of Indonesian speakers has increased (Denura, 2013; Prasetyo, 2013). The Minister for Foreign Affairs through Darmasiswa and KNB *(Kerjasama Negara Berkembang)* attracts hundreds of foreign students to join this program every year. They are not only from South-East Asian, but also from other countries throughout the world with different background of languages and cultures. On the other hand, The 1945 Constitution of the State of the Republic of Indonesia declares that National Language shall be Indonesian (Chapter XV, article 36) and Law No. 24 of 2009 clearly state that Indonesian shall be used in all educational institutions (article 31.1). Thus, foreign students should learn Indonesian as their second language.

Learning Indonesian as a second language can cause several problems to the learners. Consider the following statement made by Jakobson (1953) in Romaine (1995:1) who said 'bilingualism for me is the fundamental problems of linguistics'. The main problem caused by their first language (L1) is an influence on learning second or target language (L2) (Dulay et al, 1982; Lado, 1957; Weinreich, 1979; Corder, 1994; Brown, 2005). As stated by Lado (1957:2) that individuals tend to transfer the patterns of their first language to the foreign language. The influence from the first language is reflected in language transfer.

The transfer from L1 into L2 can be either positive or negative transfer (Dulay et al, 1982; Lado, 1957). According to Dulay *et al.* (1982:101) positive transfer is a good result of acquiring a new language, because the L2 pattern is similar to the L1. Positive transfer can be called free ride because the learner has no anything new to acquire. For example, a Spanish learner of English does not need to learn the word order because of the identical unmarked case for both languages. Conversely, negative transfer is when L1 and L2 patterns are likely different. Therefore, second language (L2) learning would be more difficult and this causes some errors (Dulay, Burt & Krashen, 1982:101). This positive and negative transfer can occur at various levels such as, phonological, morphological, syntactic, and semantic level.

At phonological level, according to Flege (1987:48) there are three types of sound transfer between an L2 and an L1. The first type is the identical sound, in which there is no difference or the difference is too small to notice. The result of

identical sound is positive transfer since the learners can perceive and produce the utterance accurately (Weinreich, 1953) as cited in Flege (1987:48). The second type is the new sound, in which an L2 sound is totally a new sound related to the L1 phonological system (Flege, 1987:48). The third type is the similar sound, in which an L2 sound has the same IPA symbol representation but differs phonetically (Flege, 1987:48). New and similar sounds may result in negative transfer or interference.

Negative transfer on the first place can lead to misinterpretation on the part of a native speaker. Another result, may be that Indonesian words pronounced by non-Indonesian native speakers will not mean anything for the Indonesian native speakers. On the other hand, the goal of the language learners is to make sure that they can communicate effectively (Brown, 2005). In addition, the most important part of learning a new language relies on pronunciation (Celce-Murcia, Brinton & Goodwin, 1996:3). For that reason, it is necessary to investigate the phonic interference of L1 that occurs in L2 by Turkish, English, and Malaysian speakers when learning Indonesian.

The writer decided to use the term phonic interference because this term is the collaboration of both phonological and phonetic interference (Weinreich, 1979). The writer chose Turkish, Malaysian, and English speakers as the participants of this research based on the sound types of their first languages regarding to Indonesian sounds. Some of Indonesian sounds are entirely new sounds for Turkish speakers, but similar sounds for English speakers, and

identical sounds for Malaysian speakers. The writer is interested in discovering the kinds of phonic interference produced by those three different language speakers. Further, the writer wants to find out whether the degree of phonic interference is also related to the degree of phonological system differences between them. Besides, the writer will investigate the role of language family in determining the possible number of interference.

1.2 Research Problems

This study will identify phonic interference of first language in the spoken second language. The research focuses on foreign students' phonic interference in learning Indonesian as a second language. There are two research problems in this study.

a. What are the kinds of phonic interference produced by Turkish, English, and Malaysian speakers when learning Indonesian as their second language?
b. Is the phonic interference due to the phonological system differences of Turkish, English, and Malaysian compared to Indonesian?

1.3 Objectives of the Study

Based on the research problems, this study has two objectives :

a. To identify the kinds of phonic interference done by Turkish, English, Malaysian speakers when learning Indonesian.
b. To find out the relation between the degree of phonological system differences and the degree of phonic interference

1.4 Significance of the Study

This study will be expected to give both theoretical and practical benefits. Theoretically, this study will enrich the knowledge of phonic interference of first language into second language. Practically, this study will give new insight to those who are interested in phonological issue, especially in first language phonic interference of non-Indonesian native speakers when learning Indonesian as a foreign language.

1.5 Scope of the Study

Since interference is used in various and different contexts, this study discusses interference in phonological and phonetic level in second language learning context. It focuses on the phonic interference of first language such as consonants, vowels, diphthongs, and clusters in second language speech production.

1.6 Organization of the Writing

This study is composed of five chapters and organized as follows. Chapter One describes background of the study, problems of the study, objectives of the study, significance of the study, scope of the study and organization of the writing. In general, this chapter provides the framework of the study to bridge the following chapters.

Chapters Two deals with related literature. It provides previous studies regarding first language phonic interference in second language production and theories used in the study. Those serve fundamental references in analyzing the study.

Chapter Three concerns the research method. It gives the description of the research design, the population and the sample, data collection method, and data analysis procedures.

Chapter Four provides the result and discussion of the phonic interference of the first language into the second language of non-Indonesian native speakers when learning Indonesian.

Chapter Five is conclusion and suggestion. It provides the conclusion of analysis and suggestion for the next researchers.

1.7 Definitions of Terms

a. Phonological interference

   The process in which a speaker's knowledge of the sound system of one language can affect that speaker's perception and production of speech sounds in another language (Odlin, 1989:115).

b. Phonetic interference

When a speaker performs L2 sounds in relation to his L1 sounds, for both articulatory and auditory (Odlin, 1989:113).

c. Phonic interference

This is the collaboration of phonological and phonetic interference. It refers to the phenomenon in which a speaker perceives and reproduces the sounds of the secondary language in connection of the system in his primary language (Weinreich, 1979:14).

d. Second language

It describes as the language that plays as institutional and major role in the community (Ellis, 1994:11-12).

e. Foreign language

It refers to a language that plays minor role in community and is especially learnt in the classroom (Ellis, 1994:11-12).

CHAPTER II

REVIEW OF THE LITERATURE

This chapter consists of two sections. The first section is previous studies and the second section is theoretical framework of this study.

2.1 Previous Studies

Extensive research has already been done in the area of first language interference on the second language. Bada (2001) conducted research entitled "Native Language Influence on the Production of English Sounds by Japanese Learners". This study described the phonological analysis of Japanese speakers learning English as a foreign language. The results of the study suggested that some sounds were discovered to cause some difficulties of production. For example, Japanese learners found it difficult to pronounce the voiced English sounds: /d/, /z/, /l/, /r/, and /ð/. The main reason for these difficulties was caused by native language interference. Besides, some sounds were articulated with much less difficulty by reason of the already-present native language system of phonology.

Islam (2004) investigated L1 influence on the spoken English proficiency of Bengali speakers. The aim of this study was to investigate the influence of Bengali on the spoken English proficiency among Bangladeshi learners. This study collected data from six postgraduate Bangladeshi students with various

IELTS scores from 5, 6, and 7. The result of this study showed that Bengali speakers found difficult to produce /f/, /r/, /ʒ/ and /v/. Besides, two features about phonetics were found to be unsure from the investigation: the insertion of vowel at the beginning of English consonant clusters and the failure to reduce the vowel quality during pronouncing English words. The writer clarified that these two features may be either due to common trends or pronunciation simplification.

Eiampailin (2005) investigated the phonological interference of Swatow in Standard Thai by Chinese speakers in Bangkok. The objective of this research was to study the linguistics features of Swatow dialect that interfere Standard Thai and study the role of education and gender in the interference of Swatow in Standard Thai. This research collected data from twelve informants who are Swatow Chinese speakers living in Bangkok, speaking Swatow as their mother language and over thirty-five years old. The twelve informants were divided into four groups according to their education. The phonological interference observed in this study can be categorized as being four types: phonetic, phonemic, allophonic and distributional. The results of the study were education role has an effect on the interference; that is, more education less interference. Besides, genders do not have an effect on the interference.

Prananingrum and Kwary (2006) conducted research about the L1 influence on the production of L2 sounds among the students at English Diploma Program of Airlangga University. The objective of this study was to find out English consonant and vowel sounds, which are articulated incorrectly by the

students. The writers used an elicitation paragraph to collect the data. There were six informants from English Language Diploma Program for this study. The results of the study showed that there are seven consonants and ten vowels of English that are difficult to be articulated by the informants. The writers explained those difficulties occur mostly because of the interference of their native language and the influence of rapid speech also.

Otoum (2010) conducted research about pronunciation errors made by learners of Spanish as an L3 in the department of Modern languages at the University of Jordan. The objective of this study was to describe and analyze in detail the possible errors in the articulation of segments in Spanish and to trace the influence of L1 and L2. The results of this study suggested that there were inter-lingual and intra-lingual errors. Inter-lingual error took place due to influence of Arabic as L1 and English as L2 phonetic systems. Meanwhile, intra-lingual error is caused by the lack of knowledge that participants had regarding Spanish phonetic system. The writer clarified that if the sounds were available in L1, L2 and L3, then, participants produced correct pronunciations. However, if the sounds were different in L1, L2, and L3, then it caused errors due to negative transfer.

Luo (2014) discussed a study of mother tongue interference in pronunciation of college English learning in China. The purposes of this study were discussing the problem of mother tongue interference in English pronunciation, analyzing the reason and suggesting some solutions to solve the

problems. The results of this study showed that Chinese college students faced difficult to articulate the phoneme [n] with [l], or [f] with [h], or the aspirated sounds with non-aspirated ones in the course of learning English pronunciation. This study suggested that some knowledge of phonology is necessary to discover phones apart from phonemes, English teacher should learn phonetic features of the students' dialect, teachers should help learners with their pronunciation correction practice, and use several appropriate learning strategies to support the students' pronunciation.

Unlike the previous studies, this present study compares phonic interference from three languages, Turkish, English, and Malaysian into Indonesian as the second language. The writer analyzed phonic interference from L1 to L2 by comparing the phonological system of four languages and then tried to find out whether there is any relation between them or not. In addition, the writer investigated language family that has role in determining number of possible interference.

2.2 Theoretical Framework

This section elaborates the theoretical framework of this study. There are some major issues related to phonic interference: (1) Second Language Learning (2) L1 Influence to L2 Acquisition (3) Interference (4) Phonic Interference (5) Distinctive Features (6) Contrastive Analysis (7) Comparison of the Phonological Systems of Turkish, English, Malaysian, and Indonesian.

2.2.1 Second Language Learning

The term 'second language' is relevant to any language learned since the first language is acquired. The concept of second language learning is also related to learning of the following language such as third, fourth, fifth or even foreign languages. Dulay, Burt & Krashen (1982:10) defined second language learning as the activity of language learning since the primary of the first language has been acquired.

Second language is not only related to the host language, but also related to the learning or acquiring any new language in a foreign language context (Dulay, Burt & Krashen, 1982:11). Moreover, Ellis (1997:3) explained second language learning as the process in which the person learns any language other than his first language, inside or outside of the classroom. Moreover, Ellis made the distinction between the second versus foreign language. According to Ellis, (1994:11-12) second language is the language, which plays as institutional and social role in the community. For example, Indonesian as a second language is learnt in Indonesia, English as a second language is learnt in Singapura, New Zealand, Nigeria, and South Africa. On the other hand, foreign language is the language, which plays minor role in community and is especially learnt in the classroom.

According to the explanation above, second language learning is the activity of learning any new language, which plays as institutional and social role in the community, since the first language is acquired.

2.2.2 L1 Influence on L2 Acquisition

It has been supposed that first language (L1) has an influence on second language acquisition (L2), either positive or negative transfer. As declared by Fries in Lado (1957:2)

> Learning a second language, therefore, constitutes a very different task from learning the first language. The basic problems arise not out of any essential difficulty in the features of the new language themselves but primarily out of special "set" created by the first language habits…. Individuals tend to transfer the forms and meanings (…) of their native language and culture to the foreign language and culture.

The influence of the speaker's mother tongue may play a role at all levels within the acquisition of the L2 sound system or phonology. Dickerson (1975) in Corder (1982:96) explained that the acquisition of the phonological system of a second language is a matter of progressively restructuring the mother tongue phonological system in the direction of target language. Foreign accent in L2 speech production however is caused by the interference from the L1. Learners are more likely to interpret sounds encountered in an L2 through the "grid" of their L1 phonology (Trubetzkoy, Wode, in Flege 1995:237). This confirmed that learners divide unfamiliar sounds of the L2 into phonemes and allophones of their L1 phonology.

The difficulty of acquiring the second language depends on the situation of mother tongue or first language. According to Lado (1957:2), that comparable ease or difficulty in acquiring pattern of the target language definitely depends on

the similarity or difference it bore to the mother tongue. Similarity indicated ease of learning and dissimilarity indicated difficulty of learning. Ease of acquiring indicated faster and earlier acquisition, whereas difficulty indicated slower and later in acquiring second language.

Corder (1982:98-99) on the other hand, claimed that the matter of acquisition would be definitely easily affected by the nature of mother tongue and its connection to the target language. He suggested that, some languages are more readily learned than others by speakers of particular mother tongue. In addition, there is a clear connection between speed of acquisition and so-called language family or language distance. The more distant linguistically from the mother tongue, the longer a language takes to acquire. Therefore, the more similar patterns between mother tongue and the target language, the greater role the mother tongue can give in acquiring the target language.

Other factors that influenced the L2 speech production are universal factors and cross-linguistic factors. Universal factors associate with general phonological principles, which are mainly based on the phonetic specification of speech sounds, whereas cross-linguistic factors associate with the level of word stress, rhythm, and intonation (Lowie, 2013:347-348).

Regarding universal factors, as claimed by Flege, there are three potential types of phonetic relationship between L2 and L1 sounds, those are identical, similar, and new. Identical is when there is no difference, or [the difference is] generally too small to detect auditorily between L2 and L1 sounds. Identical L2

sounds are transcribed with "the same IPA symbol used to represent a sound in the L1" (Flege, 1997:17), and they are supposed to be perceived and produced correctly by L1 learners, "as the result of a process referred to as "positive transfer"" (Weinreich, 1953, as cited in Flege, 1997:17).

Secondly, similar sound can be represented by the similar IPA symbol as the L1 sound – and audible – differences between the two (Flege, 1997:17). Flege pointed out that the biggest problem for L2 learners in perceiving and articulating L2 sounds is the sounds that are phonetically similar. In agreement with Flege, Best & Tyler (2007), Kuhl (1992) confirmed that L2 sounds that are phonetically or phonologically similar in L1 and L2 are possible to be perceived as "functionally equivalent" to remaining to L1 sounds. In order that, similar sounds are more likely to be the biggest problem for learners both in perceiving and producing sounds (Lowie, 2013:348).

L2 sound can be totally new in connection to the L1 sound system. As stated by Flege that a new L2 sound has no obvious phonetic "counterpart" in L1 sound inventory and it differs in perception and production from the sound(s) in L1 that most closely resemble(s) it. Nonetheless, Flege claimed that unlike similar sound, new sound is represented by an IPA symbol that is not applied for any L1 sound (1997:17). A common view regarding to these three types of phonetic relation between L1 and L2 sounds was that:

> 1) an L2 sound that is "identified" with a sound in the L1 will be replaced by the L1 sound, even if the L1 and L2 sounds differ phonetically; 2) contrats between sounds in the L2 that do not exist in the L1 will not be honored; and 3) contrasts in the L1 that are not found in the L2 may nevertheless be produces in the L2 (Weinreich as cited in Flege, 1995:235).

Flege (1995) then gives suggestion about producing L2 sound accurately. He explained that there are three points, which are required in producing L2 sound accurately. First, an accurate appraisal of the properties that differentiate the L2 sounds from one another, and from sounds in the L1. The second is the storing and structuring of this information in long-term memory. And the last is learning of gestures with which to reliably reproduce the represented L2 sounds (Flege, 1995:236).

2.2.3 Interference

The term 'transfer' is officially different from the term 'interference'. Some linguists, for example, Kellerman (1987:3) in Ellis (1994:301) stated that transfer is "those processes that lead to the incorporation of elements from one language into another". Accordingly, transfer refers to the influence of first language on second language. Likewise, Odlin (1989) introduced this 'working definition' of transfer: "Transfer is the influence resulting from the similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired." (Odlin, 1989:27). Besides, behaviorism psychologists claimed 'transfer' referring to the phenomenon in which L1's knowledge is spread out to L2 in positive and negative ways.

From the behaviorism psychologists' definition, we discover two terms, positive and negative transfer. According to Dulay, Burt & Krashen (1982:101) positive transfer is a good result in acquiring a new language, because the L2 pattern is similar to L1 pattern. In line with Dulay *et al.,* Brooks (1960) in Ellis (1994:300) defined positive transfer as similarity between L1 and L2 pattern, so L2 acquisition could take place easily. In addition, Wardhaugh (in Odlin, 1989:130) offers simply definition of positive transfer: "where two languages were similar, positive transfer would occur". Conversely, where they were likely different, negative transfer would occur. Besides, negative transfer is when the L1 pattern is likely different from the L2 that is being acquired. Therefore, second language (L2) acquisition would be more difficult and this causes some errors (Dulay, Burt & Krashen, 1982:101). Likewise, negative transfer occurs when the L1 and L2 pattern are different, so L2 acquisition could cause difficulty and errors. Errors prevented the formation of the correct target-language habits. Therefore, negative transfer is often mentioned **interference.**

As explained by Dulay, Burt & Krashen, interference has two different points of view. The first, psychological or behaviorist claimed interference as the influence from old habits when new ones are being acquired. The second is sociolinguistic point of view where they consider interference as "the language interaction… that occur when two language communities are in contact" (1982:98).

Interference is also a framework of language contact. Romaine explains interference as a product of the bilingual person's use of more than one language in daily communication (1989:51). To make the distinction between interference and borrowing, Mackey saw interference as contingent and individual, while borrowing is collective and systematic (Romaine, 1989:52).

Another popular concept of interference has been defined in the context of second or foreign language learning. Thus, interference is identified when the utterances produced in a second or foreign language (L2) appear to be influenced by the learner's first language (L1) as stated by Brown as follows

> It has been common in second language teaching to stress the role of interference- that is, the interfering effects of the native language on the target language. It is of course not surprising that this process has been so singled out, for native language interference is surely the most immediately noticeable source of error second language learners… interference of the first language in the second is simple a form of generalizing prior first language experiences and applies them incorrectly. (Brown, 2005:97)

To the concept cited above, interference is equal to overgeneralization, which is referred to as an error in using an L2 for an effect of L1 uses. Based on this, it is not interference when a bilingual borrows some words from a language into his/her uses of another language or when the bilingual switches from one language to another, or mixes the languages in a single utterance. Furthermore, Hartman and Stork (in Jendra, 2010:95) defined interference as errors by carrying over the speech habits of the first into the second language.

When learners are speaking in L2, they tend to rely on their L1 structures to produce the utterances. If the structures of the two languages are different, then the influence of L1 produces errors in the L2. In other words, errors found in the L2 are indicating some interference of the L1 on the L2.

2.2.4 Phonic Interference

Phonic interference is the phenomenon when a bilingual recognizes and reconstructs the sounds of second language in connection with his first language. Weinreich (1979:14) explained that interference occurs when a bilingual identifies a sound in second language with the one in his first language. He connects it with the phonological system of his first language when he reproduces it. Weinreich (1979:18-19) offers four general patterns of interference that might be found between any two phonetic rules. These are: substitution, under-differentiation, over-differentiation, and re-interpretation.

Substitution is the most general pattern of phonic interference that occurs when phonemes of first language are similar with the ones in second language but have different phonetic realizations or different pronunciation (Weinreich, 1979:19). Likewise, L1 and L2 contrasts are similar, but different phones are used to show the contrast in each language, and when the pronunciation of first language is carried over into second language. Substitution is the type of interference described as a foreign accent. For example, the phonemes (/t/, /d/) are alveolar stops in English, but those are dental fricatives in Farsi. Therefore, in order to maintain a degree contract between the dental and alveolar phonemes in

English, Farsi speakers tend to substitute alveolar stops (/t/, /d/) for the dental fricatives (Yarmohammadi, 1969, as cited in Flipsen, 1992:213).

Under-differentiation is a type of interference when the first language lacks a contrast that exists in second language. As explained by Weinreich, under-differentiation occurs when two sounds of the L2 are not distinguished in the L1 (1979:18). In other words, two L2 phonemes are not contrastive in L1 and the speaker treats them as if they were one phoneme. It occurs because different phonetic rules between two languages. For example, Japanese speakers when learning English often have difficulty with the liquid consonants (/r/, /l/). In Japanese, /r/ and /l/ are similar, a single phoneme, and its articulation is actually represent of the two (Cheng, in Flipsen, 1992:213). Therefore, when producing liquid /r/, /l/ in English, Japanese speakers tend to use either liquid /r/ or /l/. The influence of this interference may involve failure to communicate adequately. As stated by Wolfram, under-differentiation may be more likely serious than errors caused by the other three interference patterns (Flipsen, 1992:213).

According to Weinreich, over-differentiation deals with the imposition of phonemic distinctions from the L1 on the sounds of the L2, where they are not necessary (1979, p. 18). Likewise, an L1 contrast is applied contrastively to the L2 in which they are not normally contrastive. For example, unaspirated voiceless bilabial stop [p=] and its aspirated counterpart [p^h] are contrastive in Hindi, whereas [p=] and [p^h] are allophones of /p/ in English (Wolfram, 1986, in Flipsen, 1992:213).

Re-interpretation of distinction occurs when bilingual creates differentiations in the L2 in relation to the rules, which are similar in the L1. In other words, this phenomenon takes place when a bilingual distinguishes phonemes of the L2 by features which in that system are not follow the usual L2 pattern, but which are relevant in his L1 (Weinreich, 1979:18). As an example, an Italian speaker might pronounce the double consonants when articulating English words such as 'Patty', as /patti/ in relation to the rules of Italian (Romaine, 1989:53).

2.2.5 Distinctive Features

Since the present study is related to the phonological aspect, it must be connected with the distinctive features theory, which has the smallest features of the sounds. Schane (1973:26) discussed the features and the most appropriate terms about the segments for similarities and differences. He, then, declared three functions that must be found generally in the appropriate features. The first is a phonetic function, or the capability to describe systematic phonetics. The second is, a phonemic function, the capability to differentiate lexical items at the more abstract level. And the last is, they interpret natural classes. For those reasons, Schane (1973:25-36) defined the appropriate features into eight features; binary features, major class features, manner features, place of articulation features, body of tongue features, subsidiary features, prosodic features, and segment redundancy.

