CHAPTER II

REVIEW OF RELATED LITERATURE

In this chapter the researcher discusses some theories related to phonological process and two previous studies.

2.1.Theoretical framework

In this chapter the researcher provides some review of related literature that supports this study. They are phonology and phonetics, phonological process, phonology of Indonesia, phonology of Madurese, loan words, Madurese speakers in Sumberkerang village of Gending district probolinggo regency and previous study.

2.1.1. Phonology and Phonetics

2.1.1.1.Phonology

Phonology is a branch of linguistic study which discusses how the sounds are organized and use as language. Every people are using language to communicate. Language as the tool of communication and sound is something that makes people understands what others mean. Lass (1991) states that, phonology deals with the function, behavior and organization of sound in linguistics items. In this case, phonology is one of linguistics branches concerned with the study of language sound. Based on Chaer (2009) phonology is the study of language sound as the

smallest unit of utterances with a combination of sound in forming syllables, suprasegmental elements such intonation, tones, stops and duration.

2.1.1.2. Phonetics

In discussing phonology, it is also important to discuss about phonetics as the general study of the characteristics of speech sound. According to Yule (2010, p.26) says "phonetics is a general study of the characteristics of speech sound". This study discusses about human speech organ in articulating sound.

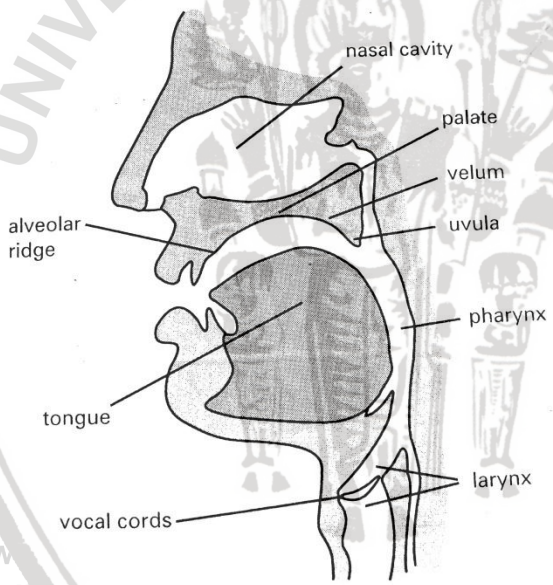

Figure 2.1. Vocal organ (Source: Yule, 2010, p.27)

2.1.1.2.1. Consonant

There are two kinds of articulation in voicing consonant those are place of articulation and manner of articulation. Based on Yule (2010) place of articulation

is where the sound is articulate or produce. Meanwhile, manner of articulation is how the sound is articulate.

TYPE	PHONEME
BILABIAL	/m/, /p/, /b/
LABIODENTAL	/f/, /v/
INTERDENTAL	/θ/, /ð/
ALVEOLAR	/t/, /d/, /n/, /s/, /z/, /r/, /l/
PALATOALVEOLAR	/ʃ/, /ʒ/, /ʧ/, /ʤ/
PALATAL	/j/
LABIOVELAR	/w/
VELAR	/k/, /g/, /ŋ/
GLOTTAL	/h/

Table. 2.1. Consonant Place of articulation

There are nine place of articulation where the sounds are produced. First is bilabial, according to Yule (2010) bilabial is sounds that are produced by using two lips. This process happen while upper and lower lips meet when producing the sound /m/ as voiced sound, /p/ as voiceless sound, and /b/ as voiced sound.

Second is labiodental, based on Yule (2010) labiodental is sounds that are produced by using the upper teeth and lower lips. This process happens while upper teeth and lower lip meet when producing the sound /f/ as voiceless sound and /v/ as voiced sound.

Third is interdental, according to Yule (2010) interdental is producing sound by putting the tongue tip between upper and lower teeth. This pronunciation process happens while pronouncing the sound /θ/ and /ð/.

Fourth is alveolar, alveolar is sound that produced by putting the tongue tip in the alveolar ridge, behind the upper teeth. Based on Yule (2010, p.28) said “these

are sounds formed with the front part of the tongue on the alveolar ridge, which is the rough, bony ridge immediately behind and above the upper teeth". This pronunciation happens while pronouncing the sound /t/, /d/, /s/, /z/, and /n/.

Fifth, based on Yule (2010) palatoalveolar is sound that produced by tongue tip towards the hard palate and the alveolar ridge. This pronunciation happens in pronouncing the sound /ʃ/, /ʒ/, /ʧ/, /ʤ/.

Sixth is palatal, based on Yule (2010) palatal is sound which is produced by tongue and palate. Palate is a hard part in the roof of mouth. One sound which belongs to palatal is /j/.

Seventh, based on Yule (2010) labiovelar is sound formed by lips rounded and the back of the tongue touch the soft palate or velum. One sound which belongs to labiovelar is /w/.

Eighth is velar, according to Yule (2010) velar is sound which is produced with the back of tongue towards the soft palate or velum. The sounds which belong to velar are /k/, /g/, and /ŋ/.

The last is glottal, glottal sound is sound using the glottis as the main articulation. Based on Yule (2010) glottis sound is formed by air passes out of mouth when the glottis is open.

TYPE	PHONEME								
PLOSIVES	/p/	/b/	/t/	/d/	/k/	/g/			
FRICATIVES	/f/	/v/	/θ/	/ð/	/h/	/s/	/z/	/ʃ/	/ʒ/
AFFRICATES	/ʧ/	/ʤ/							
NASALS	/m/	/n/	/ŋ/						
APPROXIMANT	/r/	/w/	/j/						
LATERAL	/l/								

Table. 2.2. Consonant Manner of articulation

Not only place of articulation in determining consonant, but there is also manner of articulation. Manner of articulation is how the sounds of consonants are produced. There are six kinds of manner of articulation those are;

First, plosive or stop is producing a sound with blocking the air flows with both lips and continue by sudden release air. Based on Yule (2010, p.31) said "the set /p/, /b/, /t/, /k/, /d/, /g/ are all produced by some form of "stopping" of the air stream (very briefly) then letting it go abruptly".

Second, according to Yule (2010, p.31) said affricative is "blocking the air stream and having the air push through the very narrow opening". Fricative is produced by forcing air towards the narrow gap moving two vocal organs together to restrict the release sound. The sound belongs to fricative are /f/, /v/, /s/, /z/, /ʒ/, /ʃ/, /θ/ and /ð/.

Third, affricate is a combination process of plosive and fricative. Affricate sound begin as plosive sound with blocking the air flows then continue by sudden release air and end as fricative sound with blocking the air stream and having air push through very narrow opening. Based on Yule (2010, p.32) said affricate is

"combine a brief stopping of the air stream with an obstructed release which caused some friction". The sound belongs to affricate are /ʃ/ and /ʤ/.

Fourth, nasals is sound produced by letting the air through the nose with a low velum. According to Yule (2010, p.32) said "when the velum is lowered and the air stream is allowed to flow out through the nose to produce /m/, /n/, /ŋ/, the sounds are described as nasals".

Fifth, approximant is produced by narrowing the vocal tract. Approximant sound is consonant sound with very little obstruction to the air flow. Based on Yule (2010) there are two kinds of approximant those are glides and liquids. Glide is produced by tongue in gliding to vowel position. Glide is also called as semi vowel. The sound belongs to glide are /j/ and /w/. Liquid is produced by raising tongue then back near the alveolar ridge. The sound belongs to liquid is /r/.

The last is lateral, based on Yule (2010) lateral is letting the air escape around the tongue when the tongue tip touch the middle of alveolar ridge. The sound belongs to lateral is /l/.

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k g	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap		ⱱ		ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Table. 2.4. International Phonetics Alphabet 2005

2.1.1.2.2. Vowel

Vowel is a speech sound that produced without any obstruction to the air flow that created from larynx and oral cavity. /a/, /i/, /u/, /e/, /o/ are the vowel alphabet that all of those are voiced. Based on Yule (2010, p.33) said "vowel sounds are produced with a relatively free flow of air. They are all typically voiced".