2.2.5.1 Binary Features

Binary features are related to opposite characteristic (plus and minus) to see whether the attribute is present or not, such as [+voiced] for voiced and [-voiced] for voiceless. Binary system has the purpose to show members of pairs, such as voice-voiceless, nasal-oral or rounded-unrounded.

2.2.5.2 Major Class Features

Major class features have three features: [syllabic], [sonorant], and [consonantal]. [Syllabic] feature distinguishes the role a segment plays in the level of the syllable. Generally, consonants are [-syllabic], while vowels are [+syllabic]. Also, this feature has advantage to characterize syllabic nasals and liquids [+syllabic] from their non-syllabic counterparts.

Another feature is [sonorant]. This feature [sonorant] is related to the resonant quality of a sound. For instances, vowels are always [+sonorant] same as nasals, liquids, and semivowels. By contrast, the obstruents, stops, fricative, affricates and laryngeal glides are [-sonorant].

The next feature is [±consonantal], related to a narrowed constriction in the oral cavity. For example, stops, fricative, affricates, nasals, and liquids are [+consonantal]. On the other hand, vowels, semivowels, and laryngeal glides are classified as [-consonantal]. The table presented a contrast between [syllabic], [sonorant], and [consonantal].

	Oral cavity obstruents	Nasals, Liquids	Syllabic nasals, Liquids	Laryngeal glides	Semi-vowels	Vowels
Syllabic	−	−	+	−	−	+
Sonorant	−	+	+	−	+	+
Consonantal	+	+	+	−	−	−

(Schane, 1973:27)

2.2.5.3 Manner Features

Manner features are proposed to distinguish obstruents, stops, fricatives, and affricates, and distinguish nasals from liquids and for the latter, laterals from non-laterals. Among the obstruents are those with continuous frication throughout ([+continuant]) - the fricatives, and those beginning with total occlusion ([-continuant]) - the stops and affricates. [continuant] also distinguishes *?* [-continuant] from *h* [+continuant]. Affricates and stops have different released. Affricates have a delayed release [+delayed release], whereas stops are release continuously ([-delayed release]).

The other manner features is strident, to distinguish among the continuants. Strident is related to the outgoing air hitting the teeth or the uvula. Labiodental *f*, alveolar *s*, palate-alveolar *š*, and uvular *X* are strident. Besides, bilabial ϕ, dental θ, palatal *ç*, and velar *x* are non-strident. The delayed affricate release is always strident. Another manner features are nasal and lateral. These features differentiate various of the sonorant consonants.

	t	t^{θ}	t^{s}	θ	s	?	h
Sonorant	−	−	−	−	−	−	−
Consonantal	+	+	+	+	+	−	−
Continuant	−	−	−	+	+	−	+
Delayed release	−	+	+				
Strident		−	+	−	+		

	y	n	l	r
Sonorant	+	+	+	+
Consonantal	−	+	+	+
Nasal		+	−	−
Lateral			+	−

(Schane, 1973:29)

2.2.5.4 Place of Articulation Features

Four principal places for consonant articulation as claimed by Chomsky and Halle (in Schane, 1973) are labial, dental palato-alveolar, and velar, based on whether the constriction is at the extreme forward region of the oral cavity (the anterior consonants) or more retracted (the nonanteriors), and additionally, whether the articulator is the blade of the tongue (the coronals) or some other articulator (the noncoronals).

	p	t	č	k
Anterior	+	+	−	−
Coronal	−	+	+	−

(Schane, 1973:30)

Labials and dentals are the [+anterior] consonants, whereas velars and palato-alveolars are the [-anterior] consonants. On the other hand, labials and velars are the [-coronal] consonants, while dentals and palato-alveolars are the [+coronal] consonants.

2.2.5.5 Body of Tongue Features

In the vowel classification, the parameters are high, mid, low, front, back, rounded, and unrounded. The parameters relating to backness and rounding are of course binary.

	i	ü	u	ɨ
Back	−	−	+	+
Round	−	+	+	−

(Schane, 1973:30)

Since, there is only two degrees, plus (+) and minus (-) to differentiate a single feature, there must be two features conjointly to specify or differentiate three degrees, such as high, mid, and low. For that reason, Schane decided *high* and *low* as the degrees of independent features.

	High Vowels	Mid Vowels	Low Vowels
High	+	−	−
Low	−	−	+

(Schane, 1973:31)

Semivowels are similar to high vowels, except for syllabicity. As a result, the features [high], [back], and [round] will also distinguish the numerous semivowels. These features, further also characterize the labials and palatals consonants.

	p	p^y	p^w	t	t^y	t^w	k	k^y	k^w
Anterior	+	+	+	+	+	+	−	−	−
Coronal	−	−	−	+	+	+	−	−	−
High	−	+	+	−	+	+	+	+	+
Back	−	−	+	−	−	+	+	−	+
Round	−	−	+	−	−	+	−	−	+

	Palatal	Velar	Uvular
Anterior	−	−	−
Coronal	−	−	−
High	+	+	−
Back	−	+	+

(Schane, 1973:31)

2.2.5.6 Subsidiary Features

There are four principal kinds of subsidiary features, such as, tense, voiced, aspirated, and glottalized. The feature [tense] occurs with both vowels and consonants. Meanwhile, the feature [voiced] occurs with all types of segments, although it is more rare for sonorants to have voicing differences. Besides, the features [aspirated] and [glottalized] are generally used with consonants, and most of the time only with obstruents.

2.2.5.7 Prosodic Features

There are two kinds in the features. Those are [stress] and [long]. [+stress] for stressed vowel and [+long] of course, for long segments.

2.2.5.8 Segment Redundancy

Every segment has an attribute stated for each feature. However, some of particular attributes are predictable on the main attributes for other features. Accordingly, the matrix contains a certain amount of redundancy. For example, a segment which is [+low] is always [-high], a segment which is [+high] is always [-low], a segment which is [+back] is always [+rounded] and a segment which is [-back] is always [-rounded].

2.2.6 Contrastive Analysis

A differentiation of students' L1 and L2 is also known as contrastive analysis. Contrastive analysis reveals that the acquisition of second language is basically affected by the pattern or the structure from first language. Two languages or more can be contrasted to discover both the similarities and the differences between them (Fisiak, 1980:1). Therefore, errors in L2 could be predicted by comparing the differences between learners' L1 and L2. In other words, the potential areas of difficulty in L2 learning can be identified with a contrastive analysis. Contrastive analysis has been introduced by Lado (1957:2), who stated:

> Individuals tend to transfer the forms and meanings and the distribution of forms and meanings of their native language and culture to the foreign language and culture — both productively and when attempting to speak the language and to act in the culture and receptively when attempting to grasp and understand the language and culture as practiced by natives.

The concept cited above was the root of hundreds of empirical studies in contrastive analysis in language contact setting (Gass & Selinker, 1994:1). As constructed by Lado (1957:2), who stated that the differences between the first and the second language cause any difficulties in acquiring a second language. Further, he confirmed that the similar features between the first and the second language will be easy to learn by the students, whereas the different features of L1 and L2 will be difficult for them to acquired. In this regards, the degree of difficulty associated with the number of differences between two patterns in L1 and L2.

Regarding to phonological contrastive studies, as stated by Lado (1957:13), there are three questions that must be submitted. Firstly, does the L1 have a phonetically similar phoneme? Secondly, are the allophones of the phonemes similar in both languages? Thirdly, are the phonemes and their allophones similarly distributed?

Further, Ellis (1994:307) declared four stages of procedure in contrastive analysis. The first stage is description, which is the very basic stage in contrasting two languages. In this procedure, the analyst should clearly describe the aspects of the languages through the same linguistic framework. For example, the analyst

describes phonological system of Russian and Arabic with structural phonology. The second stage is selection, in which the analyst decides what element is to be compared with what element. Besides, the compared elements in two languages must be equivalent in some aspects, for instance comparison of consonants and vowels chart in Russian and Arabic to figure out their phonetic variants. The third stage is comparison, in which the analyst compares two equivalent systems in order to discover similarities and differences between two languages. For example, the analyst compares consonants inventory of two languages and discovers the consonants that are dissimilar between them. Moreover, the analyst can compare the allophones and the distributions of a phoneme in various positions, such as initial, medial, and final positions. The last stage is prediction, in which the analyst makes prediction area of errors or difficulty that learners may face when learning second language.

2.2.7 Comparison of The Phonological Systems of Turkish, English, Malaysian, and Indonesian

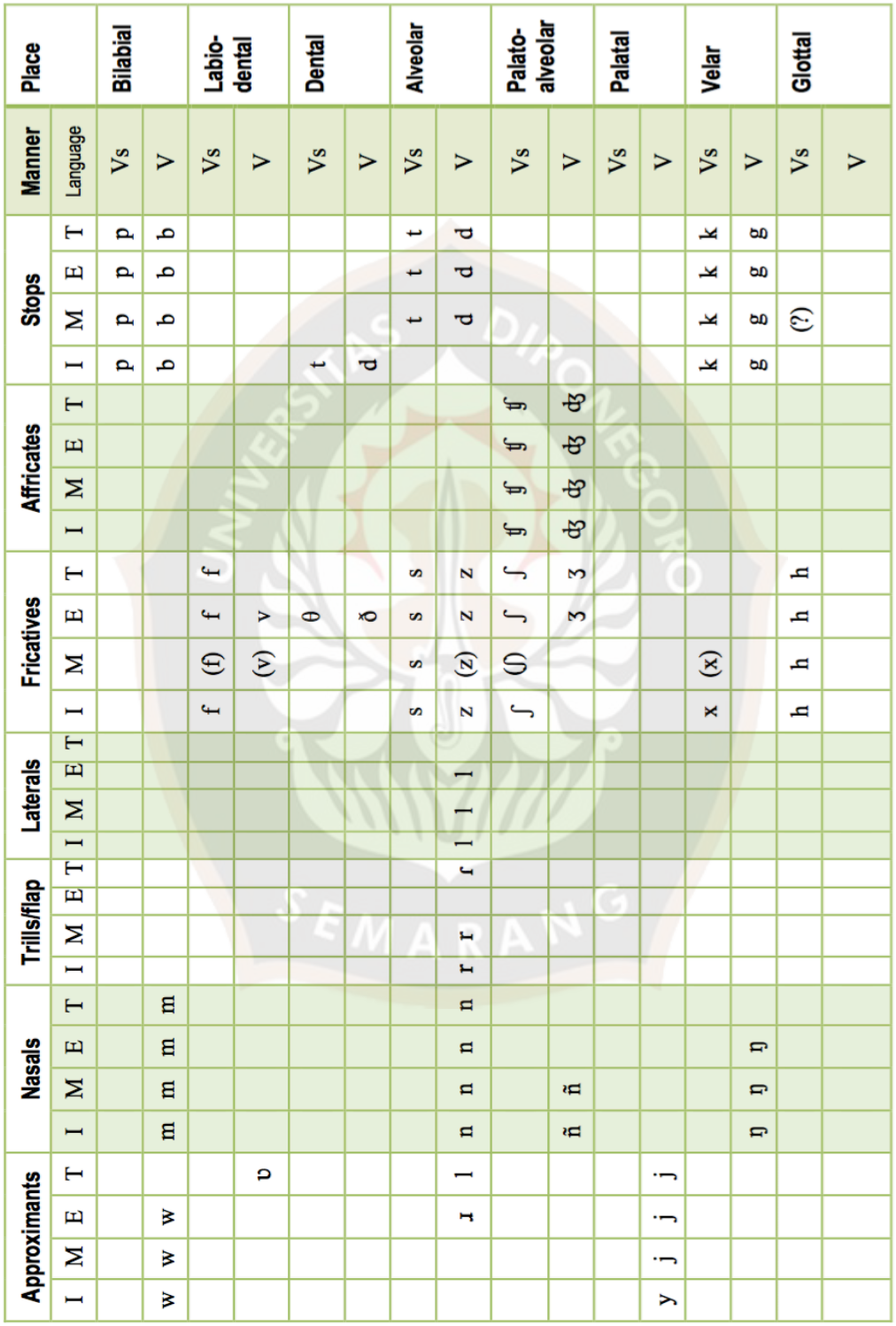
This part will present the consonants and vowels comparison (contrast) in Turkish, English, Malaysian, and Indonesian. Turkish consonants and vowels inventory is based on *Turkish Phonology and Morphology* (Yavuz & Balci, 2011), English phonemic inventory taken from *English Phonetics and Phonology* (Roach, 1998), Malaysian sounds are from *Standard Malay* (Clynes & Deterding, 2011), and Indonesian phonological system is based on *Fonologi Bahasa Indonesia* (Muslich, 2008). I will start this part with the explanation about

consonants comparison of these four languages. Afterwards, the vowels contrast will be presented.

2.2.8.1 Consonants Contrast

The table below displays all of consonant members in Turkish, English, Malaysian, and Indonesian according to the manner and the place of articulation.

Table 2.1 Consonants Contrast in Turkish (T), English (E), Malaysian (M), and Indonesian (I)



Place		Bilabial		Labio-dental		Dental		Alveolar		Palato-alveolar		Palatal		Velar		Glottal	
Manner	Language	Vs	V	Vs	V	Vs	V	Vs	V	Vs	V	Vs	V	Vs	V	Vs	V
Stops	T	p	b					t	d					k	g		
	E	p	b					t	d					k	g		
	M	p	b					t	d					k	g	(?)	
	I	p	b			t	d							k	g		
Affricates	T									ʧ	ʤ						
	E									ʧ	ʤ						
	M									ʧ	ʤ						
	I									ʧ	ʤ						
Fricatives	T			f	f			s	z	ʃ	ʒ					h	h
	E			f	v	θ	ð	s	z	ʃ	ʒ					h	h
	M			(f)	(v)			s	(z)	(ʃ)				(x)		h	h
	I			f	v			s	z	ʃ	ʒ			x	ɣ	h	h
Laterals	T																
	E								l								
	M								l								
	I								l								
Trills/flap	T								ɾ								
	E																
	M								r								
	I								r								
Nasals	T		m						n								
	E		m						n						ŋ		
	M		m						n		ñ				ŋ		
	I		m						n		ñ				ŋ		
Approximants	T				ʋ				l				j				
	E		w						ɹ				j				
	M		w										j				
	I		w										y				

Vs : Voiceless V: Voiced T : Turkish E: English M : Malaysian I : Indonesian

Adapted from Yavuz & Balci (2011:2), Roach (1998:62), Clynes & Deterding (2011:260), Muslich (2008:95).

Stops

Turkish, Indonesian and English stop consonants consist of six phonemes. They are /p/, /b/, /t/, /d/, /k/, and /g/. Meanwhile, Malaysian has seven stop consonants, /p/, /b/, /t/, /d/, /k/, /g/, and /?/. Turkish, Malaysian, and Indonesian stops have single allophones, whereas English voiceless stop consonants have two allophones, aspirated and unaspirated sounds. For example, the allophones of /p/ are [p^h] in [p^hIn] and [p] in [di:p]. The stop consonants of English can occur in all positions whether initial, medial and final positions. On the other hand, Turkish, Malaysian, and Indonesian stops occur in all positions, except voiced stop consonants. The voiced consonants are devoiced in final positions.

Affricates

Turkish, English, Malaysian, and Indonesian affricates consist of two phonemes, /ʧ/ and /ʤ/. The affricates in Turkish, English, Malaysian, and Indonesian have single allophones. Besides, the distribution of English affricates can appear in initial, medial, and final positions for both voiced and voiceless phonemes. On the other hand, Turkish, Malaysian and Indonesian affricates occur in initial and medial positions especially the voiced phonemes, whereas voiceless ones can occur in all positions.

Fricatives

The fricatives of Turkish consist of six phonemes: /f/, /s/, /z/, /ʃ/, /ʒ/, /h/. On the other hand, English has nine fricatives, /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/, /h/. Malaysian has seven fricatives /f/, /v/, /s/, /z/, /ʃ/, /x/, /h/. On the other hand, Indonesian fricatives consist of six phonemes, /f/, /s/, /z/, /ʃ/, /x/, and /h/. The fricatives in those four languages have single allophones. Nevertheless, the fricatives of Turkish, English, Malaysian, and Indonesian can occur in initial, medial, and final positions, except Turkish /h/ in final positions, and Indonesian /z/, /x/, /ʃ/ in final positions.

Nasals

There are only two nasals in Turkish, /m/ and /n/. Meanwhile, English has three nasals, /m/, /n/, and /ŋ/. Malaysian and Indonesian have four nasals, /m/, /n/, /ŋ/, and /ñ/. The Turkish sound [ŋ] can be regarded as an allophone of /n/ since its only occurs before /k/ or /g/ and it never occurs initially. The phonemes /m/, /n/, /ŋ/ can occur in initial, medial, and final positions both in Malaysian, and Indonesian. The phoneme /ŋ/ in Turkish does not appear in final positions, meanwhile English /ŋ/ never occurs in initial positions. On the other hand, the palatal nasal /ñ/ of Malaysian and Indonesian only appear in initial and medial positions.

Flap/tap/lateral

There is only one flap phoneme. The Turkish ‘r’, /ɾ/ is a flap whereby the tip of the tongue makes a single tap against the alveolar ridge. Meanwhile, the member of English, Malaysian and Indonesian lateral is the phoneme /l/. The phoneme /l/ in English has two allophones, clear /l/ and dark /l/, such as ‘ball’ [bol], ‘real’ [ɹi:ɬ]. These laterals phoneme can occur in all positions whether in Turkish, English, Malaysian, and Indonesian. The Indonesian and Malaysian phoneme /r/ on the other hand, is a trill sound. However, phoneme /r/ in Indonesian is pronounced clearly whenever it occurs, whereas Malaysian /r/ is always disappear in final positions and syllables.

Approximants

Turkish approximant consists of three consonants, labiodental /ʋ/, palatal /j/, alveolar /l/. Meanwhile, English approximants have three members /w/, /r/, and /j/. Malaysian and Indonesian approximants consist of two phonemes, /w/ and /y/. Turkish /l/ has two allophones, clear [l] which occurs elsewhere and dark [ɬ] which occurs in final positions. The phonemes /ʋ/, /j/ in Turkish, occur in initial and medial positions. Similarly, the phonemes /w/, /y/ or /j/ in English, Malaysian, and Indonesian appear in initial and medial positions. And the rest, English /r/ in final positions is pronounced rarely or dropped.

2.2.8.2 Vowels Contrast

The table below presents all of vowel members in Turkish, English, Malaysian, and Indonesian according to the height of the tongue and lip rounding.

Table 2.2 Vowels Contrast in Turkish, English, Malaysian and Indonesian

Backness		**Front**		**Central**		**Back**	
Height	Langu-age	Ur	R	Ur	R	Ur	R
Height	T	i	ʏ			ɯ	u
	E	i					u
	M	i					u
	I	i					u
Mid	T	e	œ				o
	E	e		ʌ, ə			ɔ
	M	e		ə			o
	I	e		ə			o
Low	T			a			
	E	æ		a		ɑ	
	M			a			
	I			a			

Adapted from Yavuz & Balci (2011:37), Roach (1998:14-15), Clynes & Deterding (2011:263), Muslich (2008:95).

T: Turkish M: Malaysian Ur: Unrounded
E: English I: Indonesian R: Rounded

Height

Height vowels consist of height front vowels and height back vowels. I will start the explanation from height front vowels of four languages, and then will continue to height back vowels. There are two kinds of height front vowels in

Turkish, height front unrounded vowel /i/ and height back rounded vowel /ʏ/, for example, *isim* [isim] and *üzüm* [ʏzʏm]. Meanwhile, English, Malaysian, and Indonesian only has one type of height front vowels, that is height front unrounded vowel /i/. The difference is English /i/ has one variant /ɪ/ that may be found in open syllables, for example, bead /bi:d/ and live /lɪv/. Meanwhile, Malaysian and Indonesian /i/ have two allophones. The first allophone is short vowel [ɪ] occurs in closed syllables, and the second is [i] occurs in open syllables, such as titik [titɪk]. Those all vowels can occur in all positions whether initial, medial or final positions.

Another category of height vowels is height back vowels. In Turkish, there are height back unrounded vowel /ɯ/ and height back rounded vowel /u/, for instance *sandık* [sandɯk] and *kulu* [kulu]. On the other hand, English, Malaysian, and Indonesian height back vowel is only the phoneme /u/. In English, the phoneme /u/ has one variant /ʊ/ that appears in closed syllables. Malaysian and Indonesian /u/ have two allophones, [u] occurs in open syllables, and [ʊ] in closed syllables. All the height back vowels of four languages can appear in all positions except English /u/ in initial positions.

Mid

Mid vowels consist of mid front vowels, mid central vowels, and mid back vowels. Regarding to mid front vowels, Turkish has two sounds of this, mid front unrounded [e] and mid front rounded [œ]. The words contain this vowel for example, *ekmek* [ekmek] and *övün* [œʊyn]. Next, English, Malaysian and

Indonesian only has one member of mid front vowel, that is /e/. English vowel /e/ has single allophone, whereas Malaysian and Indonesian /e/ have two allophones, i.e [ɛ] in final closed syllables, and the other, [e] occurs in open syllables and in non-final closed syllables. English vowel /e/ occupies in word initial and medial positions, while Malaysian and Indonesian /e/ occur in three positions, initial, medial, and final positions.

Another type of mid vowels is mid central vowels. Turkish has no members of mid central vowels, whereas English has two members; mid central /ʌ/ and /ə/. Those English mid central vowels can appear in all positions. The difference is the phoneme /ə/ has two variants, long vowel and short vowel. For example, 'curt' [k^hə:t] and 'comfort' [k^hʌmfət]. On the other hand, Malaysian and Indonesian mid central vowel contain the sound [ə] only. Malaysian /ə/ can occur in all positions, whereas Indonesian Indonesian /ə/ occurs in initial and medial positions.

The last category is mid back vowels. Turkish has a mid back rounded vowel /o/, which can occur in all positions, such as *orman* [orman] and *koro* [ko'ro]. Meanwhile, English mid back vowel is the phoneme /ɔ/, which occupies in any positions and has two variants, long vowel [ɔ:], and short vowel [ɔ], for instance 'dawn' [dɔ:n], while 'don' [dɔn], 'port' [pɔ:t], while 'pot' [pɔt]. Malaysian and Indonesian mid back vowel contain the phoneme /o/, which appears in any positions. This phoneme has an allophone which occurs in open syllables and similar like English [ɔ].

Low

There are three categories of low vowels; low front vowel, low central vowel, and low back vowel. Low front vowel only found in English. English has one member of low front vowel, that is /æ/. This vowel only occurs in word initial and middle positions, for example abstract [**æ**bstrækt] and land [lænd].

The second category is low central vowel. Turkish, English, Malaysian, and Indonesian have the same vowel of this category, that is /a/. This vowel can appear in initial, medial, and final positions in Turkish, English, Malaysian, and Indonesian. On the other hand, Malaysian /a/ has antepenultimate /a/ which is generally changed to /ə/. The examples of the distributions of the sound [a] can be found in the words para [para], abla [abla], hard [ha:d], card [k^{h}a:d], cara [cara].

The last category is low back vowel. Low back vowel can be found only in English. English has the sound [ɑ] as low back vowel. This sound occurs in initial, medial, and does not emerge in final positions. For example, off [ɑf], cross [crɑs], and sock [sɑk].

CHAPTER III

RESEARCH METHOD

In this chapter, the writer would like to discuss the description and explanation of the research method and the procedures of collecting data. It describes research design, population and sample, data collection methods, and data analysis procedures.

3.1 Research Design

This research was conducted by using qualitative approach. Creswell (2014:69) defines qualitative approach as "approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem". Qualitative research tries to understand and interpret human and social behavior by participants in a particular social setting. This approach involves asking participants broad, general questions, collecting the views of participants, and analyzing the collected information for exploring and understanding a central phenomenon. The result of qualitative research design according to Ary *et al.* is a narrative report, that you can understand the social reality experienced by the participants (2009:23). From the explanation above, qualitative research is a research design that involves exploring the views of informants, analyzing the information to understand the human and social behavior in a specific situation. In

order to attain the purposes of the research, the present study adapted aspects and features of a case study research design.

Case study is a kind of qualitative research design that focuses on a single unit, such as one individual, one group, one organization, or one program (Ary *et al.* 2009:29). The "unit" can be an individual, a group, a site, a class, a policy, a program, a process, an institution, or a community. It is a single occurrence of something that the researcher is interested in examining. According to Ary *et al.* (2009:452) case studies can answer descriptive questions or attempt to explain why something happened by looking at a process. They are particularistic (focused on a particular phenomenon, situation, or event), descriptive (providing as an end result a thick rich description), and heuristic (focused on providing new insights) (Ary *et al.,* 2009:452). Considering the aspects and features of a case study design, it can be inferred that adopting a case study research design will prove effective in realizing the purposes of the present study. The purposes of the present study are to identify the kinds of phonic interference of first language into second language and also to find out if there is any relation between language family and the number of phonic interference.

3.2 Population and Sample

A population is defined as all unit of analysis such as class of people, events or objects (Ary *et al.*, 2009:148). Neuman (2007:46) says that population refers to the large pool of cases that the researcher wants to study. On the other hand,

sample is the unit of analysis in a population (Neuman, 2007:46). The population of this study is 25 non-Indonesian native speakers from two different universities, Sebelas Maret University and Unika Sugiyapranata. Considering the purpose of this study, the sample or the participants were selected by purposive sampling. As explained by Ary *et al.* that qualitative study is more typically to use nonrandom sampling or purposive sampling based on particular criteria (2009:142). The participant's criteria of this study are: first, they are native speakers of Turkish, English or Malaysian. Second, age range is from 22 to 25 years. Third, they are attending second semester of Indonesian Language for Foreigners Course, all considered to be at the beginner level. The writer decided to choose those languages as L1 in order to discover whether the number of phonic interference is also related to the language family between L1 and L2. Those languages are from three different language families. Turkish is the member of Turkic languages, whereas English is the part of Indo-European languages, Malaysian and Indonesian are the members of Austronesian languages. Totally, there are six students as the participants of this research. They are two students from United States of America, two students from Turkey, and two students from Malaysian.

3.3 Data Collection Methods

According to Ary *et al.* the most common data collection methods used in qualitative research are observation, interview, and document analysis (2009:431). Further, Creswell (2014:603-605) mentioned four kinds of data collection

procedures of qualitative study. There are a qualitative observation, qualitative interviews, qualitative documents, and qualitative audio and visual materials. In order to investigate phonic interference of first language and its possible relation with language family, the present study involved the data collection from different methods (observation and interviews).

Observation is the primary method for obtaining data in qualitative research. Observation method was used in words pronunciation from word list with recording technique. The word list consists of 250 Indonesian common words, but it contains numerous patterns of Indonesian sounds such as consonants, vowels, diphthongs, and clusters. The words in word list were arranged based from *Field Linguistics* (Samarin, 1967) in collaboration with *Fonologi Bahasa Indonesia* (Muslich, 2008). Samarin (1967:47) offered a guide to construct lexical materials or word lists in the best way that one can obtain, such as parts of human anatomy, clothing and personal adornment, tools, furniture, geographical and astronomical items, flora and fauna, foods, colors, textures, shapes, measurement of time, space, volume, weight and quantity, diseases and medicines, games, and classifiers. In addition, Samarin clarified that the recommended word list contains approximately 200 words (1967:218). Besides, the outstanding features of a good corpus are varied and complete (Samarin, 1967:60-67). For that reason, the word list in this research consists of 250 Indonesian common words from different word classes and contains various patterns of Indonesian sounds such as consonants, vowels, diphthongs, and clusters (Appendix 1).

The writer asked the two speakers of Turkish, Malaysian, and English to pronounce the words from word list and then recorded it. Each speaker pronounced the word list three times in different situations. Furthermore, in case the two native speakers of particular language pronounce an Indonesian word differently – appropriate and inappropriate way- then the writer will choose the inappropriate one as the data since his L1 still gives an influence on his L2 pronunciation. Therefore, the data of this present study are the phonetic transcription of 250 words that contain phonic interference from Turkish, Malaysian, and English native speakers.

Another method is interview. Interview is used to gather data from people about opinions, beliefs, and feelings about situations in their own words (Ary *et al.* 2009:438). Interviews may deliver information that cannot be investigated through observation. Interviews also can be applied to verify observations. Ary *et al.* summarized three kinds of interviews method. There are unstructured, structure, and semi-structured interview (2009:438). Unstructured interview is a conversational type of interview in which the questions arise from the situation so that the subjects may not even realize they are being interviewed. Meanwhile, structure interview has structured questions. Semi-structured interview on the other hand, the questions are structured but the interviewer can modify the format of questions during the interview process. Considering the statement made by Creswell that qualitative research involved unstructured and generally open-ended questions (2014:604). In the present study, the writer conducted unstructured interview with Turkish, Malaysian, and English speakers as one of the method of

data collection. Further, the interview method was intended to elicit views and opinions from the participants for the need of triangulation.

3.4 Data Analysis Procedures

The next step after all data have been collected is data analysis. Data analysis is the most complex and important phase of qualitative research. According to Ary *et al.* (2009:481) data analysis in qualitative research involves comprehend the phenomenon under study, synthesize information and explain relationship, theorize about how and why the relationships appear as they do, and reconnect the new knowledge with what is already known. This present study is also categorized as contrastive analysis study, in which the writer compares the phonological system in four languages. For that reason, the writer adapted the four stages of procedure in contrastive analysis. These four stages are description, selection, comparison, and interpretation.

The first step of data analysis is transcribing the data because the data were recorded in voice recorder. The data were transcribed and analyzed by using IPA symbol. The writer described and compared Turkish, English, Malaysian, and Indonesian sound systems to find out the degree of phonological system differences. Next, the writer discovered and classified the interference of consonants and vowel sounds made by informants to figure out the degree of phonic interference. The degree of phonic interference can be found by contrasting the Indonesian phonetic transcription - based on *Kamus Besar Bahasa*

Indonesia (KBBI) Fourth Edition and *Fonologi Bahasa Indonesia* (Muslich, 2008) - with the informant phonetic transcription. Lastly, the writer explained and interpreted the findings based on the degree of phonological system differences and the degree of phonic interference.

CHAPTER IV

RESULT AND DISCUSSION

This chapter consists of two sections. The first section is the result that consists of phonic interference of Malaysian, Turkish, and English into Indonesian. The second section is the discussion that involves the degree of phonological system differences between Indonesian and learners' first language, and the relation between the degree of phonological system differences and the degree of phonic interference done by the learners.

4.1 Result

The result obtained from the investigation will be presented and analyzed in order to study the kinds of phonic interference of L1 into L2, starting from Malaysian speakers, followed by Turkish and English speakers. These interference will be analyzed based on four kinds of phonic interference by Weinreich (1979:18-19); substitution, over-differentiation, under-differentiation, and re-interpretation. Furthermore, the result provides other factors that are likely to influence the pronunciation of L2.

4.1.1 The Phonic Interference of Malaysian into Indonesian

There are some cases of phonic interference that are done by Malaysian speakers when producing Indonesian sounds, either consonant or vowel sounds.

These phonic interference cases of Malaysian are classified into three categories. The first category is substitution with one case, followed by under-differentiation with three cases, and re-interpretation with three cases respectively. The interference of Malaysian sounds into Indonesian for each of these categories is explained below.

4.1.1.1 Substitution

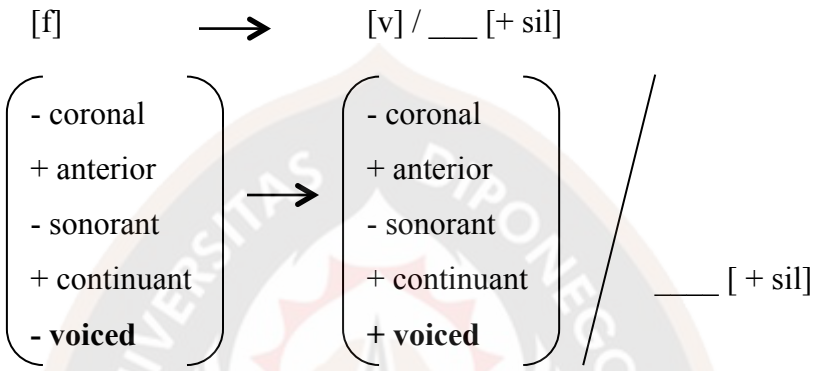
The following is substitution case of the contrast of Malaysian sounds that are likely to pronounce by Malaysian speakers when learning Indonesian.

Table 4.1 The sound [f] substituted by [v]

Words	Indonesian phonetic Transcription	Informant Phonetic Transcription	Meaning
Vas	[fas]	[vas]	'vas'
Televisi	[telefisi]	[televisi]	'television'
Karnaval	[karnafal]	[kərnaval]	'carnival'
Vanila	[fanila]	[vanila]	'vanilla'
Verbal	[ferbal]	[vərbal]	'verbal'
Video	[fide$_y$o]	[vidi$_y$o]	'video'

Malaysian speakers are likely to replace the sound [f] with voiced labiodental [v] in order to pronounce the letter 'v', that occurs in an Indonesian word both in initial and medial positions. On the other hand, the sound [f] in Indonesian can be used to pronounce both the letter 'f' and 'v', since the sound [v] is not part of Indonesian phonological system. Hence, the respondents tend to

substitute the Indonesian words *televisi* as [televisi] instead of [telefisi], *karnaval* as [karnaval] instead of [karnafal], *universitas* as [yunivɛrsitas] instead of [unifɛrsitas], *vanila* as [vanila] instead of [fanila]. The rule is presented as follows.



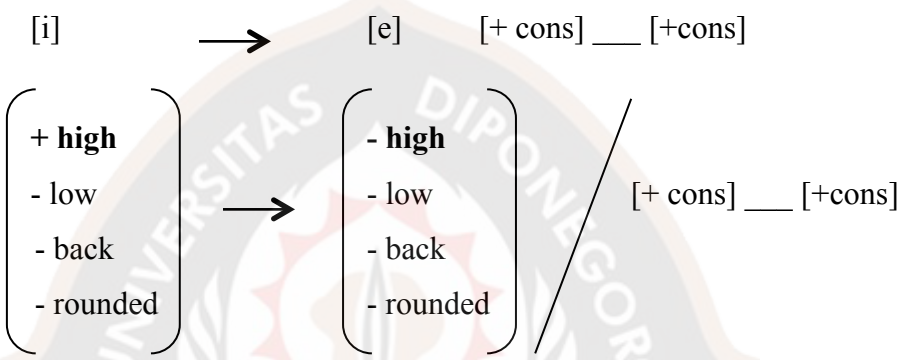
4.1.1.2 Under-differentiation

The cases of under-differentiation of Malaysian sounds that are likely to be produced by Malaysian speakers of Indonesian are displayed below.

Table 4.2 The sound [i] contrasts with [e]

Words	Indonesian phonetic Transcription	Informant Phonetic Transcription	Meaning
Habis	[habis]	[habes]	'finish'
Ingin	[iŋɪn]	[iŋen]	'want'
Izin	[izin]	[izen]	'allow'
Licin	[liʧɪn]	[liʧen]	'slippery'

Under-differentiation case that done by Malaysian speakers is the front, high, unrounded vowel /i/ contrasts with front, mid, unrounded vowel /e/ and vice versa. In Malaysian, vowel /i/ has mid realizations in final closed syllables. For example, *habis* is pronounced as [habes], *izin* is pronounced as [izen], and *licin* is pronounced as [liʧen]. The rule is presented below.

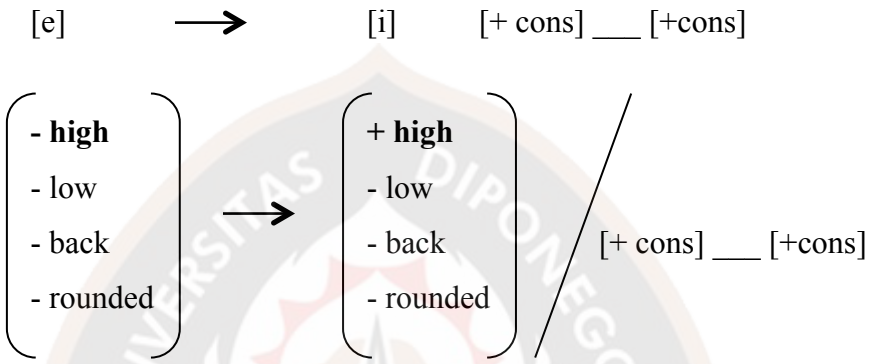


Based on the rule above, first we can see that the sound [i] will change to the sound [e] between consonants. The second is that, the features of the sound [i] and [e] are similar. Both of them have [- low], [- back], and [- rounded]. The only difference is that, the sound [i] is height vowel whereas the sound [e] is mid vowel. Both the sounds [i] and [e] in Malaysian can occur in initial, medial, and final positions.

Table 4.3 The sound [e] contrasts with [i]

Words	**Indonesian phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Melon	[melon]	[milon]	'honewdew'
Meter	[metər]	[mitə:]	'meters'
Kecap	[keʧap]	[kiʧap]	'soysauce'

Another under-differentiation sample found in Malaysian when articulated Indonesian words is the phoneme /e/, that is contrasted perfectly with the phoneme /i/ at the first syllables. Consequently, Malaysian speakers pronounce *melon* as [milon], *meter* as [mitəː], and *kecap* as [kiʧap].



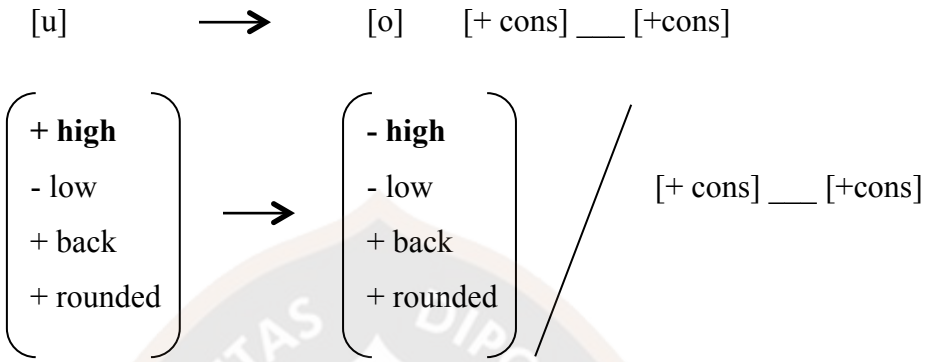
The rule above shows that the features of the sound [i] and [e] are quite similar. These sounds have [- low], [- back], and [- rounded]. The only difference is that, the sound [e] is mid vowel, whereas the sound [i] is height vowel.

Table 4.4 The sound [u] contrasts with [o]

Words	**Indonesian phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Rusak	[rusa']	[ɾosa']	'damage'
Tujuh	[tudʒuh]	[tudʒoh]	'seven'

The other kind of under-differentiation is the contrast between vowel /u/ and vowel /o/. Malaysian speakers tend to substitute back, height, rounded vowel /u/ with back, mid, rounded vowel /o/ at the end of syllables. For that reason,

Indonesian words *rusak* is articulated as [ɾosak], and *tujuh* is articulated as [tudʒoh]. The rule is shown below.



Based on the rule above, we can see that the features of the sound [u] and [o] are quite similar. Both of them have [- low], [+ back], and [+ rounded]. The only difference is that, the sound [u] is height vowel whereas the sound [o] is mid vowel.

4.1.1.3 Re-interpretation

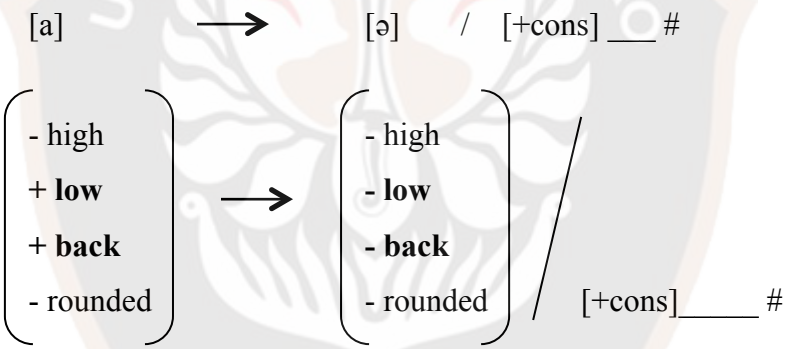
The following are instances of re-interpretation cases that are likely to be found when Malaysian speakers speaking Indonesian

Table 4.5 The sound [ə] in final positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Angkasa	[aŋkasa]	[aŋkasə]	'space'
Bandara	[bandara]	[bandarə]	'airport'
Pertama	[pərtama]	[pə:tamə]	'first'
Rahasia	[rahasi$_y$a]	[rahasi$_y$ə]	'secret'

Bangga	[bangga]	[baŋgə]	'proud'
Saudara	[saʊdara]	[saʊdarə]	'family'
Bendera	[bəndera]	[bənderə]	'flag'

Malaysian speakers replace central, low, unrounded vowel [a] in word final positions with a higher vowel that is, central, mid vowel [ə]. For example, *angkasa* is pronounced as [aŋkasə], *bandara* as [bandarə], *pertama* as [pə:tamə], and *rahasia* as [rahasi$_{y}$ə]. This phenomenon is interference from the impressive schwa-variety of Malaysian (Clynes & Deterding, 2011:264). The rule of this interference is presented below.



The rule above shows that the sound [a] ([-high, +low, +back, -rounded]) is changed to [ə] ([-high, -low, -back, -rounded]) when preceded by a consonant in final positions.

Table 4.6 English loanwords in Malaysian

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Bilingual	[biliŋu$_w$al]	[bailiŋgu$_w$əl]	'bilingual'
Final	[final]	[fainəl]	'final'
Virus	[firʊs]	[vairəs]	'virus'
Strategi	[stratəgi]	[st:atiʤi]	'strategy'
Konstruksi	[konstrʊksi]	[kənstraksi]	'construction'
Eksekutif	[eksəkutıf]	[eksəkyutıf]	'executive'
Fokus	[fokʊs]	[fokəs]	'focus'

Basically, Malaysian alphabet will be pronounced the same way as in English. Further, there are numerous numbers of English loanwords in Malaysian. Accordingly, when Malaysian speakers pronounce those loanwords in Indonesian, they will re-interpret it with their English accent. For that reason, they articulate Indonesian words *bilingual* as [bailiŋgu$_w$əl], *final* as [fainəl] instead of [final], *virus* as [vairəs] instead of [firʊs], *strategi* as [st:atiʤi], and *konstruksi* as [kənstraksi].

Table 4.7 The sound [r] in final positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Dengar	[dəŋar]	[dəŋa:]	'hear'
Gambar	[gambar]	[gamba:]	'picture'
Hancur	[hanʧʊr]	[hanʧu:]	'broken'
Meter	[metər]	[mitə:]	'meter'

Parkir	[parkır]	[parkiː]	'parking'
Pergi	[pərgi]	[pəːgi]	'go'
Sopir	[sopır]	[sopiː]	'driver'
Senter	[sentər]	[sentəː]	'torch'

In Indonesian, there is post-vocalic /r/ as a rolled alveolar consonant which is pronounced trill wherever it occurs, whereas Malaysian speakers literally drop /r/ at the end of syllables and lengthen the preceding vowel. As a result, Malaysian speakers pronounce Indonesian words, *dengar* as [dəŋaː], instead of [dəŋar], *gambar* as [gambaː], instead of [gambar], *hancur* as [hanʧuː], instead of [hanʧʊr], and so on. The rules are displayed below.

[r] → Ø / [+sil] __ #

Ø → α [+sil] / α [+sil] ___ #

Based on the rule above, first we can see that the sound [r] will be devoiced or disappear in final positions and lengthen the preceding vowel.

From the explanations above, there are 41 words of total 250 words that contain phonic interference of Malaysian. Thus, the degree of phonic interference of Malaysian into Indonesian is (41/250 x 100%) = **16 %**.

4.1.2 The Phonic Interference of Turkish into Indonesian

This research discovers various kinds of phonic interference that are done by Turkish speakers when producing Indonesian sounds in all segments:

consonant, vowel, diphthong, and cluster. These phonic interference cases of Turkish are classified into four categories. The first category is substitution with six cases, followed by under-differentiation with one case, then over-differentiation with four cases, and the last is re-interpretation with five cases. The interference of Turkish sounds into Indonesian for each of these categories are explained below.

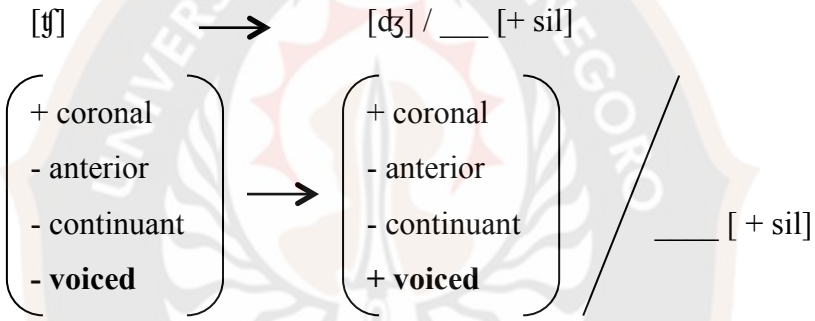
4.1.2.1 Substitution

The following are examples of substitution cases that are likely to be found when Turkish speakers pronouncing Indonesian words.