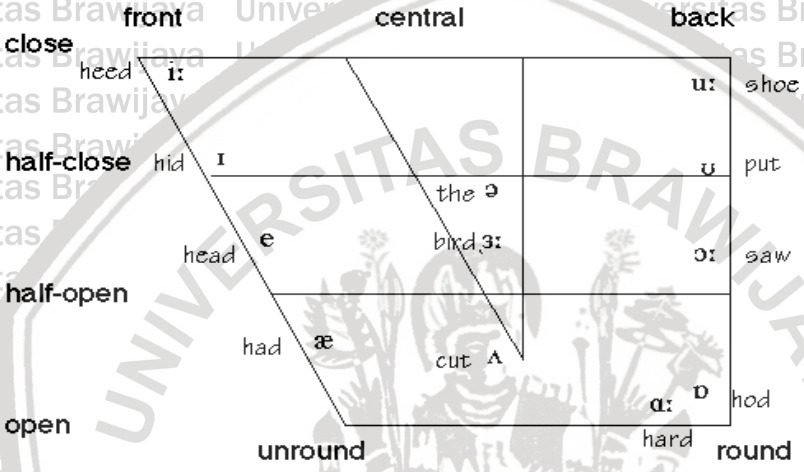

Table. 2.3. Tongue position of vowels

2.1.2. Phonological Processes

Phonological process is the process of phonological change or sound change of some words. In this research, the researcher analyzed the phonological processes that occur in some Indonesian loan words used by Madurese speakers in Sumberkerang. Based on Phonology and Morphology (2012), the aim of phonological process is to ease people in pronouncing loan words. Lass (1991) purpose some phonological processes to identify the phonological change in pronouncing loan words, those are assimilation and dissimilation, phonological strength consist of lenition and fortition, and whole segment process consist of epenthesis, deletion and metathesis.

a) Assimilation and Dissimilation

Lass (1991), defines assimilation is changing one segment to be more like each other. This phonological process is the process of changing a segment of word to be similar to the environment of language borrower. According to Yule (2010) British tend to produce voiceless sound which preceded by voiceless sound For example the word 'have' is pronounced as /hæv/, but when the word 'have' find in a phrase "I have to go in everyday speech" it is pronounced as /hæftə/. In this phrase the change of /v/ into /f/. In this example /t/ sound in 'to' is a voiceless consonant, so 'have' in this phrase is pronounced as /hæf/. In contrary, dissimilation is the opposite of assimilation processes. Based on Nordquist (2016) a dissimilation process can be found in a substandard pronunciation such in a word 'chimney' become 'chimley'. In this example the change of /n/ into /l/ is caused by these two consonant are closely similar. Nordquist (2016) said that dissimilation process is completely losing one segment sound because one segment proximately similar to another sound.

b) Phonological strength

Lass (1991) states that phonological strength is the process of showing the frequent process involve change toward stricture and glottal state. There are two processes in phonological strength those are weakening (lenition) and strengthening (fortition). Lenition is the changing of a strong sound becomes a weak sound. The process of lenition begin from stop > fricative > approximant >

zero and voiceless > voiced sound. Based on Hadi, Ramlan, Soeratno and Wijana (2003) take the example from Indonesian loan word from Arabic, the word is *"ijazah"* which become "ijasah" in Bahasa Indonesia, meaning that certificate. The change happens toward voiced /z/ become voiceless /s/. As opposed to lenition, fortition is the changing of a weak sound becomes a strong sound. The process of fortition may change a voiced sound becomes voiceless and fricative becomes stop. Based on Hadi, Ramlan, Soeratno and Wijana (2003) take the example from Indonesian loan word from Arabic, the word is "jaman" become "zaman" in Bahasa Indonesia, meaning that era. The change happens toward voiceless /j/ become voiced /z/.

c) Whole segment process

Phonological processes also can be seen from the whole segment. Lass (1991) classify the whole segment process into three those are: Epenthesis, deletion and methathesis.

a. Epenthesis is adding a new vowel or consonant in a word. There are two types of Epenthesis, those are prothesis and anaptyxis. Prothesis is adding a vowel or consonant in the beginning of words, and anaptyxis is adding vowel between two consonants.
b. Deletion is deleting a segment sound in a word. Lass (1991), there are three kinds of deletion such as aphaeresis, syncope, and apocope.

Aphaeresis is an initial deletion, for example "knife" and "knight". In pronouncing these two words the consonant /k/ is deleted and it is pronounced as /naɪf/ and /naɪt/, Lass (1991).

Syncope is a formative internal deletion which uses most frequently in losing vowel, but some writer has extended it to consonant. For example, in comparing British and American English syncope deletion are found, such the word "secretary" is pronounced as /sɛkrɪtɛrɪ/ in Briish and /sɛkrɪtrɪ/ in American English, Lass (1991).