Table 4.8 The sound [ʧ] substituted by [ʤ]

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Cari	[ʧari]	[ʤaɾi]	'to find'
Cuma	[ʧuma]	[ʤuma]	'only'
Cincin	[ʧinʧin]	[ʤinʤin]	'ring'
Acar	[aʧar]	[aʤaɾ]	'pickle'
Cabai	[ʧaba$_y$]	[ʤabaiy]	'chili'
Cinta	[ʧinta]	[ʤinta]	'love'
Cepat	[ʧəpat]	[ʤepat]	'fast'
Pecah	[pəʧah]	[peʤah]	'break'
Cokelat	[ʧokəlat]	[ʤokelat]	'chocolate'
Kecap	[keʧap]	[keʤap]	'soy sauce'

The substitution of [ʧ] with the [ʤ], is done by Turkish speakers. The sound [ʧ] is absolutely rare in Turkish word. Besides, the letter 'c' in Turkish is pronounced as [ʤ]. Meanwhile, Indonesian has letter 'c' but it is pronounced as [ʧ]. As a result, Turkish speakers will pronounce Indonesian words contain the sound [ʧ] with [ʤ] sound, which has the closest feature. This interference can lead to confusion for instance between [ʧari] and [ʤarɨ], [aʧar] and [aʤarɾ], [baʧa] and [baʤa] since the substitution of [ʧ] with [ʤ] sound will produce different meaning.



The rule above shows that the sound [ʧ] and [ʤ] have quite similar features. Both of them have [+ coronal], [- anterior], and [- continuant]. The only difference is that, the sound [ʧ] is voiceless whereas the sound [ʤ] is voiced.

Table 4.9 The sound [f] substituted by [ʋ]

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Vas	[fas]	[ʋas]	'vas'
Televisi	[telefisi]	[teleʋisi]	'television'
Karnaval	[karnafal]	[karnaʋal]	'carnival'

Universitas	[unifersitas]	[uniʋɐrsitas]	‘university’
Vanila	[fanila]	[ʋanila]	‘vanilla’
Verbal	[ferbal]	[ʋɐrbal]	‘verbal’
Video	[fide$_y$o]	[ʋidio]	‘video’
Favorit	[faforɪt]	[faʋorɪt]	‘favorite’

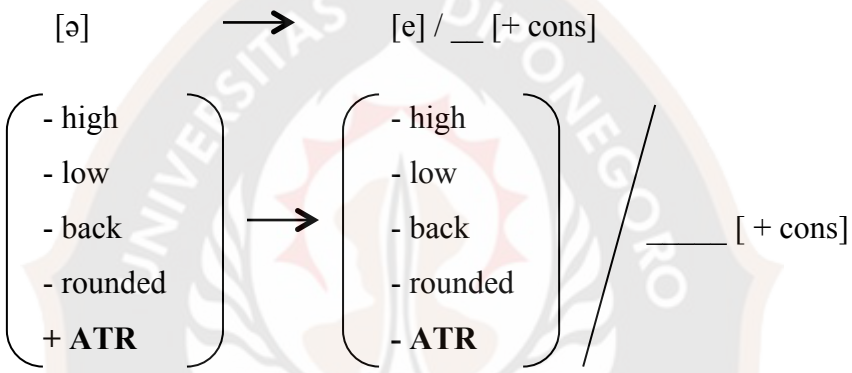
Another example of phone substitution that is likely to be done by Turkish speakers is the replacement of voiceless labiodental /f/ with labiodental approximants /ʋ/. Therefore, the speakers pronounce *vas* as [ʋɑs] instead of [fɑs], *televisi* as [teleʋisi] instead [telefisi], *karnaval* as [karnaʋal] instead of [karnafal], and *vanila* as [ʋanila].

Table 4.10 The sound [ə] substituted by [e]

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Sebab	[səbap]	[sebap]	‘because’
Lembah	[ləmbah]	[lembah]	‘valley’
Lengkap	[ləŋkap]	[leŋkap]	‘complete’
Ganteng	[gantəŋ]	[ganteŋk]	‘handsome’
Engkau	[əŋkau]	[eŋkau]	‘you’
Jelek	[ʤəlɛk]	[ʤelɛkˈ]	‘ugly’
Jenis	[ʤənɪs]	[ʤenɪs]	‘kind’
Embun	[əmbun]	[embun]	‘dew’

Turkish speakers tend to substitute the sound [ə] with the sound [e]. They are unable to determine the production of the sound [ə] and [e] in Indonesian

words since these sounds have the same letter – ‘e’. Besides, the sound [ə] is not part of Turkish phonemic inventories. Therefore, Turkish speakers will try to find the closest equivalent sound with the phoneme [ə]. Accordingly, Turkish speakers pronounce Indonesian words *lembah, lengkap, ganteng, engkau, sebab, jelek* and jenis as [lembah], [leŋkap], [ganteŋk], [eŋkau], [sebap], [ʤelɛkˈ], and [ʤenɪs]. This rule below shows the features of the sound [ə] and [e].



The difference between [ə] sound and [e] is that the sound [ə] has [+ATR] while the sound [e] [- ATR]. This rule displays that the sound [ə] is substituted by [e].

Table 4.11 The sound [ñ] substituted by [ni]

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Nyala	[ñala]	[niala]	‘turn on’
Nyanyi	[ñañi]	[nianiy]	‘sing’
Nyenyak	[ñeñak]	[nieniakˈ]	‘sleep well’
Sunyi	[suñi]	[suniy]	‘quiet’

Turkish phonemic inventories have /n/ and /y/, but /ñ/ is not part of Turkish phonemes. This is another problem for Turkish speakers to articulate any words which contain palatal nasal /ñ/. The best solution regarding to this problem is Turkish speakers substitute /y/ in /ñ/ with the closest equivalent, that is front height vowel /i/. Therefore, they articulate [niala] for [ñala], [nieniakˈ] for [ñeñak], and [nianii] for [ñañi]. These words have no any meanings for the native speakers of Indonesian.

Table 4.12 The diphthong [ai] substituted by [aiy]

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Nilai	[nilai]	[nilaiy]	'score'
Pantai	[pantai]	[pantaiy]	'beach'
Ramai	[ramai]	[ɾamaiy]	'crowded'
Rangkai	[raŋkai]	[ɾaŋkaiy]	'bunch'
Sampai	[sampai]	[sampaiy]	'until'
Santai	[santai]	[santaiy]	'relax'
Selai	[səlai]	[səlaiy]	'jam'
Tangkai	[taŋkai]	[taŋkaiy]	'stem'

Turkish speakers sometimes have difficulty to pronounce the diphthongs ([ai], [au]). These sounds are not exists in Turkish, while in Indonesian the diphthongs can be found in the initial, middle or at the end of the word. Regarding to the diphthongs problems at final positions, Turkish speakers normally insert palatal semi-vowel [y] at the end of the diphthong [ai].

Table 4.13 The diphthong [ɑʊ] substituted by [ɑo]

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Hijau	[hidʒɑʊ]	[hidʒɑo]	'green'
Engkau	[əŋkɑʊ]	[eŋkɑo]	'you'
Danau	[danɑʊ]	[danɑo]	'lake'
Pulau	[pulɑʊ]	[pulɑo]	'island'
Pantau	[pantɑʊ]	[pantɑo]	'monitoring'
Silau	[silɑʊ]	[silɑo]	'dazzled'

This is another reflection of the speaker's first language interference. *Hijau* is pronounced as [hidʒɑo] instead of [hidʒɑʊ]. The diphthongs are not the parts of Turkish phonological systems and they are not be able to articulate the sound appropriately. Turkish speakers tend to over-differentiate those words by changing the sound [u] with the sound [o] at the final positions.

4.1.2.2 Under-differentiation

The following are example of under-differentiation cases that produce by Turkish speakers of Indonesian.

Table 4.14 The sound [i] under-differentiate by [ɯ]

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Parkir	[parkɪr]	[parkɯr]	'parking'
Tipis	[tipɪs]	[tipɯs]	'thin'
Kerikil	[kərikɪl]	[kɾikɯɬ]	'pebble'

Limbah	[lɪmbah]	[lɯmbah]	'waste'
Pensil	[pensɪl]	[pensɯɬ]	'pencil'

In Turkish, [i] and [ɯ] are the allophones of high-front unrounded vowel [i]. Meanwhile, in Indonesian, those are contrastive. The allophone [ɯ] finds nearish equivalent in Indonesian [ə], which is however higher and tenser. The phoneme /i/ is presented in *parkir*, but due to confusion of rules whether the sound [i] is articulated [i] or [ɯ], accordingly Turkish speakers pronounce [pɑɾkɯɾ] instead of [pɑɾkɪɾ], [pensɯɬ] for [pensɪl]. The features are displayed as follows.

$$[i] \longrightarrow [ɯ] \quad / [+\text{cons}] \_\_\_ [+\text{cons}]$$

$$\begin{bmatrix} +\text{high} \\ -\text{low} \\ \mathbf{-\text{back}} \\ -\text{rounded} \end{bmatrix} \longrightarrow \begin{bmatrix} +\text{high} \\ -\text{low} \\ \mathbf{+\text{back}} \\ -\text{rounded} \end{bmatrix} \Big/ [+\text{cons}] \_\_\_ [+\text{cons}]$$

The rule above shows that the sound [i] will change to [ɯ] between consonants. Those sounds have quite similar features. Both of them have [+ high], [- low], and [- rounded]. The only difference is that, the sound [i] is [- back] whereas the sound [ɯ] is [+ back].

4.1.2.3 Over-differentiation

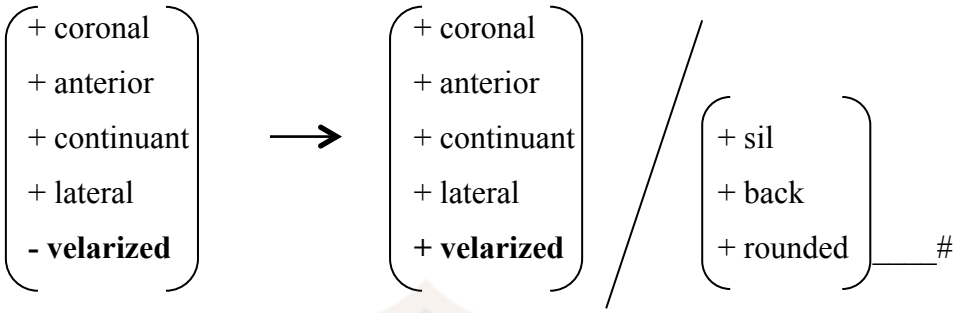
The following are examples of over-differentiation cases that are likely to be found when Turkish speakers producing Indonesian words.

Table 4.15 The sound [l] in final positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Final	[final]	[finaɬ]	'final'
Kerikil	[ambil]	[ambiɬ]	'take'
Jual	[ʤuʷal]	[ʤuʷaɬ]	'sell'
Tanggal	[taŋgal]	[taŋgaɬ]	'rail'
Pensil	[pensɪl]	[pensɯɬ]	'pencil'
Verbal	[ferbal]	[ʋerbaɬ]	'verbal'
Real	[real]	[reaɬ]	'real'
Karnaval	[karnafal]	[karnaʋaɬ]	'carnival'

The Turkish phoneme /l/ has two allophones. The first is clear /l/ and dark /l/ or [ɬ]. The allophone [ɬ] occurs in word-final position, whereas clear /l/ occurs in elsewhere. Oppositely, Indonesian /l/ only has one allophone. The phonic interference of the [ɬ] sound done by Turkish speakers in Indonesian can be found in pronunciations of [finaɬ], [ʤuʷaɬ], [ʋerbaɬ], [taŋgaɬ]. Literally, [ɬ] in Turkish occurs in the environment of back vowels. The underlying representation of Turkish [ɬ] is presented below.

[l] ⟶ [ɬ] / [a/ɯ/o] ___#



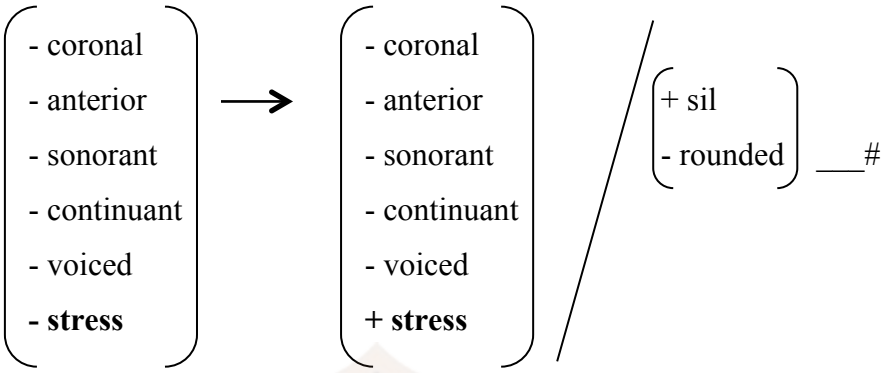
The rule above displays that normal [l] will be articulated as dark l [ɬ], which is [+velarized] in final positions after a back and rounded vowel by Turkish speakers.

Table 4.16 The sound [k] in final positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Enak	[enak]	[enakˈ]	'delicious'
Asbak	[asbak]	[asbakˈ]	'ashtray'
Lunak	[lunak]	[lunakˈ]	'soft'
Musik	[musık]	[musıkˈ]	'music'
Naik	[na+ik]	[na+ikˈ]	'up'
Nenek	[nenɛk]	[nenɛkˈ]	'grand mother'
Becak	[beʧak]	[beʧakˈ]	'pedicab'
Klinik	[klinik]	[klinıkˈ]	'clinic'

Similar to alveolar lateral /l/ case, Turkish speakers articulate the voiceless velar plosive consonant /k/ in word-final position with a strong /k/: [enakˈ] instead of [enak]. The features are presented below.

[k] ⟶ [kˈ] / [a/e/i] ___ #



The rule above shows that first the sound [k] will be articulated as [kˈ] in final positions when preceded by an unrounded vowel. Second, the sound [k] and [kˈ] have quite similar features. Both of them have [- coronal], [- anterior], [- sonorant], [- continuant], and [- voiced]. The only difference is that, the sound [k] is [- stress] whereas the sound [kˈ] is [+ stress].

Table 4.17 A glide [ʷ] inserted before bilabial stop [b]

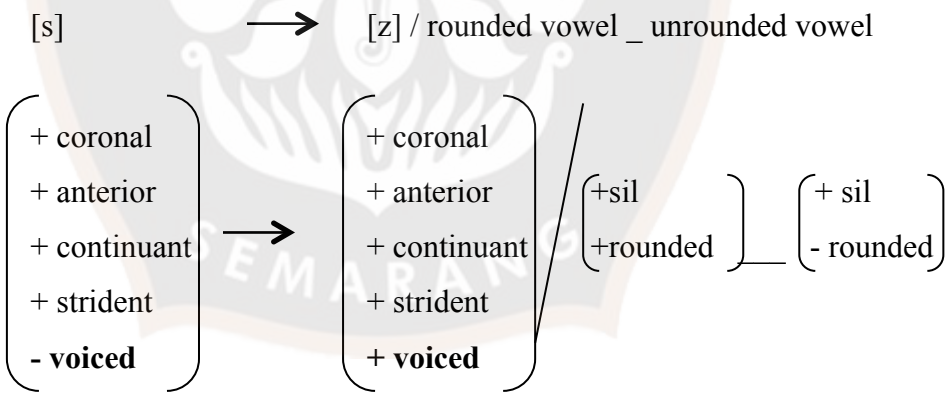
Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Global	[global]	[gloʷbəl]	'global'
Habis	[habis]	[haʷbis]	'finished'

An alternative style has been discovered. When vowels are followed by a voiced bilabial stop /b/, feature a glide (similar with /w/) is inserted. Turkish speakers pronounce [gloʷbel] for [global], and [haʷbis] for [habis].

Table 4.18 The sound [s] substituted by [z]

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Musik	[musık]	[muzikˈ]	'music'
Dosen	[dosen]	[dozen]	'lecturer'

Over-differentiation case occurs in the pronunciation of Indonesian word *musik*. Turkish speakers tend to produce voicing alveolar fricative [z] than voiceless alveolar fricative [s], which is presented after a rounded vowel and followed by unrounded vowel. Their native language has a big influence when learning Indonesian as their second language. They retrieve [muzikˈ] in spite of the Turkish word for Indonesian word *musik* [musık]. The rule is presented as follows.



The rule above shows that first the sound [s] will be articulated as [z] when preceded by a rounded vowel and followed by an unrounded vowel. Second, the sound [s] and [z] have quite similar features. Both of them have

[+ coronal], [+ anterior], [+ continuant], and [+ strident]. The only difference is that, the sound [s] is [- voiced] whereas the sound [z] is [+ voiced].

4.1.2.4 Re-interpretation

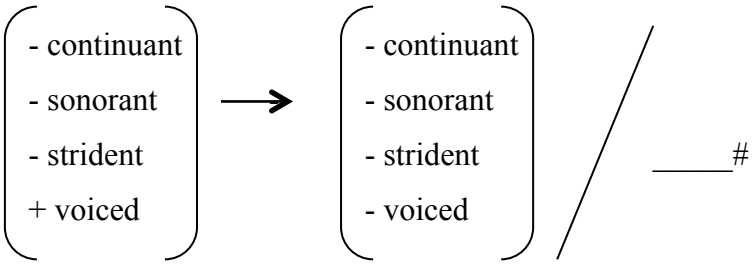
The following are examples of re-interpretation cases that are likely to be found when Turkish speakers producing Indonesian words.

Table 4.19 The voiced stops in final positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Maksud	[maksʊt]	[maksʊt]	'aim'
Sebab	[səbap]	[sebap]	'because'
Wig	[wɪk]	[wɪkˈ]	'wig'
Jilid	[ʤilɪt]	[ʤilɪt]	'volume'
Sujud	[suʤʊt]	[suʤʊt]	'prostration'

The kind of re-interpretation, which is likely to occur when a Turkish learning Indonesian, is voiced stops consonant changed to voiceless in final positions. Syllable final voiced stops are not normally permitted in Turkish. They tend to devoice /b, d, g/ in final positions and contrasted it with /p, t, k/. The rule is presented below.

[b, d, g] ⟶ [p, t, k] / __ #



The rule above shows that [(-continuant, -sonorant, -strident, +voiced)] consonants will be [-voiced] in final positions.

Table 4.20 The sound [ŋ] in final position 1

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Gunung	[gunoŋ]	[gunɔn]	'mountain'

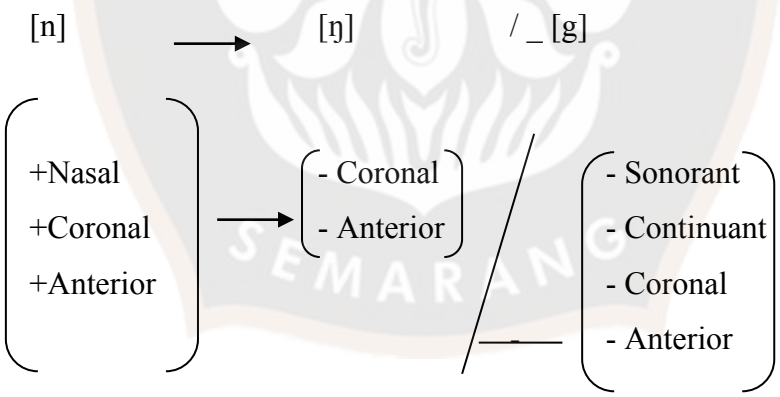
In Turkish, [ŋ] only occurs before /g/ and /k/, but a different form has been observed. In final position, Turkish speakers have two choices to articulate [ŋ], whether they will devoice the sound [g] or insert the sound [k]. Here, *gunung* is pronounced as [gunun] instead of [gunuŋ].

Table 4.21 The sound [ŋ] in medial positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Bingung	[biŋoŋ]	[biŋguŋk]	'confuse'
Bangun	[baŋon]	[baŋgun]	'wake up'
Bunga	[buŋa]	[buŋga]	'flower'

Ingin	[iŋɪn]	[iŋgin]	‘want’
Dingin	[diŋɪn]	[diŋgin]	‘cold’
Ingat	[iŋat]	[iŋgat]	‘remember’
Langit	[laŋɪt]	[laŋgit]	‘sky’
Tangan	[taŋan]	[taŋgan]	‘hand’
Nganga	[ŋaŋa]	[haŋga]	‘agape’

Another phonic interference of foreign student’s first language is reflected in the pronunciation of *bangun*. In Turkish, alveolar nasal [n] will be articulated as velar nasal [ŋ] when followed by velar plosive [g] due to the assimilation process in this language. Therefore, Turkish speakers tend to pronounce [bɑŋgʊn] instead of [bɑŋʊn] and it feels strange to Indonesian because it has no meaning. The rule of this case is presented below.



The rule above shows that [(+nasal, +coronal, +anterior)] will be assimilated as [(+coronal, -anterior)] when followed by [(-sonorant, -continuant, -coronal, -anterior)].

Table 4.22 Devoicing of [i] sound

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Bilingual	[biliŋuʷal]	[bliŋguʷal]	'bilingual'

When the high-front unrounded vowel /i/ occurs between consonants in Turkish, /i/ may become devoice or disappear altogether. They often pronounce [bliŋguʷal] for [biliŋʷual].

Table 4.23 The sound [ŋ] in final positions 2

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Yang	[yaŋ]	[yaŋk]	'which'
Gampang	[gampaŋ]	[gampaŋk]	'easy'
Orang	[oraŋ]	[oɾaŋk]	'people'
Undang	[undaŋ]	[undaŋk]	'invite'

The sound of [ŋ] in Turkish only occurs before voiced velar stop /g/ and voiceless velar stop /k/ due to the assimilation rule. The differences according to Indonesian is, the phoneme /g/ and /k/ in Turkish are also pronounced clearly after velar nasal, such as Turkish word *renk* is pronounced as [reŋk] not [reŋ]. Therefore, Turkish speakers interpret Indonesian *yang* similar to the pattern in their native language, [yaŋk] instead of [yaŋ].

From the explanations above, there are 88 words of total 250 words that contain phonic interference of Turkish. Thus, the degree of phonic interference of Turkish into Indonesian is (86/250 x 100%) = **34 %**.

4.1.3 The Phonic Interference of English into Indonesian

There are numerous cases of phonic interference that are likely to be found when English speakers pronounce Indonesian sounds at different segments: consonant, vowel, and cluster. These phonic interference cases of English are classified into four categories. The first category is substitution with three cases, followed by under-differentiation with one case, then over-differentiation with five cases, and the last is re-interpretation with eight cases. The interference of English sounds into Indonesian for each of these categories are described below.

4.1.3.1 Substitution

The following are examples of substitution cases that are likely to be found when English speakers producing Indonesian words.

Table 4.24 The sound [ʃ] substituted by [si]

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Syarat	[ʃarat]	[siaɾat]	'requirement'
Masyarakat	[maʃarakat]	[masiaɾakat]	'society'

English phonemic inventories have the sound [ʃ] as in Indonesian. The difference is English voiceless palate-alveolar fricative [ʃ]'s cluster consists of the

letters ‘s’ and ‘h’ while Indonesian [ʃ]’s cluster consists of the letters ‘s’ and ‘y’. As an example, English [ʃ] found in ‘she’ [ʃi:], ‘shy’ [ʃai], ‘shin’ [ʃIn], whereas Indonesian [ʃ] is in *syarat* [ʃarat]. The difference between the [ʃ]’s cluster in English and Indonesian caused English speaker unable to pronounce *syarat* appropriately although they can articulate [ʃ] sound. Consequently, they tend to substitute [y] with high front vowel [i]. Therefore, Indonesian word *syarat* is articulated as [siarat] instead of [ʃarat], and *masyarakat* as [masiaɾakat] instead of [maʃarakat].

Table 4.25 The sound [f] substituted by [v]

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Vas	[fas]	[vas]	‘vas’
Vanila	[fanila]	[vanila]	‘vanilla’
Verbal	[ferbal]	[veɾbal]	‘verbal’
Video	[fide$_y$o]	[vidi$_y$o]	‘video’
Favorit	[faforɪt]	[fevəɾɪt]	‘favorite’

The phone substitution that done by English native speakers is the replacement of voiceless labiodental [f] with voiced labiodental [v] in order to pronounce the letter ‘v’, that occurs in an English loanword both in initial and medial positions. Meanwhile, Indonesian sound [f] can be used to pronounce both the letter ‘f’ and ‘v’ since the sound [v] is not part of Indonesian phonological system. For that reason, the respondents tend to substitute the Indonesian words

televisi as [televisi] instead of [telefisi], *karnaval* as [karnaval] instead of [karnafal], *universitas* as [yuniversitas] instead of [unifersitas], *vanila* as [vanila] instead of [fanila]. The rule is presented below.

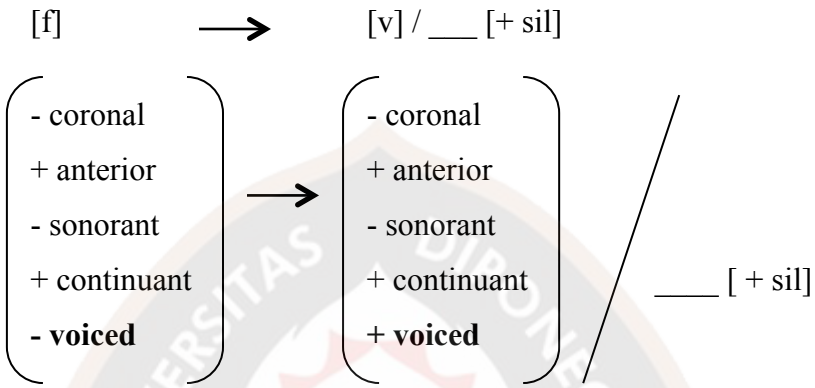
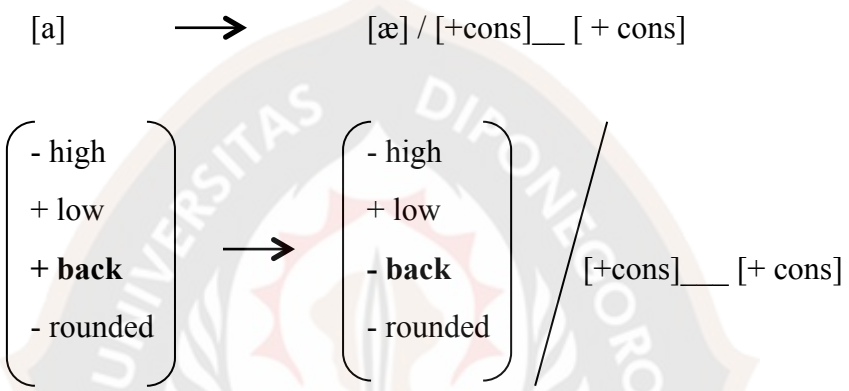


Table 4.26 The sound [a] contrasted with [æ]

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Bahasa	[bahasa]	[bæhasa]	'language'
Radio	[radi$_y$o]	[ɾædi$_y$o]	'radio'
Rahasia	[rahasi$_y$a]	[ɾæhasi$_y$a]	'secret'
Asbak	[asbak]	[æsbakˈ]	'ashtray'
Amplop	[amplop]	[æmplop]	'envelope'
Rangkai	[raŋkai]	[ɾæŋkai]	'bunch'

The case of vowel substitution is reflected on the table above. English native speakers tend to substitute central, low, unrounded vowel [a] with front, low, unrounded [æ]. This matter occurs because the influence of English as their first language. For example, English word 'sat' is pronounced as [sæt], whereas

Indonesian will pronounce as [sat], ‘back’ as [bæk], ‘bad’ as [bæd]. Moreover, the symbol ‘a’ in English can be pronounced as [æ], [ə], or [a], while Indonesian [a] is always pronounced as central, low, unrounded [a]. As a result, the table above shows that English native speakers articulate [bahasa] as [bæhasa], [rahasiya] as [ræhasia], [asbak] as [asbæk], and [raŋkai] as [ræŋkai].



The phoneme [a] is similar to the phoneme [æ]. These phonemes are [- high, + low, and – rounded] vowels. The only difference between them is that sound [a] [+ back], whereas [æ] is [- back].

4.1.3.2 Under-differentiation

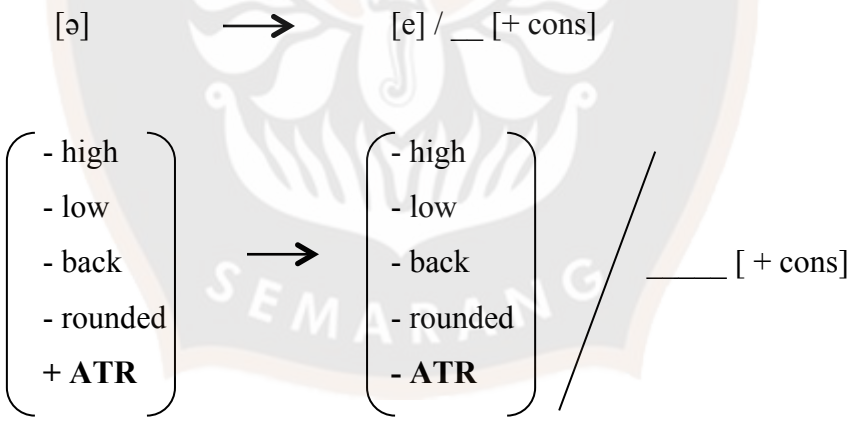
The following are examples of under-differentiation cases that are likely to be pronounced by English speakers when producing Indonesian words.

Table 4.27 The sound [ə] emerged by [e]

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Berat	[bərat]	[beɾat]	‘heavy’

Cepat	[ʧəpat]	[ʧepat]	‘fast’
Dengar	[dəŋar]	[deŋa:]	‘hear’
Embun	[əmbʊn]	[embʊn]	‘dew’
Engkau	[əŋkau]	[eŋkau]	‘you’
Ganteng	[gantəŋ]	[ganteŋ]	‘handsome’
Jelek	[ʤəlɛk]	[ʤelɛkˈ]	‘ugly’
Jendela	[ʤəndela]	[ʤendela]	‘window’
Pecah	[pəʧah]	[pʰeʧah]	‘broken’

Foreign students seem to have difficulties to determine whether to use [ə] or [e] when articulating Indonesian words. They tend to under-differentiate it by using [e], rather than the sound [ə]. In this case, [bərat] is pronounced as [beɾat], [əmbʊn] as [embʊn], [ʧəpat] as [ʧepat], [pəʧah] as [pʰeʧah].



4.1.3.3 Over-differentiation

The following are examples of over-differentiation cases that are likely to be found when English speakers producing Indonesian words.

Table 4.28 The sound [l] in word final positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Ambil	[ambil]	[ambiɬ]	'take'
Rel	[rɛl]	[ɾɛɬ]	'rail'
Jual	[ʤu^{w}al]	[ʤu^{w}aɬ]	'sell'

English voiced alveolar lateral consonant [l] has two allophones. The first one is dark l [ɬ] that occurs in word final positions, and the second is clear l [l] that occurs in elsewhere. The clear and dark /l/ are caused by the different positions of the main body of tongue for the former it is sloping down, while for the latter it is raised and retracted. On the other hand, Indonesian /l/ has single allophone. As a result, English speakers pronounce *ambil* as [ambiɬ] instead of [ambil], *rel* as [rɛɬ], and *jual* as [ʤu^{w}aɬ].

[l] → [ɬ] / [+sil] ___#

+ coronal		+ coronal	
+ anterior		+ anterior	
+ continuant	→	+ continuant	
+ lateral		+ lateral	
- velarized		**+ velarized**	[+sil] ___#

The rule above shows that normal [l] will be articulated as dark l [ɬ], which is [+velarized] in final positions after a vowel by English speakers.

Table 4.29 The sound [p] in word initial positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Penting	[pəntɪŋ]	[p^{h}əntɪŋ]	'important'
Pilih	[pilɪh]	[p^{h}ilɪh]	'choose'
Pecah	[pəʧah]	[p^{h}eʧah]	'broken'

A mainstream phonic interference, which done by informants of English speaker is aspirated voiceless stops in initial positions. English voiceless stop is aspirated in strongly stressed syllable, whereas Indonesian voiceless stop is always unaspirated. There are three cases of aspirated voiceless consonants revealed in this research. The first case is voiceless bilabial stop /p/, which is aspirated in initial positions and followed by vowel. For example, *pilih, penting, pecah* became [p^{h}ilɪh], [p^{h}entɪŋ], [p^{h}eʧah]. The rule is presented below.

[p] → [p^{h}] / #___[+ sil]

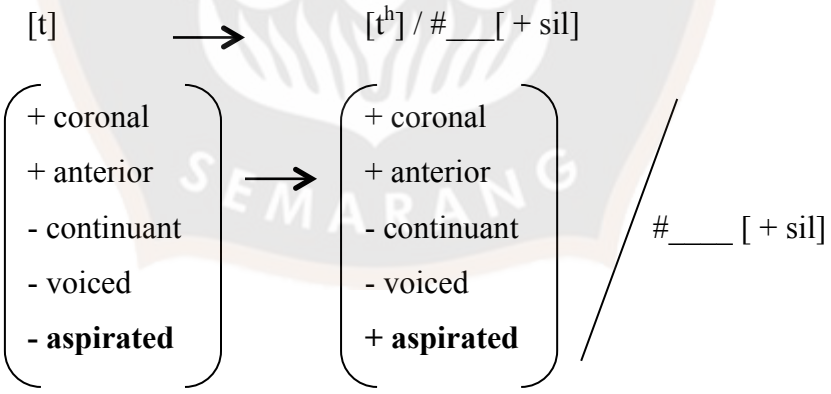
- coronal	→	- coronal	/ #____ [+ sil]
+ anterior		+ anterior	
- continuant		- continuant	
- voiced		- voiced	
- aspirated		**+ aspirated**	

It shows that English speakers pronounce ([-coronal, +anterior, -continuant, -voiced, -aspirated]) /p/ with +aspirated [p^{h}] in initial positions.

Table 4.30 The sound [t] in word initial positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Tampan	[tampan]	[t^hampan]	'handsome'
Tujuh	[tudʒuh]	[t^hudʒu]	'seven'
Tunggu	[tuŋgu]	[t^huŋgu]	'wait'
Tonton	[tontOn]	[t^hontOn]	'watch'

The second case in the aspirated voiceless consonant is the voiceless alveolar stop /t/. English speakers articulate the ([+coronal, +anterior, -continuant, -lateral, +sonorant, -aspirated]) /t/ with +aspirated [t^h] in initial positions and followed by a vowel. Therefore, the words *tampan, tuju, tunggu, tonton* are pronounced as [t^hampan], [t^hudʒu], [t^huŋgu], and [t^hontOn] instead of [tampan], [tudʒuh], [tuŋgu], and [tontOn]. The rule is displayed below.

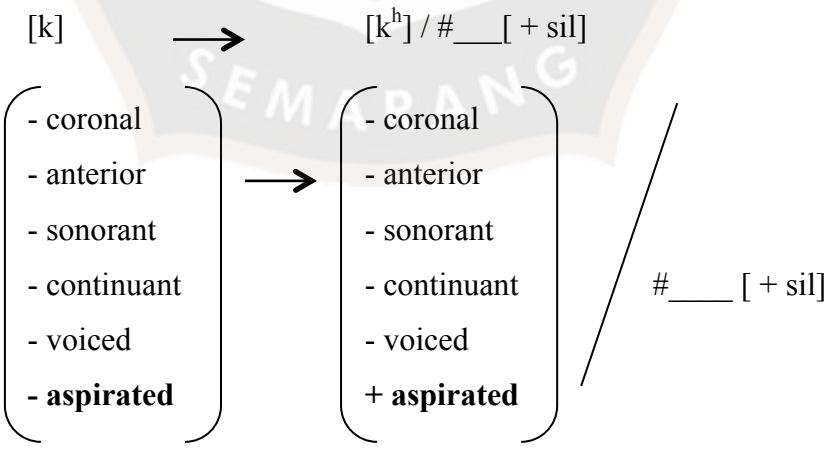


It shows that English speakers pronounce ([+coronal, +anterior, -continuant, -sonorant, -voiced, -aspirated]) /t/ with +aspirated [t^h] in initial positions.

Table 4.31 The sound [k] in word initial positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Kampus	[kampʊs]	[k^hampʊs]	'campus'
Kalah	[kalah]	[k^halah]	'lose'
Kucing	[kuʧɪŋ]	[k^huʧɪŋ]	'cat'

The third case is unaspirated [k] becomes aspirated [k]. The informants exchanged unaspirated voiceless velar stop [k] in *kampus* with the aspirated voiceless velar stop [k^h]. This case indicates that foreign language interference, that Indonesian ([-coronal, -anterior, -continuant]) /k/ never becomes aspirated while in English it is always aspirated in strongly stressed syllables. As a result, they articulate *kalah* as [k^halah] instead of [kalah], *kampus* as [k^hampʊs] instead of [kampʊs], and *kucing* as [k^huʧɪŋ] instead of [kuʧɪŋ]. The rule is presented below.



It shows that English speakers pronounce ([-coronal, -anterior, -continuant, -sonorant, -voiced, -aspirated]) /k/ with +aspirated [k^h] in initial positions.

Table 4.32 The sound [h] is added or devoiced in final positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Lampu	[lampu]	[lampuh]	'lamp'
Muda	[muda]	[mudah]	'easy'
Marah	[marah]	[maɾa]	'angry'
Tujuh	[tudʒoh]	[t^hudʒu]	'seven'
Tambah	[tambah]	[tamba]	'add'

Another case that is likely done by English speakers is the way articulating the voiceless glottal fricative /h/ in final positions. In English, the sound [h] only occurs in prevocalic position (in front of a vowel), and never occurs in post-vocalic position (behind a vowel). On the other hand, the sound [h] in Indonesian can be found in both prevocalic and post-vocalic positions. Consequently, English speakers sometimes devoice /h/ in final positions when speaking Indonesian words, and sometimes insert /h/ in final positions although it does not necessary. For example, they tend to pronounce Indonesian word *marah* as [maɾa] instead of [marah], or *lampu* as [lampuh] instead if [lampu]. It can lead to confusion between [muda] and [mudah], [bawa] and [bawah].

4.1.3.4 Re-interpretation

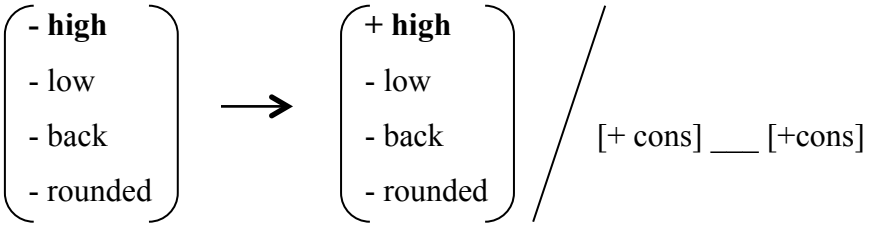
The following are examples of re-interpretation cases that are likely to be discovered when English speakers producing Indonesian words.

Table 4.33 The sound [e] contrasted with [i]

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Egois	[egois]	[igois]	'selfish'
Real	[re$_y$al]	[ɾi$_y$al]	'real'
Melon	[melon]	[milon]	'melon'
Meter	[metər]	[mite:]	'meter'
Skema	[skema]	[skima]	scheme

There are several cases regarding to the reinterpretation. The first case, according to the table above, is the sound [e] that is replace with the sound [i] in word initial and first syllable positions, such as [igois] intead of [egois], [skema] instead of [skima]. This case occurs because English native speakers consider that 'egois' is articulated as [igois] instead of [egois], since English word 'egoism' is articulated as [igəʊɪz(ə)m], and English 'scheme' is articulated as [ski:ma]. Therefore, they reinterpret front, mid, unrounded vowel [e] with front, high, unrounded [i] in Indonesian words as well as in their native language, English.

[e] ⟶ [i] [+ cons] ___ [+cons]



The rule above shows that the features of the sound [i] and [e] are quite similar. These sounds have [- low], [- back], and [- rounded]. The only difference is that, the sound [e] is mid vowel, whereas the sound [i] is height vowel.

Table 4.34 The sound [r] in final positions

Words	Indonesian Phonetic Transcription	Informant Phonetic Transcription	Meaning
Dengar	[dəŋar]	[deŋga:]	'hear'
Gambar	[gambar]	[gamba:]	'picture'
Hancur	[hanʧʊr]	[hanʧu:]	'broken'
Meter	[metər]	[mitə:]	'meter'
Parkir	[parkır]	[parki:]	'parking'
Pergi	[pərgi]	[pə:gi]	'go'
Sopir	[sopır]	[sopi:]	'driver'
Senter	[sentər]	[sentə:]	'torch'

Another reinterpretation is the pronunciation of lingual rolled consonant [r]. There are some differences between Indonesian [r] and English [r]. Indonesian [r] is lingual rolled consonant in which can be made by vibrating the tip of the tongue against the teethridge, while English [r] is voiced-post alveolar fricative which can be made by put the tip of the tongue near the teethridge that there is

still some narrow space left for the air to pass out. In addition, Indonesian sound [r] is always pronounced in all positions, whereas English [r] is devoiced in final positions, but it lengthens the preceding vowel. Consequently, the Indonesian words *dengar, gambar, hancur, sopir, sente*r are pronounced [dəŋa:], [gamba:], [hanʧu:], [sopi:], [sentə:] instead of [dəŋar], [gambar], [hanʧʊr], [sopır], [senter].

[r] → Ø / [+ sil] __ # /

Ø → α [+sil] / α [+sil] ___ # /

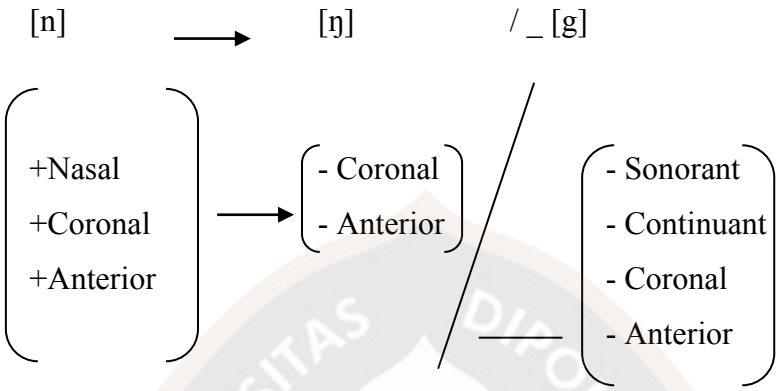
Based on these rules, first we can see that the sound [r] will be devoiced or disappear in final positions and lengthen the preceding vowel.

Table 4.35 The sound [ŋ] in medial positions

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Angin	[aŋın]	[aŋgin]	'wind'
Dingin	[diŋın]	[diŋgin]	'cold'
Langit	[laŋıt]	[laŋgit]	'sky'
Wangi	[waŋi]	[waŋgi]	'fragrant'
Jangan	[ʤaŋan]	[ʤaŋgan]	'do not'

In English, /ŋ/ never emerges initially, but appears in medially very often. In this case, English speakers usually will have a pronunciation involving /ŋ g/ due to the assimilation process. For example, English speakers tend to pronounce finger as [fiŋger], anger as [aŋger]. Hence, English speakers articulate *angin* as

[aŋgin] instead of [aŋin], *dingin* as [diŋgin] instead of [diŋin], *langit* as [laŋgit] instead of [diŋin], and *jangan* as [ʤaŋgan] instead of [ʤaŋan].



The rule above shows that [(+nasal, +coronal, +anterior)] will be assimilated as [(+coronal, -anterior)] when followed by [(-sonorant, - continuant, -coronal, -anterior)].

Table 4.36 The sound [i] emerged by [ai]

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Bilingual	[biliŋuʷal]	[bailiŋguʷəl]	'bilingual'
Final	[final]	[fainəl]	'final'
Virus	[firʊs]	[vaiɾəs]	'virus'

Indonesian has numerous loanwords from different languages, such as Arabic, Dutch, French, Sanskrit, Chinese, including English. There are some English loanwords that can be discovered in Indonesian words, such as *target, pilot, partner, radio*. Consequently, English native speaker will pronounce English loanwords with their foreign accent or English interference. This case

focuses on the pronunciation of the sound [i] in Indonesian vs sound [i] in English. Thus, they pronounce [bailiŋguʷəl] instead of [biliŋuʷal], [fainəl] instead of [final], and [vaires] instead of [firʊs].

Table 4.37 English loanwords in Indonesian

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Strategi	[stratəgi]	[st:atiʤi]	'strategy'
Konstruksi	[konstrʊksi]	[konst:aksi]	'construction'
Eksekutif	[eksəkutıf]	[eksəkyutıf]	'executive'
Fokus	[fokʊs]	[fokəs]	'focus'
Universitas	[unifersitas]	[yuniversitas]	'university'
Video	[fideyo]	[vidiyo]	'video'
Favorit	[faforıt]	[fevərıt]	'favorite'

The other case of English interference in Indonesian is captured in some English loanwords. Some Indonesian words are similar in English words as well. Therefore, English native speakers prefer to pronounce it with their native language accent. For example, Indonesian word *strategi* is pronounced as [st:atiji] instead of [stratəgi], *eksekutif* is pronounced as [eksəkyutıf] instead of [eksəkutıf], and [fokʊs] became [fokəs].

Table 4.38 The pronunciation of *stoples*

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Stoples	[stoples]	[setopəls]	'jars'

The way English speakers when pronounce Indonesian word ‘stoples’ reflects the influence of their first language. Similar to English words ‘able’, ‘table’, ‘apple’, ‘pebble’, English speakers tend to re-interpret *stoples* as the way they pronounce ‘apple’. They articulate the sound [l] at the final positions. Therefore, they pronounce *stoples* as [setopəls] instead of [stoples].