Apocope is losing the final element, for example the loss of the final vowel of a nominal steam before the plural suffix in Swedish language, ex. "gubbar" becomes "Gubbe" means old, Lass (1991).

c. Metathesis is a process of reordering sound or transposition of segment. For example the transposition of /p/ and /s/ in old English, "cosp" becomes "cops" (copse), "wlisp" becomes "wlips" (lisping).

2.1.3. Phonology of Indonesian

Bahasa Indonesia is one of Astronesia languages which derived from Malay. Based on Chaer (2009), Bahasa Indonesia has six vowel those are; /i/, /e/, /a/, /o/, /u/, /ə/, for example:

a. /i/ → *api* → fire
b. /e/ → *ekor* → tail
c. /a/ → *lupa* → forget
d. /o/ → *obat* → medicine

e. /u/ → *dapur* → kitchen

f. /ə/ → *emas* → gold

Based on the high and low position of tongue Chaer (2009) distinguish the vowel sound of Bahasa Indonesia into six groups bellow:

a. Top high vowel such /i/ and /u/

b. Bottom high vowel such /ɪ/ and /U/

c. Top normal vowel such /e/ and /o/

d. Bottom normal vowel such /ɛ/ and /ɔ/

e. Center normal vowel such /a/

Based on the tongue movement there are three group those are;

a. Front vowel such /i/, /e/, and /a/

b. Center vowel such /ə/

c. Back vowel such /u/ and /o/.

Tongue position	Front	Center	Back		Stricture
	Unrounded	Unrounded	Round	Neutral	
Top High	I		u		Closed
Bottom	I		U		Semi-closed
Top Normal	E	ə	o		
Bottom	ɛ		ɔ		Semi-open
Low		A		ɑ	Open

Table. 2.3. High and low position of tongue in Indonesia

Based on those vowels in bahasa Indonesia, there is also the combination between two vowel sound called as diphthong. According to Chaer (2009) there are four kinds of diphthong in bahasa Indonesia /ai/, /au/, /oi/, /əi/. Based on Chaer (2009) also mention that there is vowel cluster in bahasa Indonesia. Vowel cluster is similar with diphthong, there are thirteen vowel cluster that Chaer (2009) mention those are; /aa/, /au/, /ai/, /ao/, /ua/, /ue/, /ui/, /ia/, /iu/, /io/, /oa/, /oi/, and /eo/.

2.1.4. Phonology of Madurese

Sofyan (2010) states that, Madurese language and bahasa Indonesia are from the same family language that is Malay. In this case, these two languages have some differences and similarities in the phonological system and grammatical system.

Sofyan (2010) classifies the vocal quality is depending on the high or low position of the tongue, parameter back and front and the lips shape. Madurese language has six vowels those are: /a/, /i/, /u/, /є/, /ə/, /ɔ/, for example;

a). /a/ → mangmang → confuse

b). /i/ → iye → yes

c). /u/ → paddu → corner

d). /є/ → elang → lose

e). /ə/ → gelluk → hug

f). /ɔ/ → mole → go home

Tongue position	Front	Center	Back
High	**/i/**		**/u/**
Middle	**/ɛ/**	**/ə/**	**/ɔ/**
Low		**/a/**	

Table. 2.4. Madurese vowel

From the table below shows that measure's language based on the high or low position of tongue have two high vowels /i/ and /u/, three middle vowels /ɛ/, /ə/, /ɔ/, and one low vowel /a/. From the parameter back and front, Madurese has two front vowels /i/ and /ɛ/, two central vowels /ə/ and /a/, and two back vowel /u/, /ɔ/. Based on the lip shape Madurese has two round shapes /u/ and /ɔ/ and four unrounded shape /i/, /a/, /ɛ/, /ə/.

Sofyan (2010) states that in each vowel of Madurese have allophone those are: vowel /a/ has two allophones (/a/, and /â/). /a/ pronounce as /a/ when it together with consonant (c, f, h, k, m, n, ŋ, ṅ, p, q, t, T, and s), or (/y/, /l/, /w/, and /r/) in the first syllable or the last syllable where the previous syllable is voiceless consonant or (/a/, /ɛ/, and /ɔ/), for example the word 'mangmang' is pronounced as */maŋmaŋ/* (confuse), 'passra' is pronounced as */passra/* (sincere), *'sassa' is pronounced as /sassa/* (wash). /a/ pronounce as /â/ when it together with voice consonant (b, b^h, d, d^h, D, D^h, g, g^h, j, and j^h), or (/y/, /l/, /w/, and /r/) where the

previous syllable voice consonant or vowel (/i/, /u/, /â/), for example ‘bere’ is pronounced as */bârâ/* (swollen), ‘gember’ is pronounced as */g^{h}âmb^{h}âr/* (picture), ‘bedde’ is pronounced as */b^{h}âDD^{h}â/* (container).