Table 4.39 The pronunciation of *genggam*

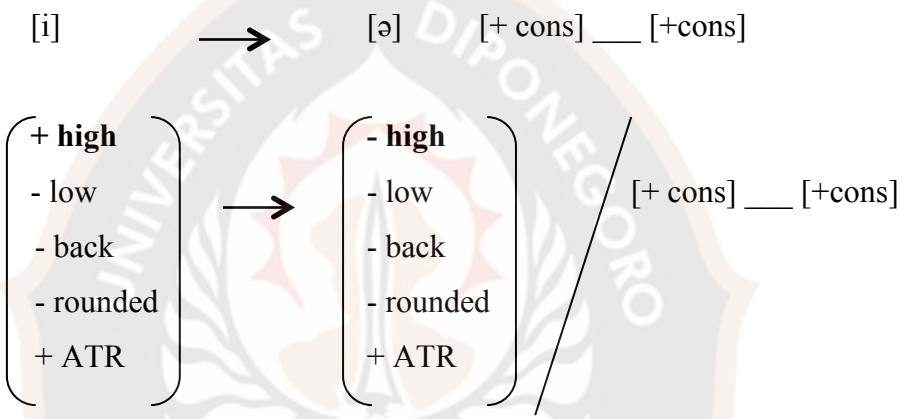
Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Genggam	[gəŋgam]	[ʤeŋgam]	‘handful’

The alphabet ‘g’ sometimes has different pronunciation in English and Indonesian. In English ‘g’ can be pronounced as voiced velar stop [g] and voiced palate-alveolar affricate [ʤ] before the sounds [e, i, y]. For example, ‘girl’ is pronounced as [gə:l], ‘glow’ as [gloU], ‘league’ as [li:g], whereas ‘gin’ is pronounced as [ʤɪn], ‘ridge’ as [rɪdʒ], ‘badge’ as [bædʒ], ‘large’ as [la:ʤ]. Therefore, Indonesian word *genggam* –‘g’ followed by [e-] is pronounced as [ʤeŋgam] instead of [gəŋgam].

Table 4.40 The sound [i] contrasts with [ə]

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Limbah	[limbah]	[ləmbah]	‘waste’
Sinar	[sinar]	[səna:]	‘light’

The third case of vowel reinterpretation is the sound [i] contrasted with the sound [ə]. English native speakers consider to pronounce front mid unrounded [i] with central, mid vowel [ə] in the first syllable. They interpret the pattern as in their first language, English words, 'bird', 'first', 'firm', which become [bə:d], [fə:rst], [fə:m]. As a result, it can lead to confusion between, for example *lembah* and *limbah, sinar* and *senar*. The rule of this case is shown below.



Based on the rule above, we can see that the features of the sound [i] and [ə] are similar. Both of them have [- low], [- back], [- rounded], and [- ATR]. The only difference is that, the sound [i] is height vowel whereas the sound [e] is mid vowel.

Table 4.41 The voiced stops in final positions

Words	**Indonesian Phonetic Transcription**	**Informant Phonetic Transcription**	**Meaning**
Abad	[abat]	[æbad]	'century'
Web	[wep]	[web]	'web'
Kitab	[kitap]	[kitab]	'holy book'

Maksud	[maksʊt]	[maksʊd]	'aim'
Sebab	[səbap]	[sebab]	'because'
Wig	[wɪk]	[wɪg]	'wig'
Jilid	[ʤilɪt]	[ʤilɪd]	'volume'
Sujud	[suʤʊt]	[suʤʊd]	'prostration'

The kind of re-interpretation, that occurs when English speakers learning Indonesian, is voiced consonant in final positions. In English, voiced stops can occur in final positions, whereas Indonesian and Turkish voiced stops never occur in final positions. For that reasons, English speakers tend to pronounce voiced stops in final positions clearly, while Turkish speakers tend to devoice these sounds in final positions.

From the explanations above, there are 107 of total 250 words that contain phonic interference of English. Thus, the degree of phonic interference of English into Indonesian is (107/250 x 100%) = **43 %**.

4.2 Discussion

There are two basic points that I would like to describe in this section. Firstly, I would like to describe the degree of phonological system differences between Indonesian and Malaysian/Turkish/English. Secondly, I would like to describe the comparison of the degree of phonological system and the degree of phonic interference to find out language family that might has a role to determine a possible number of interference.

4.2.1 The Degree of Phonological System Differences between Indonesian and Learners' First Language

From the results, the writer discovers that phonic interference occurs when the learners (Malaysian, Turkish, and English speakers) producing Indonesian words. When there is similarity between the learner's L1 and L2, second language learning will take place easily. The learners are able to produce utterances in L2 accurately without any difficulties and there will be no interference. Meanwhile, phonic interference indicates the production of L2 sounds that are influenced by learners L1 phonological system in which there is dissimilarity between them. This dissimilarity reflected difficulty in mastering second language (Lado 1957; Corder 1994; Dulay et al 1982; Brown 2005; Flege 1995). Thus, the question is "what is different and what is similar?".

Languages are different in various points and similar in others. The most important thing is that discovering for differences based on the same selected feature level of the contrasted languages. According to the focus of this research, the selected feature for contrasting languages in this study is phonetic variants of different phonemes in the contrasted language. The similarities and differences are reflected in the degree of phonological system between them. The tables below show the degree of phonological system differences between Indonesian and learners' first language. The degree of phonological system differences is determined by the list of Indonesian and contrasted language phonemes, their allophones and distributions, such as initial, medial, and final positions. The first

table presents the degree of phonological systems between Indonesian and Malaysian, followed by Indonesian and Turkish, and the last is Indonesian and English.

Table 4.42 Degree of Phonological System Differences between Indonesian and Malaysian

No	Phonemes	Availability		Allophones		Distributions					
						Initial		Medial		Final	
		Indo	Malay sian	Indo	Malay sian	Indo	Malay sian	Indo	Malay sian	Indo	Malay sian
1	p	yes	yes	[p]	[p]	yes	yes	yes	yes	yes	yes
2	b	yes	yes	[b]	[b]	yes	yes	yes	yes	no	no
3	t	yes	yes	[t]	[t]	yes	yes	yes	yes	yes	yes
4	d	yes	yes	[d]	[d]	yes	yes	yes	yes	no	no
5	k	yes	yes	[k,ʔ]	[k]	yes	yes	yes	yes	yes	yes
6	(ʔ)	no	yes	no	[ʔ]	no	yes	no	no	yes	yes
7	g	yes	yes	[g]	[g]	yes	yes	yes	yes	no	no
8	ʄ	yes	yes	[ʄ]	[ʄ]	yes	yes	yes	yes	no	no
9	ʤ	yes	yes	[ʤ]	[ʤ]	yes	yes	yes	yes	no	no
10	f	yes	yes	[f]	[f]	yes	yes	yes	yes	yes	yes
11	v	no	yes	no	[v]	no	yes	no	yes	no	no
12	s	yes	yes	[s]	[s]	yes	yes	yes	yes	yes	yes
13	z	yes	yes	[z]	[z]	yes	yes	yes	yes	no	no
14	ʃ	yes	yes	[ʃ]	[ʃ]	yes	yes	yes	yes	no	no
15	x	yes	yes	[x]	[x]	yes	yes	yes	yes	no	no
16	h	yes	yes	[h]	[h]	yes	yes	yes	yes	yes	yes
17	l	yes	yes	[l]	[l]	yes	yes	yes	yes	yes	yes
18	r	yes	yes	[r]	[r]	yes	yes	yes	yes	yes	no
19	m	yes	yes	[m]	[m]	yes	yes	yes	yes	yes	yes
20	n	yes	yes	[n]	[n]	yes	yes	yes	yes	yes	yes
21	ñ	yes	yes	[ñ]	[ñ]	yes	yes	yes	yes	no	no
22	ŋ	yes	yes	[ŋ]	[ŋ]	yes	yes	yes	yes	yes	yes
23	w	yes	yes	[w]	[w]	yes	yes	yes	yes	no	no
24	y	yes	yes	[y]	[y]	yes	yes	yes	yes	no	no
25	i	yes	yes	[i, ɪ]	[i, ɪ]	yes	yes	yes	yes	yes	yes
26	u	yes	yes	[u,ʊ]	[u,ʊ]	yes	yes	yes	yes	yes	yes
27	e	yes	yes	[e,ɛ]	[e,ɛ]	yes	yes	yes	yes	yes	yes
28	ə	yes	yes	[ə]	[ə]	yes	yes	yes	yes	no	yes
29	o	yes	yes	[o,ɔ]	[o,ɔ]	yes	yes	yes	yes	yes	yes
30	a	yes	yes	[a]	[a]	yes	yes	yes	yes	yes	no
31	Ai/oi/au/ei	yes	yes	[ai, oi, au, ei]	[ai, oi, au, ei]	yes	yes	yes	yes	yes	yes
				The degree of Indonesian and Malaysian phonological systems: 100 – (113/124 x 100%) = **10%**							

Table 4.42 represents the combination of consonants, vowels, allophones and distributions between Indonesian and Malaysian phonological systems. There are some similarities and differences between Indonesian and Malaysian phonological system. The phonemes /p/, /b/, /t/, /d/, /g/, /ʧ/, /ʤ/, /f/, /s/, /z/, /ʃ/, /x/, /h/, /l/, /m/, /n/, /ñ/, /ŋ/, /w/, /y/, /i/, /u/, e/, /o/ and the diphthongs for both Malaysian and Indonesian are identical based on the availability, the allophones, and the distributions, such as in initial, medial, and final positions. On the other hand, phoneme /k/ in Indonesian has two allophones, [k] that occurs in elsewhere and [ʔ] that occurs in final positions in relation to the speakers' dialect, while the allophone of Malaysian /k/ only consists of [k], since the sound [ʔ] is a phoneme in Malaysian. Besides, Malaysian has the phoneme /v/, whereas /v/ is not part of Indonesian phonological system. Another difference is that Malaysian [r] and [a] sounds never occur in final positions but these sounds always pronounced clearly in all positions in Indonesian. Meanwhile, Indonesian [ə] never appears in final positions, whereas Malaysian [ə] appears in three positions, initial, medial, and final positions. Based on the table above, it can be concluded that the degree of phonological system differences between Indonesian and Malaysian is 10%.

The next discussion is the degree of phonological system differences between Indonesian and Turkish. The table is presented as follows.

Table 4.43 Degree of Phonological System Differences between Indonesian and Turkish

No	Phonemes	Availability		Allophones		Distributions					
						Initial		Medial		Final	
		Indo	Turkish	Indo	Turkish	Indo	Turkish	Indo	Turkish	Indo	Turkish
1	p	yes	yes	[p]	[p]	yes	yes	yes	yes	yes	yes
2	b	yes	yes	[b]	[b]	yes	yes	yes	yes	no	no
3	t	yes	yes	[t]	[t]	yes	yes	yes	yes	yes	yes
4	d	yes	yes	[d]	[d]	yes	yes	yes	yes	no	no
5	k	yes	yes	[k, ʔ]	[k, kˈ]	yes	yes	yes	yes	yes	yes
6	g	yes	yes	[g]	[g, ɟ]	yes	yes	yes	yes	no	no
7	ʧ	yes	yes	[ʧ]	[ʧ]	yes	no	yes	rare	no	rare
8	ʤ	yes	yes	[ʤ]	[ʤ]	yes	yes	yes	yes	no	no
9	f	yes	yes	[f]	[f]	yes	yes	yes	yes	yes	yes
10	ʒ	no	yes	no	[ʒ]	no	yes	no	yes	no	yes
11	s	yes	yes	[s]	[s]	yes	yes	yes	yes	yes	yes
12	z	yes	yes	[z]	[z]	yes	yes	yes	yes	no	no
13	ʃ	yes	yes	[ʃ]	[ʃ]	yes	yes	yes	yes	no	no
14	h	yes	yes	[h]	[h]	yes	yes	yes	yes	yes	rare
15	x	yes	no	[x]	no	yes	no	yes	no	no	no
16	l	yes	yes	[l]	[l, ɬ]	yes	yes	yes	yes	yes	yes
17	r	yes	yes	[r]	[ɾ, ř, ɾ̝]	yes	yes	yes	yes	yes	yes
18	m	yes	yes	[m]	[m]	yes	yes	yes	yes	yes	yes
19	n	yes	yes	[n]	[n, ŋ]	yes	yes	yes	yes	yes	yes
20	ñ	yes	no	[ñ]	no	yes	no	yes	no	no	no
21	ŋ	yes	no	[ŋ]	no	yes	no	yes	no	yes	no
22	w	yes	no	[w]	no	yes	no	yes	no	no	no
23	ʊ	no	yes	no	[ʊ]	no	yes	no	yes	no	no
24	y	yes	no	[y]	no	yes	no	yes	no	no	no
25	i	yes	yes	[i, ɪ]	[i, ɪ]	yes	yes	yes	yes	yes	yes
26	u	yes	yes	[u,ʊ]	[u, ʊ]	yes	yes	yes	yes	yes	yes
27	e	yes	yes	[e, ɛ]	[e, ɛ]	yes	yes	yes	yes	yes	yes
28	ə	yes	no	[ə]	no	yes	no	yes	no	no	no
29	o	yes	yes	[o,ɔ]	[o]	yes	yes	yes	yes	yes	yes
30	a	yes	yes	[a]	[a, ə, ʌ]	yes	yes	yes	yes	yes	yes
31	ʏ	no	yes	no	[ʏ]	no	yes	no	yes	no	yes
32	ɯ	no	yes	no	[ɯ]	no	yes	no	yes	no	yes
33	œ	no	yes	no	[œ]	no	yes	no	yes	no	yes
34	Ai/oi/au/ei	yes	no	[ai, oi, au, ei]	no	yes	no	yes	no	yes	no
		The degree of Indonesian and Turkish phonological systems: 100 – (85/136 x 100%) = **38%**									

Table 4.43 represents the combination of consonants, vowels, allophones and also distribution between Indonesian and Turkish phonological systems. There are some similarities and differences that can be seen from the table above. First of all, the differences between Indonesian and Turkish sounds is that Turkish voiceless velar stops /k/ has two allophones: [k] that occurs in elsewhere and [kˈ]

that occurs in final positions, whereas Indonesian /k/ has a single allophone. This rule nevertheless interferes the pronunciation of the sound [k] in final positions when Turkish speakers learning Indonesian. They tend to over-differentiate [k] with [kˈ] in final positions, for instance [enak] as [enakˈ], [asbak] as [asbakˈ], and [lunak] as [lunakˈ]. Likewise, Turkish alveolar lateral approximant /l/ also has two allophones, clear [l] and dark [l], whereas Indonesian /l/ consists of a single allophone. Clear [l] occurs in elsewhere, while dark [l] occurs in final positions. Accordingly, Turkish speakers pronounce [final], [ʤuʷal], [ferbal], as [finaɬ], [ʤuʷaɬ], [ʋerbaɬ]. Another difference is that the phoneme /g/ has two allophones in Turkish: [g], [ɟ], whereas Indonesian /g/ has a single allophone, that is [g]. The phoneme [ʧ] is member of Indonesian and Turkish phonology, even so [ʧ] in Turkish is absolutely rare both in medial and final positions, and never occurs initially. Nevertheless, Indonesia [ʧ] can occur in initial, medial, and final positions. Another contrast is that Turkish /r/ has three kinds of allophone, [ɾ] which is voiced alveolar flap and occurs in intervocalic positions, [ɾ̌] which is voiced fricative alveolar flap and occurs in word initial, [ɾ̝̊] which is voiceless fricative alveolar flap and occurs in final positions (Yavuz & Balci, 2011:25). However, Indonesian alveolar trill /r/ consists of [r] as an allophone and always pronounced clearly wherever it occurs. The next difference is the sound [ŋ]. The sound [ŋ] in Turkish is an allophone of the phoneme /n/ and it occurs before velar consonants. Conversely, the sound [ŋ] is a phoneme in Indonesian phonology and it occurs in all positions. Another interesting difference is that Turkish /a/ has three allophones, [a] occurs in relation to speaker-dependent, [ə] occurs rarely in

the first syllables, and [ʌ] occurs in elsewhere (Yavuz & Balci, 2011:41). In contrast, Indonesian /a/ has a single allophone [a] and it occurs in elsewhere.

From the table above, there are some Indonesian sounds that are not the members of Turkish phonological system. Those sounds are [x], [ŋ], [ñ], [w], [y], [ə], [ai], [au], [ei], [oi]. Therefore, there are no allophones and distributions regarding to these sounds. These sounds are also categorized as new sounds for Turkish speakers. The results show that Turkish speakers have problem in pronouncing those new sounds. On the other hand, there are some Turkish sounds that are not the members of Indonesian phonology, such as the sounds [ʒ], [ʊ], [ʏ], [ɯ], and [œ].

The table also reveals all of identical sounds between Indonesian and Turkish phonology. These identical sounds have the same allophones and the same distributions. These identical sounds are [p], [b], [t], [d], [ʤ], [f], [s], [z], [ʃ], [m], [i, ɪ], [u, ʊ], [e, ɛ]. As an implication, Turkish speakers have no difficulties in articulating these sounds in Indonesian words.

The next discussion is the degree of phonological system differences between Indonesian and English. The table is presented as follows.

Table 4.44 Degree of Phonological System Differences between Indonesian and English

No	Phonemes	Availability		Allophones		Distributions					
						Initial		Medial		Final	
		Indo	English	Indo	English	Indo	English	Indo	English	Indo	English
1	p	yes	yes	[p]	[p, pʰ]	yes	yes	yes	yes	yes	yes
2	b	yes	yes	[b]	[b]	yes	yes	yes	yes	no	yes
3	t	yes	yes	[t]	[t, tʰ]	yes	yes	yes	yes	yes	yes
4	d	yes	yes	[d]	[d]	yes	yes	yes	yes	no	yes
5	k	yes	yes	[k,ʔ]	[k, kʰ]	yes	yes	yes	yes	yes	yes
6	g	yes	yes	[g]	[g]	yes	yes	yes	yes	no	yes
7	ʧ	yes	yes	[ʧ]	[ʧ]	yes	yes	yes	yes	no	yes
8	ʤ	yes	yes	[ʤ]	[ʤ]	yes	yes	yes	yes	no	yes
9	f	yes	yes	[f]	[f]	yes	yes	yes	yes	yes	yes
10	v	no	yes	no	[v]	no	yes	no	yes	no	yes
11	θ	no	yes	no	[θ]	no	yes	no	yes	no	yes
12	ð	no	yes	no	[ð]	no	yes	no	yes	no	yes
13	ʒ	no	yes	no	[ʒ]	no	rare	no	yes	no	yes
14	s	yes	yes	[s]	[s]	yes	yes	yes	yes	yes	yes
15	z	yes	yes	[z]	[z]	yes	yes	yes	yes	no	yes
16	ʃ	yes	yes	[ʃ]	[ʃ]	yes	yes	yes	yes	no	yes
17	x	yes	no	[x]	no	yes	no	yes	no	no	no
18	h	yes	yes	[h]	[h]	yes	yes	yes	yes	yes	no
19	l	yes	yes	[l]	[l, ɬ]	yes	yes	yes	yes	yes	yes
20	r	yes	yes	[r]	[r]	yes	yes	yes	yes	yes	no
21	m	yes	yes	[m]	[m]	yes	yes	yes	yes	yes	yes
22	n	yes	yes	[n]	[n]	yes	yes	yes	yes	yes	yes
23	ñ	yes	no	[ñ]	no	yes	no	yes	no	no	no
24	ŋ	yes	yes	[ŋ]	[ŋ]	yes	no	yes	yes	yes	yes
25	w	yes	yes	[w]	[w]	yes	yes	yes	yes	no	yes
26	y	yes	yes	[y]	[y]	yes	yes	yes	yes	no	no
27	i	yes	yes	[i, ɪ]	[i]	yes	yes	yes	yes	yes	yes
28	u	yes	yes	[u,ʊ]	[u]	yes	rare	yes	yes	yes	yes
29	ʊ	no	yes	no	[ʊ]	no	rare	yes	yes	no	yes
30	e	yes	yes	[e, ɛ]	[e]	yes	yes	yes	yes	yes	no
31	ʌ	no	yes	no	[ʌ]	no	yes	no	yes	no	no
32	ə	yes	yes	[ə]	[ə]	yes	yes	yes	yes	no	yes
33	ɔ	no	yes	no	[ɔ]	no	yes	no	yes	no	yes
34	o	yes	yes	[o,ɔ]	[o]	yes	yes	yes	yes	yes	yes
35	æ	no	yes	no	[æ]	no	yes	no	yes	no	no
36	a	yes	yes	[a]	[a]	yes	yes	yes	yes	yes	yes
37	ɑ	no	yes	no	[ɑ]	no	yes	no	yes	no	yes
38	Ai/oi/au/ei	yes	yes	[ai, oi, au, ei]	[ai, oi, au, ei]	yes	yes	yes	yes	yes	yes
				The degree of Indonesian and English phonological systems: 100- (91/152 x 100%) = **41%**							

Table 4.44 displays the combination of consonants, vowels, allophones and also distributions between Indonesian and English phonological systems. There are some similarities and differences between Indonesian and English phonological systems. English phonological system has all of Indonesian phonemes, except palatal nasal /ñ/ and /x/. Nonetheless, the allophones and distributions of some phonemes are dissimilar. For example, English /p, t, k/ have two allophones, [p, p^h], [t, t^h], [k, k^h]. Unaspirated voiceless stops occur in elsewhere, while aspirated ones occur in strongly stressed syllables. By contrast, Indonesian /p, t, k/ have a single allophone and it occurs in all positions. Moreover, both Indonesian and English phonemes /b, d, ʤ, z, g/ have a single allophone [b, d, ʤ, z, g]. These sounds occur elsewhere in English, whereas it never occurs in final positions in Indonesian. Another difference is that English /l/ consists of two allophones, clear [l] that occurs in elsewhere, and dark [l] that occurs in final positions. Conversely, Indonesian phoneme /l/ has a single allophone and it occurs in all positions. Similarly, Indonesian phonemes /r/ and /h/ can occur in all positions, whereas English /r/ and /h/ occur in initial and medial positions. Hence, English speakers tend to drop /r/ in every final position but lengthen the preceding vowel. Another difference is that English velar nasal /ŋ/ occurs in medial and final positions only, while Indonesian /ŋ/ can occur in three positions. Regarding to the vowels, both of Indonesian and English phonology have the vowels /i, u, e, o/, but in Indonesian these vowels have two allophones, that appears in closed and open syllables. Meanwhile, English /i, u, e, o/ consist of a single allophone with one variant, [ɪ, ʊ, ɛ, ɔ]. All of those differences give

contribution in relation to the phonic interference that done by English when producing Indonesian words. On the other hand, there are some English sounds that are not the members of Indonesian phonology, such as the sounds [v], [θ], [ð], [ʒ], [ʌ], [æ], and [ɑ].

The table also displays all of identical sounds between Indonesian and English phonology. These identical sounds have similar allophones and distributions. These identical sounds are [f], [s], [m], [n], [y], and [a]. As a result, English speakers have no difficulties in articulating these sounds in Indonesian words. Based on the table above, it can be seen that the degree of phonological system differences between Indonesian and English is 41%.

4.2.2 The Relation between The Degree of Phonological System Differences and The Degree of Phonic Interference

From the findings of the study, the writer tried to investigate the role of language family in determining the possible number of interference. The following table represents the relation between the degree of phonological system differences and the degree of interference done by the learners.

Table 4.45 Relation of The Degree of Phonological System Differences and The Degree of Phonic Interference

No	L1	Degree of Phonological system Differences	Degree of Phonic Interference
1	Malaysian	10 %	16 %
2	Turkish	38 %	34 %
3	English	41 %	43 %

Table 4.45 indicates that the lowest degree of phonological system differences compared to Indonesian is Malaysian 10%, followed by Turkish with 38%. English has the highest degree of phonological system differences above all with 41%. The degree of phonological system differences somehow is related to the degree of phonic interference produced by native speakers when learning Indonesian as described in the previous chapter. Consequently, Malaysian has the smallest phonic interference with 16%, and the second number is Turkish with 34%. English, not only has the greatest number of degree phonological system differences, but also the greatest degree of phonic interference, with the total number 43%.

Malaysian has the same language family regarding to Indonesian. Malaysian and Indonesian are the members of Austronesian family. Consequently, there is a natural connection or identical patterns between them. The identical patterns can be found at all levels including phonological level. The total sounds of Malaysian are 18 phonemes with six loan consonants from Arabic and six vowels, whereas Indonesian has around 22 consonants and six vowels as

well (Muslich, 2008:95). However, the distributions and allophones of the Malaysian in Indonesian sounds are identical. Those identical sounds are supposed to be perceived and produced correctly by L1 learners, "as the result of a process referred to as "positive transfer" (Weinreich, 1953, as cited in Flege, 1997:17). Since the features of mother language are acceptable in accordance to the second language, there will be less interference done by the learners.

Based on the findings of the study, Malaysian speakers are able to pronounce Indonesian words appropriately. From the total 250 words as an elicitation production task, Malaysian speakers are able to pronounce 84% or around 208 words appropriately. Compared to Turkish and English native speakers, for instance the pronunciation of the sound velar nasal [ŋ] in medial positions. Malaysian has the same way articulating this sound as well as in Indonesian. As stated by Lado (1957:2) that the ease in acquiring some patterns of the second language definitely depended on the similarity it bore to the language. Indonesian words *'angin', 'bangun', 'bunga', 'jangan', 'dingin'*, and *'langit'* pronounced appropriately as [aŋɪn], [baŋun], [buŋa], [jaŋan], [diŋɪn], [laŋɪt]. According to Corder, the more similar the mother tongue and the target language, the greater role the mother tongue can give in acquiring the target language (1982:98-99). Meanwhile, Turkish and English speakers are more likely to pronounce those words as [aŋgin], [baŋgun], [buŋga], [jaŋgan], [diŋgin], [laŋgit] due to the assimilation rules in both languages. In Turkish and English, alveolar nasal [n] becomes velar nasal [ŋ] when preceding a velar stop, [k] or [g]. This phenomenon is in accordance with Trubetzkoy's argument that learners are more

likely interpret sounds encountered in an L2 through the "grid" of their L1 phonology (in Flege 1995:237).

Turkish speakers, on the other hand, have some problems in articulating Indonesian words, especially the words contain palatal nasal [ñ], the diphthongs [aʊ/oi/ai/], and central mid vowel [ə]. Those phones can be categorized as new phones for Turkish speakers since Turkish has no such phones. Lado (1957:2) declared that the differences between the first language and second language caused any difficulties in acquiring a second language. In accordance with Lado, Krzeszowski claimed that the unavailability of the similar phonetic of a foreign sound in one's first language is said to be the source of a major difficulty in learning a foreign language pronunciation (1991:54). This gives two ideas according to Flege (1987:48), learners either produce those words with the simple articulatory patterns, or, the pronunciation of new L2 phones goes unnoticed by listeners. Turkish letter '*c*' is pronounced as voiced palato velar affricate [ʤ] wherever it occurs. For that reason, based on the findings of the study, Turkish speakers re-interpret Indonesian words *'cari'* as [ʤari], *'cuma'* as [ʤuma], *'acar'* as [aʤar]. This phonic interference can lead to confusion between *'cari'* vs *'jari'*, *'acar'* vs *'ajar'*, and *'baca'* vs *'baja, 'acak'* vs *'ajak'*. As claimed by Flege (1995:266) that non-natives generally do not perceive L2 sounds in accurately the same way native speakers of L2 do. Further, they are not able to discriminate the phonetic differences in L2, or between L1 and L2 phones. Likewise, Flege pointed out that some phones in L2 seem to be so dissimilar acoustically and articulatorily from phones in LI (1987:50). Nevertheless, it is more difficult to

make *a priori* predictions regarding many other phones in an L2. From the total 250 Indonesian words, Turkish speakers are able to pronounce 66% or about 162 words accurately.

Last but not least, English speakers succeed to pronounce 143 of 250 Indonesian words appropriately or only 57%. Since English has the biggest number - that is 39% degree of phonological system differences related to Indonesian. In fact, English has the greatest number of phonological system from the three languages. English has 24 consonants and 20 vowels including the diphthongs (Roach, 2008:62), whereas Indonesian has 22 consonants and 10 vowels including the diphthongs (Muslich, 2008:95). On the other hand, Turkish has 21 consonants and 8 vowels without any diphthongs (Yavuz & Balci, 2011:22), whereas Malaysian has 18 consonants plus six loan phonemes from Arabic, and 10 vowels including the diphthongs (Clynes & Deterding, 2011:260). However, the greater number of phonological system does not automatically give an assurance that there will be less interference.

In spite of the fact that the members of Indonesian and English phonemes are mostly similar, the allophones and phoneme distributions of those languages are literally different. Flege confirmed that the biggest problem for L2 learners in perceiving and articulating L2 sounds is the sounds that are phonetically similar (1997:17). In line with Flege, Lowie (2013:348) claimed that similar sounds are more likely to be the biggest problem for learners both in perceiving and producing sounds. For example, /p/, /t/, /k/ are found in both English and

Indonesian, but English /p/, /t/, /k/ become aspirated in initial positions. Likewise, the phoneme /h/ is also the member of both English and Indonesian phonological system. The difference is that English /h/ never occur in post-vocalic positions, while Indonesian /h/ can occur in both pre-vocalic and post-vocalic positions. Consequently, English speakers have problem to pronounce the sound [h] in final positions, either devoiced or inserted [h] sound in final positions. This case can lead to confusion between [muda] and [mudah], [bawa] and [bawah], [tudʒu] and [tudʒuh]. Based on the explanation above, the allophones and the distribution of phonemes should also be regarded as a factor in the number of phonic interference.

The findings of this study hopefully can provide a meaningful contribution for both Indonesian learners, especially Turkish, Malaysian, English speakers, and the teachers. By knowing the phonological systems contrast in four languages with the allophones and its distributions, the learners and the teachers are expected to pay more attention to the articulation of the sounds that often cause phonic interference. In the end, the number of phonic interference or negative transfer that produced by the learners can be reduced by articulate the particular sounds appropriately. As the main consequence, there is no misunderstanding between the non-native and native speakers in communication. In addition, the writer expects that this study also hopefully useful for linguists who are interested in analyzing the study of first language interference on the L2 production.

CHAPTER V

CONCLUSION AND SUGGESTION

In this chapter, the writer will present the conclusion and suggestion dealing with the data findings of this study.

5.1 Conclusion

Based on the result and discussion, it was found that first language of the learners plays a big role in learning of second language. L1 learners can give either positive or negative transfer in L2 production according to the similarity and dissimilarity between two languages. The less similar, the less role L1 learner can give and this causes negative transfer. Negative transfer or interference in L2 production from this research particularly is caused by phonological system differences between L1 and L2 learners. Likewise, the writer concludes that Malaysian, Turkish, and English speakers - as the learners - produce phonic interference when learning Indonesian.

There are four kinds of phonic interference produce by the learners; substitution, under-differentiation, over-differentiation, and re-interpretation. The biggest number of phonic interference is re-interpretation with sixteen cases. English has the greatest number of re-interpretation with nine cases. Re-interpretation is caused by the usual L1 sound pattern but the sound used do not follow the usual L2 pattern. Further, there are ten substitution cases that found in

this study. Turkish has the greatest number of substitution with six cases because some of Indonesian sounds are new for Turkish speakers. Consequently, they substitute those new sounds with the nearest equivalent sounds in their L1. Next, there are nine cases of over-differentiation by English and Turkish speakers. It is caused by imposition of the L1 sound to the L2 sound where they are not required. The last kind is under-differentiation with five cases and the three cases are caused by the interference of Malaysian variety or dialect.

Another important result is that English has the greatest number of phonological system differences towards Indonesian, that is 41%, followed by Turkish in second place with 38%, and the last is Malaysian with 10%. Interestingly, the greater number of the phonological system differences between L1 and L2, the greater number phonic interference will occur. Therefore, the biggest degree of phonic interference of L1 into L2 belong to English speakers with 43%, followed by Turkish speakers 34%, and Malaysian 16%. Further, language family also has a big role in determining interference on L2 production. The most important fact obtained from this study is that the great number of phonological system of a language does not give any assurance that there will be less interference, even though there are 24 consonants and 20 vowels in English contrasted to 21 consonants and 8 vowels in Turkish and 18 consonants and 9 vowels in Malaysian. Another important factor in determining the degree of possible interference is the identical allophones and the distributions between L1 and L2.

5.2 SUGGESTION

This present study did not investigate the cross-linguistics factors such as intonation, level of word stress, and rhythm whether these factors might have influences in learning second language. This study also did not consider the influence of other factors that cause interference such as motivation, language aptitude, frequency of use, and learning strategies. The limitations obtained in this study, however, lead suggestions for further research, for instance: (1) the study of cross linguistics factors whether there is a correlation in the number of possible interference, (2) the investigation of individual differences in L2 production such as motivation, learning aptitude, and learning strategies.

REFERENCES

Ary, Donald., Jacobs, Lucy Cheser., Razavieh, Asghar., Sorensen, Chris., (2009). *Introduction to Research 8th Edition*. Belmont: Wadsworth Publishing.

Bada, Erdogan. (2001). 'Native Language Influence On The Production Of English Sounds By Japanese Learners'. *The Reading Matrix.* vol.1, no.2, pp.1-15.

Best, Catherine T. & Tyler, Michael D. (2007). 'Nonnative and Second Language Speech Perception'. In O.S. Bohn, and M.J. Munro (eds), *Language Experience in Second Language Speech Learning*, pp. 13–34. Amsterdam: John Benjamins.

Bloomfield, Leonard. (1933). *Language*. New York: Holt.

Brown, H Douglas. (2005). *Principles of Language Learning and Teaching*. Englewood Cliff: Prentice Hall.

Celce-Murcia, M., Brinton, D.M. & Goodwin, J.M. (1996). *Teaching pronunciation. A reference for teachers of English to speakers of other languages*. Cambridge: Cambridge University Press.

Clynes, Adrian, & Deterding, David. (2011). 'Standard Malay (Brunei)'. *Journal of the International Phonetic Association*, 41, 259-268.

Corder, Pitt. (1982). *Error Analysis and Interlanguage*. Oxford: Oxford University Press.

Corder, Pitt. (1992). 'A Role for Mother Tongue', in Susan Gass & Larry Selinker (eds), *Language Transfer In Language Learning*. Amsterdam: John Benjamins Publishing.

Creswell, John W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, Fourth Edition*. Los Angeles: Sage Publications, Inc.

Denura, Farida. (2013). 'Mahasiswa Asing Berperan Sebar Bahasa Indonesia'. *Sinar Harapan*. Retrieved November, 19th, 2015 from http://sinarharapan.co/otomotif/read/1929/rss.xm/rss.xml.

Depdiknas. (2008). *Kamus Besar Bahasa Indonesia Pusat Bahasa Edisi Keempat*. Jakarta: PT Gramedia Pustaka Utama.

Dulay, Heidi C., Burt, M. & Krashen. (1982). *Language Two*. New York: Oxford University Press.

Eiampailin, Janida. (2004). *The Phonological Interference of Swatow in Standard Thai by Chinese Speakers in Bangkok.* M.A Thesis in Linguistics. Faculty of Graduate Studies, Silpakorn University. Retrieved April, 2nd , 2015 from http://www.paaljapan.org/resources/proceedings/PAAL9/pdf/Eiampaili.pdf

Ellis, Rod. (1997). *Second Language Acquisition*. Oxford: Oxford University Press.

Ellis, Rod. (1994). *The Study of Second Language Acquisition*. Oxford: Oxford University Press.

Flege, James Emil. (1987). 'The Production of "New" and "Similar" Phones in A Foreign Language: Evidence for The Effect of Equivalence Classification'. *Journal of Phonetics* Vol. 15, p. 47-65.

Flege, James Emil. (1995). 'Second Language Speech Learning: Theory, Findings, and Problems', in Winifred Strange (ed). *Speech Perception and Linguistics Experience: Issues in Cross-Language Research.* Timonium, MD: York Press.

Fisiak, Jacek. (1981). *Contrastive Linguistics and the Language Teacher*. New York: Pergamon.

Flipsen, Peter. (1992). 'Considerations for the Assessment of Phonology in Second Language Learners'. *JSLPA* Vol.16, No. 3, p. 211-216.

Gass, Susan M. & Selinker, Larry. (1994). *Second Language Acquisition: An Introductory Course*. Los Angeles: Lawrence Erlbaum Associates

Islam, Ariful. (2004). *L1 Influence on the Spoken English Proficiency of Bengali Speakers*. Högskolan Dalarna. Retrieved 20 May 2015 from http://du.diva-portal.org/smash/get/diva2:517729/FULLTEXT01.pdf

Jendra, Made Indrawan. (2010). *Sociolinguistics: The Study of Societies' Languages.* Yogyakarta: Graha Ilmu.

Klein, Wolfgang. (1986). *Second Language Acquisition.* London: Cambridge University Press.

Krzeszowski, Tomasz P. (1991). *Contrasting Languages: The Scope of Contrastive Linguistics.* Berlin: Mouton de Gruyter.

Kuhl, Patricia K. (1992). 'Psychoacoustics and speech perception: Internal standards, perceptual anchors, and prototypes'. In L. Werner, and E. Rubel (eds), *Developmental Psychoacoustics*, pp. 293–332. Washington, DC: American Psychological Association.

Lado, Robert. (1957). *Linguistics Across Cultures Applied Linguistics For Language Teachers.* Ann Arbor: University of Michigan Press.

Lowie, Wander. (2013). 'L2 Phonology', in Peter Robinson (ed), *The Routledge Encyclopedia of Second Language Acquisition*. New York: Routledge.

Luo, Jianping. (2014). 'A Study of Mother Tongue Interference in Pronunciation of College English Learning in China'. Journal. *Theory and Practice in Language Studies*, Vol. 4, No. 8, pp. 1702-1706, ACADEMY PUBLISHER

Matras, Yaron. (2009). *Language Contact*. Cambridge: Cambridge University Press.

Muslich, Masnur. (2008). *Fonologi Bahasa Indonesia: Tinjauan Deskriptif Sistem Bunyi Bahasa Indonesia*. Jakarta: Bumi Aksara.

Neuman, W. Lawrence. (2007). *Basics of Social Research: Qualitative and Quantitative Approaches.* Boston: Pearson Education, Inc.

Odlin, Terence. (1989). *Language Transfer*. Cambridge: Cambridge University Press.

Otoum, Farah Ali. (2010). *An Analysis of Pronunciation Errors Made by Students of Spanish as A Foreign Language in the University of Jordan*. M.A Thesis. Faculty of Arts, Middle East University, Jordan. Retrieved December, 8th, 2015 from http://www.meu.edu.jo/ar/images/data/634330429810781250.pdf

Prananingrum, Kartika D. & Kwary, Deni A. (2006). *L1 Influence on the Production of L2 Sounds: A Case Study at the English Diploma Program, Airlanga University, Indonesia.* Retrieved May, 19th, 2015 from http://www.kwary.net/about/Praraningrum_Kwary_2006.pdf.

Prasetyo, Eko. (2013). *Bahasa Indonesia Kian Favorit.* Retrieved November, 19th, 2015 from http://www.kompasiana.com/prasetyo_pirates/bahasa-indonesia-kian-favorit_552a4da36ea834f40b552d02.

Roach, Peter J. (1998). *English Phonetics and Phonology*. Cambridge: Cambrige University Press.

Romaine, Suzanne. (1989). *Bilingualism.* London: Blackwell publishers.

Samarin, William J. (1967). *Field Linguistics*. New York: Holt, Rinehart, and Winston Inc.

Schane, Sanford A. (1973). *Generative Phonology*. Englewood Cliffs, N.J: Prentice-Hall.

Weinreich, Uriel. (1979). *Languages in Contact*. New York: The Hague Mouton.

Yavuz, Handan & Ayla Balci. (2011). *Turkish Phonology and Morphology*. Anadolu University.

1. Wordlist

		52	Daun	104	Jembatan	156	Mungkin	208	Silau
1	Abad	53	Dekat	105	Jendela	157	Musik	209	Sinar
2	Acar	54	Dengar	106	Jenguk	158	Musuh	210	Skema
3	Aduan	55	Desain	107	Jenis	159	Naik	211	Sketsa
4	Ajaib	56	Dialog	108	Jilid	160	Nanti	212	Sopir
5	Ajar	57	Dingin	109	Jual	161	Nenek	213	Spesial
6	Abadi	58	Diri	110	Judul	162	Net	214	Stasiun
7	Alun-alun	59	Doa	111	Jumlah	163	Nganga	215	Strata
8	Ambil	60	Domba	112	Kadang	164	Nilai	216	Strategi
9	Amplop	61	Dongeng	113	Kalah	165	Nyala	217	Stoples
10	Angin	62	Dosen	114	Kampus	166	Nyenyak	218	Substitusi
11	Angkasa	63	Durian	115	Karnaval	167	Ombak	219	Sunyi
12	Asbak	64	Efisien	116	Kecap	168	Ongkos	220	Syarat
13	Asin	65	Egois	117	Kecuali	169	Orang	221	Tahun
14	Asing	66	Eksekutif	118	Kerikil	170	Organ	222	Taksi
15	Audio	67	Ekslusif	119	Kitab	171	Ornamen	223	Tangan
16	Baca	68	Eksperimen	120	Klinik	172	Panas	224	Tanggal
17	Bahasa	69	Embun	121	Konstruksi	173	Panggil	225	Tangkai
18	Baik	70	Enak	122	Kontak	174	Pantai	226	Tempat
19	Bandara	71	Engkau	123	Kristal	175	Pantau	227	Tentang
20	Bangga	72	Episode	124	Kualitas	176	Parkir	228	Tipis
21	Bangun	73	Favorit	125	Kucing	177	Pecah	229	Tiri
22	Banyak	74	Final	126	Kunci	178	Pensil	230	Tonton
23	Bawa	75	Fokus	127	Kurban	179	Penting	231	Tujuh
24	Bawah	76	Formal	128	Lain	180	Pergi	232	Tunggu
25	Becak	77	Foto	129	Lancar	181	Permen	233	Ujian
26	Bendera	78	Gambar	130	Lampu	182	Pertama	234	Ulangan
27	Bensin	79	Gampang	131	Langit	183	Pilih	235	Undang
28	Benua	80	Ganggu	132	Laut	184	Presiden	236	Unit
29	Berat	81	Ganteng	133	Lembah	185	Program	237	Universitas
30	Bersih	82	Garansi	134	Lemon	186	Pulau	238	Vanila
31	Bilingual	83	Genggam	135	Lengan	187	Radio	239	Vas
32	Bingung	84	Getar	136	Lengkap	188	Rahasia	240	Verbal
33	Bioskop	85	Global	137	Licin	189	Ramai	241	Video
34	Boleh	86	Gunting	138	Lihat	190	Rangkai	242	Virus
35	Brosur	87	Gunung	139	Limbah	191	Real	243	Waktu
36	Buah	88	Habis	140	Listrik	192	Rel	244	Wangi
37	Bulan	89	Hangat	141	Lucu	193	Rencana	245	Web
38	Bunga	90	Hancur	142	Lunak	194	Ruang	246	Wig
39	Bunyi	91	Hanya	143	Mahal	195	Rusak	247	Wujud
40	Cabai	92	Hijau	144	Main	196	Sabtu	248	Yang
41	Calon	93	Hujan	145	Maksud	197	Sampai	249	Zaitun
42	Cari	94	Ikan	146	Manfaat	198	Sampah	250	Zaman
43	Cepat	95	Indonesia	147	Mangkuk	199	Santai		
44	Cicak	96	Ingat	148	Marah	200	Saudara		
45	Cincin	97	Ingin	149	Masyarakat	201	Sebab		
46	Cinta	98	Izin	150	Melon	202	Selai		
47	Cokelat	99	Jalan	151	Merah	203	Selain		
48	Cuma	100	Jalur	152	Menit	204	Semester		
49	Daftar	101	Jangan	153	Meter	205	Semua		
50	Dahan	102	Jatuh	154	Modern	206	Senter		
51	Danau	103	Jelek	155	Muda	207	Siapa		