Vowel /i/ has two allophones (/i/ and /I/). Vowel /i/ pronounced as /I/ in open syllable and close syllable, example ‘ıye’ is pronounced as */iyâ/* in Indonesia *“ya”* has a meaning (yes), ‘bigi’ is pronounced as */big^{h}i/* in Indonesia *“biji”* has a meaning (seed). /i/ pronounce as /I/ when it is a loan word from bahasa Indonesia such ‘kasir’ is pronounced as */kasIr/* in Indonesia ‘kasir’ has meaning (cashier).

Vowel /u/ has two allophones those are /u/ and /U/. Vowel /u/ pronounces as /u/ in open syllable and close syllable, example ‘paddu’ is pronounced as */padd^{h}u/* in Indonesia *‘pojok’* meaning is (corner). Vowel /u/ pronounce as /U/ when it is borrowing word from bahasa Indonesia such ‘usul’ which pronounced as */usUl/* in Indonesia *‘usul’* meaning is (suggestion).

Vowel /ϵ/ has three allophones those are /e/, /ϵ/ and /ê/. Vowel /ϵ/ pronounce as /e/ when it is borrowing word from bahasa Indonesia such ‘sate’ which pronounced as */sate/* in Indonesia *‘sate’* meaning is (satay). Vowel /ϵ/ pronounce as /ϵ/ in an open syllable and close syllable, example ‘elang’ is pronounced as */ϵlaŋ/* in Indonesia ‘*hilang*’ meaning is (lose) and ‘kelatteng’ which pronounced as */kalattϵŋ/* in Indonesia *‘gelantung* meaning is (hanging). Vowel /ϵ/ pronounce as /ê/ in several words only such ‘aeng’ which pronounced as */ãêŋ/* in Indonesia *‘air’* means (water).

Vowel /ə/ has only one allophone that is /ə/. It is pronounced in in open syllable only such 'gelluk' is pronounced as /g^həllu?/ in indonesia *'peluk'* means (hug).

Vowel /ɔ/ has three allophones those are /o/, /ɔ/ and /Õ/. Vowel /ɔ/ pronounces as /ɔ/ in open syllable and close syllable, example 'mole' is pronounced as */mɔlє/* in Indonesia *'pulang'* this word has meaning is (go home) and 'koncok' which pronounced as */kɔncɔ?/* in Indonesia *'pucuk'* means (tip). Vowel /ɔ/ is pronounced as /o/ when it is borrowing word from bahasa Indonesia such 'sore' is pronounced as */sore/* in Indonesia *'sore'* means (afternoon). Vowel /ɔ/ is pronounced as /Õ/ in a several words in madurese such 'owak' is pronounced as */Õwã?/* in indonesia *'asap'* means (smoke).

According to Sofyan (2010) Madurese language has 31 consonant those are /p/, /t/, /T/, /c/, /k/, /q/, /?/, /b/, /d/, /D/, /j/, /g/, /b^h/, /d^h/, /D^h/, /j^h/, /g^h/, /f/, /s/, /š/, /z/, /x/, /h/, /m/, /n/, /ñ/, /ŋ/, /r/, /l/, /w/ and /y/. Consonant which followed by /^{h}/ are voiced consonant and aspirated such /b^h/, /d^h/, /D^h/, /j^h/, /g^h/. Most of the consonant are phoneme of others consonant.

The same as Bahasa Indonesia, Madurese also has some kinds of diphthong. Sofya (2010) states that there are for diphthong in Madurese those are, /ay/ in the word 'berekai' which pronounced as */bârâkay/* or crocodile in English, /ɔy/ in the word 'kompoi' which pronounced as */kɔmpɔy/* or grandchild in English, and /uy/ in the word 'kerbui' which pronounced as */kərb^{h}uy/* or buffalo in English, but some others linguist stated that there are four diphthong of Madurese because

diphthong /ay/ has an allophone /ây/ in the word ‘gebei’ which pronounced as */g^{h}âbây/* or make in English.