2. Wordlist Transcription Based on KBBI (2008) and Muslich (2008)

1	[abat]	52	[daʊn]	103	[ʤəlɛk]	153	[metər]	204	[səmestər]
2	[aʧar]	53	[dəkat]	104	[ʤəmbatan]	154	[modern]	205	[səmu$_w$a]
3	[adu^{w}an]	54	[dəŋar]	105	[ʤəndela]	155	[muda]	206	[sentər]
4	[adʒaip]	55	[dəsain]	106	[ʤəŋʊk]	156	[muŋkɪn]	207	[si$_y$apa]
5	[adʒar]	56	[di$_y$alok]	107	[ʤənɪs]	157	[musɪk]	208	[silaʊ]
6	[apa]	57	[diŋɪn]	108	[ʤilɪt]	158	[musʊh]	209	[sinar]
7	[alun-alun]	58	[diri]	109	[ʤu$_w$al]	159	[naik]	210	[skema]
8	[ambil]	59	[do$_w$a]	110	[ʤudul]	160	[nanti]	211	[sketsa]
9	[amplop]	60	[domba]	111	[ʤumlah]	161	[nenɛk]	212	[sopɪr]
10	[aŋɪn]	61	[doŋeŋ]	112	[kadaŋ]	162	[ñañi]	213	[spesi$_y$al]
11	[aŋkasa]	62	[dosen]	113	[kalah]	163	[ŋaŋa]	214	[stasi$_y$un]
12	[asbak]	63	[duri$_y$an]	114	[kampʊs]	164	[nilai]	215	[strata]
13	[asɪn]	64	[efisien]	115	[karnafal]	165	[ñala]	216	[stratəgi]
14	[asɪŋ]	65	[egois]	116	[kɛʧap]	166	[ñəñak]	217	[stoples]
15	[audi^{y}o]	66	[eksekutɪf]	117	[kəʧu$_w$ali]	167	[ombak]	218	[substitusi]
16	[baʧa]	67	[ekslusɪf]	118	[kərikɪl]	168	[oŋkos]	219	[suñi]
17	[bahasa]	68	[eksperimen]	119	[kitap]	169	[oraŋ]	220	[ʃarat]
18	[baik]	69	[əmbun]	120	[klinɪk]	170	[organ]	221	[tahun]
19	[bandara]	70	[enak]	121	[konstrʊksi]	171	[ornamen]	222	[taksi]
20	[baŋga]	71	[əŋkaʊ]	122	[kontak]	172	[panas]	223	[taŋan]
21	[baŋʊn]	72	[episode]	123	[kristal]	173	[paŋgil]	224	[taŋgal]
22	[bañak]	73	[faforɪt]	124	[ku$_w$alitas]	174	[pantai]	225	[taŋkai]
23	[bawa]	74	[final]	125	[kuʧɪŋ]	175	[pantaʊ]	226	[təmpat]
24	[bawah]	75	[fokʊs]	126	[kunʧi]	176	[parkir]	227	[təntaŋ]
25	[beʧak]	76	[formal]	127	[kurban]	177	[pəʧah]	228	[tipɪs]
26	[bəndera]	77	[foto]	128	[lain]	178	[pensɪl]	229	[tiri]
27	[bensɪn]	78	[gambar]	129	[lanʧar]	179	[pəntɪŋ]	230	[tonton]
28	[bənu$_w$a]	79	[gampaŋ]	130	[lampu]	180	[pərgi]	231	[tuʤuh]
29	[bərat]	80	[gaŋgu]	131	[laŋɪt]	181	[pərmen]	232	[tuŋgu]
30	[bərsɪh]	81	[gantəŋ]	132	[laʊt]	182	[pərtama]	233	[uʤi$_y$an]
31	[biliŋu$_w$al]	82	[garansi]	133	[ləmbah]	183	[pilɪh]	234	[ulaŋan]
32	[biŋuŋ]	83	[gəŋgam]	134	[lemon]	184	[presiden]	235	[undaŋ]
33	[bioskop]	84	[gətar]	135	[ləŋan]	185	[program]	236	[unɪt]
34	[boleh]	85	[global]	136	[ləŋkap]	186	[pulaʊ]	237	[unifersitas]
35	[brosʊr]	86	[guntɪŋ]	137	[liʧɪn]	187	[radi^{y}o]	238	[fanila]
36	[bʊah]	87	[gunuŋ]	138	[lihat]	188	[rahasi$_y$a]	239	[fas]
37	[bulan]	88	[habis]	139	[limbah]	189	[rama$_y$]	240	[ferbal]
38	[buŋa]	89	[haŋat]	140	[listrɪk]	190	[raŋka$_y$]	241	[fide^{y}o]
39	[buñi]	90	[hanʧʊr]	141	[luʧu]	191	[real]	242	[firʊs]
40	[ʧaba$_y$]	91	[hañа]	142	[lunak]	192	[rɛl]	243	[waktu]
41	[ʧalon]	92	[hiʤaʊ]	143	[mahal]	193	[rəncana]	244	[waŋi]
42	[ʧari]	93	[huʤan]	144	[main]	194	[ru$_w$aŋ]	245	[wep]
43	[ʧəpat]	94	[ikan]	145	[maksʊt]	195	[rusak]	246	[wɪk]
44	[ʧiʧak]	95	[indonesi$_y$a]	146	[manfaat]	196	[saptu]	247	[wuʤut]
45	[ʧɪnʧɪn]	96	[iŋat]	147	[maŋkʊk]	197	[sampai]	248	[yaŋ]
46	[ʧinta]	97	[iŋɪn]	148	[marah]	198	[sampah]	249	[zaitʊn]
47	[ʧokelat]	98	[izin]	149	[maʃarakat]	199	[santai]	250	[zaman]
48	[ʧuma]	99	[ʤalan]	150	[melon]	200	[saʊdara]		
49	[daftar]	100	[ʤalur]	151	[merah]	201	[səbap]		
50	[dahan]	101	[ʤaŋan]	152	[mənɪt]	202	[sələi]		
51	[danaʊ]	102	[ʤatʊh]			203	[sələin]		

3. Wordlist Transcription of Turkish Speaker

1	[abat]	52	[daʊn]	103	[ʤelɛk]	154	[modern]	205	[səmu$_w$a]
2	[aʤar]	53	[dəkat]	104	[ʤəmbatan]	155	[muda]	206	[senter]
3	[adu^{w}an]	54	[dəŋgar]	105	[ʤəndela]	156	[muŋkɪn]	207	[si$_y$apa]
4	[aʤaip]	55	[dəsain]	106	[ʤəŋguk]	157	[muzik']	208	[silao]
5	[aʤar]	56	[di$_y$alok]	107	[ʤenɪs]	158	[musʊh]	209	[sinar]
6	[apa]	57	[diŋgin]	108	[ʤilɪt]	159	[naik']	210	[skema]
7	[alun-alun]	58	[diri]	109	[ʤu$_w$ał]	160	[nanti]	211	[sketsa]
8	[ambɪł]	59	[do$_w$a]	110	[ʤudul]	161	[nenɛk']	212	[sopɪr]
9	[amplop]	60	[domba]	111	[ʤumlah]	162	[nianiy]	213	[spesi$_y$al]
10	[aŋgin]	61	[doŋgeŋk]	112	[kadaŋk]	163	[haŋga]	214	[stasi$_y$un]
11	[aŋkasa]	62	[dozen]	113	[kalah]	164	[nilai]	215	[strata]
12	[asbak']	63	[duri$_y$an]	114	[kampʊs]	165	[niala]	216	[stratəgi]
13	[asɪn]	64	[efisien]	115	[karnaʊal]	166	[niəniak]	217	[stoples]
14	[asɪŋk]	65	[egois]	116	[kɛʃap]	167	[ombak]	218	[substitusi]
15	[audi^{y}o]	66	[eksekutɪf]	117	[kəʤu$_w$aliy]	168	[oŋkos]	219	[suniy]
16	[baʤa]	67	[ekslusɪf]	118	[kərikuul]	169	[oraŋk]	220	[siarat]
17	[bahasa]	68	[eksperimen]	119	[kitap]	170	[organ]	221	[tahun]
18	[baik]	69	[embun]	120	[klinɪk']	171	[ornamen]	222	[taksi]
19	[bandara]	70	[enak']	121	[konstruksi]	172	[panas]	223	[taŋgan]
20	[baŋga]	71	[eŋkao]	122	[kontak]	173	[paŋgil]	224	[taŋgał]
21	[baŋgun]	72	[episode]	123	[keristal]	174	[pantaiy]	225	[taŋkaiy]
22	[bañak]	73	[faʊorɪt]	124	[ku$_w$alitas]	175	[pantao]	226	[təmpat]
23	[bawah]	74	[finał]	125	[kuʤiŋ]	176	[parkuur]	227	[təntaŋk]
24	[bawa]	75	[fokus]	126	[kunʧi]	177	[pəʤah]	228	[tipʊs]
25	[beʧak']	76	[formal]	127	[kurban]	178	[pensʊł]	229	[tiri]
26	[bəndera]	77	[foto]	128	[lain]	179	[pəntiŋk]	230	[tonton]
27	[bensɪn]	78	[gambar]	129	[lanʧar]	180	[pərgi]	231	[tuʤuh]
28	[bənu$_w$a]	79	[gampaŋk]	130	[lampu]	181	[pərmen]	232	[tuŋgu]
29	[bərat]	80	[gaŋgu]	131	[laŋgit]	182	[pərtama]	233	[huʤi$_y$an]
30	[bərsih]	81	[ganteŋk]	132	[laʊt]	183	[pilɪh]	234	[ulaŋgan]
31	[biliŋu$_w$ał]	82	[garansi]	133	[lembah]	184	[presiden]	235	[undaŋk]
32	[biŋguŋk]	83	[gəŋgam]	134	[lemon]	185	[program]	236	[unɪt]
33	[bioskop]	84	[gətar]	135	[ləŋan]	186	[pulao]	237	[univɐrsitas]
34	[boleh]	85	[glo^{w}bal]	136	[leŋkap]	187	[radi^{y}o]	238	[ʊanila]
35	[brozur]	86	[guntɪŋ]	137	[liʧɪn]	188	[rahasi$_y$a]	239	[ʊas]
36	[bʊah]	87	[gunun]	138	[lihat]	189	[ramaiy]	240	[ʊerbał]
37	[bulan]	88	[ha^{w}bis]	139	[lumbah]	190	[raŋkaiy]	241	[ʊidi^{y}o]
38	[buŋga]	89	[haŋat]	140	[listrɪk]	191	[re$_y$al]	242	[ʊirʊs]
39	[buniy]	90	[hanʧʊr]	141	[luʧu]	192	[rɛl]	243	[waktu]
40	[ʤabaiy]	91	[haña]	142	[lunak']	193	[rəncana]	244	[waŋi]
41	[ʤalon]	92	[hiʤao]	143	[mahal]	194	[ru$_w$aŋk]	245	[wep]
42	[ʤari]	93	[huʤan]	144	[main]	195	[rusak]	246	[wɪk]
43	[ʤəpat]	94	[ikan]	145	[maksʊt]	196	[saptu]	247	[wuʤut]
44	[ʧiʧak]	95	[endanezi$_y$a]	146	[manfaat]	197	[sampaiy]	248	[yaŋk]
45	[ʤinʤin]	96	[iŋgat]	147	[maŋkʊk]	198	[sampah]	249	[zaitʊn]
46	[ʤinta]	97	[iŋgin]	148	[marah]	199	[santaiy]	250	[zaman]
47	[ʤokelat]	98	[izin]	149	[masiarakat]	200	[saʊdara]		
48	[ʤuma]	99	[ʤalan]	150	[melon]	201	[sebap]		
49	[daftar]	100	[ʤalur]	151	[merah]	202	[sɔlaiy]		
50	[dahan]	101	[ʤaŋgan]	152	[mənɪt]	203	[sɔlain]		
51	[danao]	102	[ʤatʊh]	153	[meter]	204	[sɔmestɔr]		

4. Wordlist Transcription of English Speaker

1	[abad]	51	[danaʊ]	102	[ʤatʊh]	152	[minɪt]	202	[səlai]
2	[aʧar]	52	[daʊn]	103	[ʤelɛk']	153	[mitə:]	203	[səlain]
3	[ada^{w}un]	53	[dəkat]	104	[ʤəmbatan]	154	[mode:n]	204	[səmestər]
4	[adʒaib]	54	[deŋga:]	105	[ʤendela]	155	[mudah]	205	[səmu$_{w}$a]
5	[adʒar]	55	[desain]	106	[ʤəŋguk]	156	[muŋkɪn]	206	[sente:]
6	[apa]	56	[di$_{y}$alok]	107	[ʤenɪs]	157	[muzik']	207	[si$_{y}$apa]
7	[alun-alun]	57	[diŋgin]	108	[ʤilɪt]	158	[musʊh]	208	[silaʊ]
8	[ambiɬ]	58	[diri]	109	[ʤu$_{w}$aɬ]	159	[naik']	209	[səna:]
9	[æmplop]	59	[du$_{w}$a]	110	[ʤudul]	160	[nanti]	210	[skima]
10	[aŋgin]	60	[domba]	111	[ʤumlah]	161	[nenɛk']	211	[sketsa]
11	[aŋkasa]	61	[doŋgeŋ]	112	[k^{h}adaŋ]	162	[nañi]	212	[sopi:]
12	[æsbak']	62	[dosen]	113	[k^{h}alah]	163	[yaŋga]	213	[spesi$_{y}$al]
13	[asɪn]	63	[duri$_{y}$an]	114	[k^{h}ampʊs]	164	[nilai]	214	[stasi$_{y}$on]
14	[asɪŋ]	64	[efisin]	115	[karnaval]	165	[ñala]	215	[strata]
15	[audi^{y}o]	65	[igois]	116	[kɛʧap]	166	[niəñak]	216	[st:atiʤi]
16	[baʧa]	66	[eksəkyutɪf]	117	[kəʃu$_{w}$ali]	167	[ombak]	217	[setopəls]
17	[bæhasa]	67	[ekslusɪf]	118	[kə:ikɪl]	168	[oŋkos]	218	[substitusi]
18	[baik]	68	[eksperimen]	119	[kitap]	169	[oraŋ]	219	[suñai]
19	[bandara]	69	[embun]	120	[klinɪk']	170	[organ]	220	[siarat]
20	[baŋga]	70	[enak']	121	[konst:aksi]	171	[ornamen]	221	[tahun]
21	[baŋun]	71	[eŋkaʊ]	122	[k^{h}ontak]	172	[p^{h}anas]	222	[taksi]
23	[bawah]	73	[favərɪt]	123	[keristal]	173	[p^{h}aŋgil]	223	[t^{h}aŋgan]
24	[bawa]	74	[fainəɬ]	124	[ku$_{w}$alitas]	174	[pantai]	224	[t^{h}aŋgaɬ]
25	[beʧak']	75	[fokəs]	125	[kuʃɪŋ]	175	[pantaʊ]	225	[taŋkai]
26	[bəndera]	76	[fo:mal]	126	[kunʧi]	176	[p^{h}a:ki:]	226	[t^{h}əmpat]
27	[bensɪn]	77	[foto]	127	[kurban]	177	[pəʧah]	227	[t^{h}əntaŋ]
28	[bənu$_{w}$a]	78	[gamba:]	128	[lain]	178	[pensɪɬ]	228	[tipɪs]
29	[bərat]	79	[gampaŋ]	129	[lanʃar]	179	[p^{h}əntiŋk]	229	[t^{h}iri]
30	[bərsɪh]	80	[gaŋgu]	130	[lampʊh]	180	[pə:gi]	230	[t^{h}onton]
31	[bailiŋgu$_{w}$əɬ]	81	[ganteŋ]	131	[laŋgit]	181	[pə:men]	231	[t^{h}uʤu]
32	[biŋguŋ]	82	[garansi]	132	[laʊt]	182	[pə:tama]	232	[t^{h}uŋgu]
33	[bioskop]	83	[ʤəŋgam]	133	[ləmbah]	183	[p^{h}ilɪh]	233	[uʤi$_{y}$an]
34	[boleh]	84	[gəta:]	134	[lemon]	184	[presiden]	234	[ulaŋgan]
35	[brosʊr]	85	[glo^{w}bal]	135	[ləŋan]	185	[program]	235	[undaŋ]
36	[bʊah]	86	[guntɪŋ]	136	[ləŋkap]	186	[pulaʊ]	236	[yunɪt]
37	[bulan]	87	[gunuŋ]	137	[liʧɪn]	187	[rædi^{y}o]	237	[yuniversitas]
38	[buŋga]	88	[habis]	138	[lihat]	188	[ræhasi$_{y}$a]	238	[vanila]
39	[buñi]	89	[haŋat]	139	[limbah]	189	[ramai]	239	[vas]
40	[ʧaba$_{y}$]	90	[hanʧu:]	140	[listrɪk]	190	[ræŋkai]	240	[verbaɬ]
41	[ʧalon]	91	[haña]	141	[luʧu]	191	[ri$_{y}$aɬ]	241	[vidi^{y}o]
42	[ʧari]	92	[hiʤa$_{w}$]	142	[lunak']	192	[rɛɬ]	242	[vairəs]
43	[ʧəpat]	93	[huʤan]	143	[mahal]	193	[rəncana]	243	[waktu]
44	[ʧiʧak]	94	[ikan]	144	[main]	194	[ru$_{w}$aŋk]	244	[waŋgi]
45	[ʧɪnʧɪn]	95	[indonesi$_{y}$a]	145	[maksʊt]	195	[rusak]	245	[web]
46	[ʧɪnta]	96	[iŋgat]	146	[manfaat]	196	[saptu]	246	[wig]
47	[ʧokelat]	97	[iŋgin]	147	[maŋkʊk]	197	[sampai]	247	[wuʤud]
48	[ʧuma]	98	[izin]	148	[mara]	198	[sampah]	248	[yaŋ]
49	[dafta:]	99	[ʤalan]	149	[masiarakat]	199	[santai]	249	[zaitʊn]
50	[dahan]	100	[ʤalur]	150	[milon]	200	[saʊdara]	250	[zaman]
		101	[ʤaŋgan]	151	[merah]	201	[sebap]		

5. Wordlist Transcription of Malay Speaker

1	[abat]	51	[danaʊ]	102	[ʤatʊh]	152	[mənɪt]	202	[səlai]
2	[aʧa:]	52	[daʊn]	103	[ʤəlɛk]	153	[mitə:]	203	[səlain]
3	[adu^{w}an]	53	[dəkat]	104	[ʤəmbatan]	154	[modern]	204	[səmestər]
4	[adʒaip]	54	[dəŋa:]	105	[ʤəndelə]	155	[mudə]	205	[səmu$_{w}$ə]
5	[adʒa:]	55	[dəsain]	106	[ʤəŋʊk]	156	[muŋkɪn]	206	[sentər]
6	[apə]	56	[di$_{y}$alok]	107	[ʤənɪs]	157	[musɪk]	207	[si$_{y}$apə]
7	[alun-alun]	57	[diŋɪn]	108	[ʤilɪt]	158	[musʊh]	208	[silaʊ]
8	[ambil]	58	[diri]	109	[ʤu$_{w}$al]	159	[naik]	209	[sina:]
9	[amplop]	59	[do$_{w}$a]	110	[ʤudul]	160	[nanti]	210	[skema]
10	[aŋɪn]	60	[domba]	111	[ʤumlah]	161	[nenɛk]	211	[sketsa]
11	[aŋkasə]	61	[doŋeŋ]	112	[kadaŋ]	162	[ñañi]	212	[sopi:]
12	[asbak]	62	[dosen]	113	[kalah]	163	[ŋaŋa]	213	[spesi$_{y}$al]
13	[asɪn]	63	[duri$_{y}$an]	114	[kampus]	164	[nilai]	214	[stasi$_{y}$un]
14	[asɪŋ]	64	[efisien]	115	[karnaval]	165	[ñala]	215	[strata]
15	[audi^{y}o]	65	[egois]	116	[kiʧap]	166	[ñəñak]	216	[st:atiʤi]
16	[baʧə]	66	[eksəkyutɪf]	117	[kəʧu$_{w}$ali]	167	[ombak]	217	[stoples]
17	[bahasə]	67	[ekslusɪf]	118	[kərikɪl]	168	[oŋkos]	218	[substitusi]
18	[baik]	68	[eksperimen]	119	[kitap]	169	[oraŋ]	219	[suñi]
19	[bandarə]	69	[əmbun]	120	[klinɪk']	170	[organ]	220	[ʃarat]
20	[baŋgə]	70	[enak]	121	[kənstraksi]	171	[ornamen]	221	[tahun]
21	[baŋun]	71	[əŋkaʊ]	122	[kontak]	172	[panas]	222	[taksi]
22	[bañak]	72	[episode]	123	[kristal]	173	[paŋgil]	223	[taŋan]
23	[bawa]	73	[fevərɪt]	124	[ku$_{w}$alitas]	174	[pantai]	224	[taŋgal]
24	[bawah]	74	[fainel]	125	[kuʧɪŋ]	175	[pantaʊ]	225	[taŋkai]
25	[beʧak]	75	[fokus]	126	[kunʧi]	176	[pa:ki:]	226	[təmpat]
26	[bənderə]	76	[formal]	127	[kurban]	177	[pəʧah]	227	[təntaŋ]
27	[bensɪn]	77	[foto]	128	[lain]	178	[pensɪl]	228	[tipɪs]
28	[bənu$_{w}$a]	78	[gamba:]	129	[lanʧa:]	179	[pəntɪŋ]	229	[tiri]
29	[bərat]	79	[gampaŋ]	130	[lampu]	180	[pə:gi]	230	[tonton]
30	[bərsɪh]	80	[gaŋgu]	131	[laŋɪt]	181	[pərmen]	231	[tuʤoh]
31	[bailiŋgu$_{w}$əl]	81	[gantəŋ]	132	[laʊt]	182	[pə:tamə]	232	[tuŋgu]
32	[biŋuŋ]	82	[garansi]	133	[ləmbah]	183	[pilɪh]	233	[uʤi$_{y}$an]
33	[bioskop]	83	[gəŋgam]	134	[lemon]	184	[presiden]	234	[ulaŋan]
34	[boleh]	84	[gətar]	135	[ləŋan]	185	[program]	235	[undaŋ]
35	[brosʊr]	85	[global]	136	[ləŋkap]	186	[pulaʊ]	236	[unɪt]
36	[bʊah]	86	[guntɪŋ]	137	[liʧən]	187	[radi^{y}o]	237	[universitas]
37	[bulan]	87	[gunuŋ]	138	[lihat]	188	[rahasi$_{y}$ə]	238	[vanila]
38	[buŋa]	88	[habes]	139	[limbah]	189	[ramai]	239	[vas]
39	[buñi]	89	[haŋat]	140	[listrɪk]	190	[raŋkai]	240	[verbal]
40	[ʧaba$_{y}$]	90	[hanʧu:]	141	[luʧu]	191	[real]	241	[vidi^{y}o]
41	[ʧalon]	91	[haña]	142	[luna?]	192	[rɛl]	242	[vairəs]
42	[ʧari]	92	[hidʒaʊ]	143	[mahal]	193	[rəncanə]	243	[waktu]
43	[ʧəpat]	93	[hudʒan]	144	[main]	194	[ru$_{w}$aŋ]	244	[waŋi]
44	[ʧiʧa']	94	[ikan]	145	[maksʊt]	195	[rosa']	245	[wep]
45	[ʧɪnʧɪn]	95	[indonesi$_{y}$a]	146	[manfaat]	196	[saptu]	246	[wɪk]
46	[ʧɪnta]	96	[iŋat]	147	[maŋkʊk]	197	[sampai]	247	[wudʒut]
47	[ʧokelat]	97	[iŋen]	148	[marah]	198	[sampah]	248	[yaŋ]
48	[ʧumə]	98	[izen]	149	[maʃarakat]	199	[santai]	249	[zaitʊn]
49	[dafta:]	99	[ʤalan]	150	[milon]	200	[saʊdara]	250	[zaman]
50	[dahan]	100	[ʤalʊr]	151	[merah]	201	[səbap]		
		101	[ʤaŋan]						