2.1.5. Loan word

Kemmer (2015) defines loan word as adopted word by one language from other languages. In borrowing words from other languages will have some processes in the phonology and morphology side without changing the meaning of the words.

First process is phonological process, phonological process is the process of phonological change or sound change of some words. Lass (1991) Phonological process in loan words is the processes of phonological change in some inter-segments relation. According to Lass (1991), there are three processes that may occur while pronouncing borrowing words such assimilation and dissimilation, phonological strength that consist of leniton and fortition, and the whole segment process that consist of aphaeresis, syncope, and apocope. The aim of phonological processes is to make people easier in pronouncing the words.

Second process is morphological process, based on Karuru (2013) morphological processes is strategies to have the structure of the recipient language to ease the communication. According to Karuru (2013) there are some strategies of morphological processes in borrowing words such prefixation, suffixation, substitution, zero transmorphemisation and substitution of the prefix.

2.1.6. Madurese speakers in Sumberkerang village

Madurese language is one of the local languages in Indonesia. Madurese language is used by Madurese ethnic in Madura Island. Nowadays, Madurese language has been separated in Bali and Java Island, it is caused by transmigration of madurese people from Madura Island. One of areas which widely use Madurese language as the daily language in communication is Sumberkerang. Sumbererang is a small village located in Gending district Probolinggo regency. Based on *Rencana Pembangunan Jangka Menengah Desa (RPJMDes)*, year 2015 - 2021, Sumberkerang is a small village which has 395 hectares area and 5834 population.

Generally Sumberkerang people speak Madurese language in their daily conversation. However, as the Indonesian sumberkerang people also must learn bahasa Indonesia as the national language. Bahasa Indonesia becomes the second language of sumberkerang people after the first language that is Madurese. Bahasa Indonesia is learned since they get their education in school, but in some family they use both languages since they are child.

2.2. Previous studies

In this thesis the researcher uses two researcher's papers which correlate with analyzing phonological processes in loan word, especially Indonesian loan words used by Madurese speakers in Sumberkerang village. First, Hadi, Ramlan, Soeratno and Wijana (2003) a journal entitled "*Perubahan Fonologis Kata-Kata Serapan Dari Bahasa Arab Dalam Bahasa Indonesia*". This journal study focuses

on the analyzing of Phonological processes on Arabian borrowing words used in Bahasa Indonesia. This journal uses the theory of Crowley (1987) to identify the data. In their research there are some phonological processes that they did not find based on Crowley (1987) such haplology, cluster reduction, prosthesis, and they found abnormal sound change and also another two symptom changes those are monoftongisation and condensation.

Second previous study from Restifiza (2012) entitled "Phonological Processes of Indonesian Borrowing Words Used By Minangkabaunese In Bukittinggi, West Sumatra". In that study the writer analysis focuses on the phonological processes of Indonesian borrowing word from English used by minangkabaunese in Bukittinggi. In that study the writer uses Lass (1991) theory to support the research. In her research she found the most frequent and infrequently phonological processes that happen in Indonesian borrowing word used by Minangkabaunese. The most frequent processes are the changing of sound strength, epenthesis and deletion for the whole segment processes. Dissimilation and metathesis are the infrequently processes that happen. However, she did not find the process of prothesis in the phonological processes of Indonesian borrowing words from English used by Minangkabaunese in Bukittinggi, West Sumatra.

There are some differences and similarities between these two previous studies and this study. The differences between that journal by Hadi, Ramlan, Soeratno and Wijana (2003) and this study are the focus study, the object of study and the theory that is used in that journal and this study. In this study the writer's

study focuses on the phonological processes of Indonesian loan words used by Madurese speaker. This research tried to find the difference pronunciation between Indonesia and Madurese in pronouncing loan words from English in which bahasa Indonesia and Madurese are Austronesia language which derieved from Malay. The researcher also identified the phonological processes of Indonesian loan words from English. In this study the researcher also uses Lass (1991) theory in classifying the phonological processes. The similarities between these two studies are both analyzing the phonological processes of borrowing word.

The differences between the thesis of Restifiza (2012) and this study is the object of study. In this research the researcher chooses Madurese speaker in Sumberkerang village as the object. The similarities between these two studies are both analyzing the phonological processes of borrowing words and these two studies also use Lass theory.