2. REVIEW OF RELATED LITERATURE

In this study, I would like to conduct an error analysis of Indonesian verb affixes produced by English-speaking intermediate and advanced learners of Indonesian at Wisma Bahasa, Yogyakarta. In order to solve its research problem, I need to base my analysis on appropriate theories, from which I will explain thoroughly and clearly Indonesian morphemes, Indonesian verb affixes, processes of forming Indonesian affixed verbs, and Indonesian allomorph and morphophonemics. To the extent that I will discuss them carefully and precisely, I only use theories primarily proposed by Alwi, Dardjowidjojo, Lapoliwa, and Moeliono (2000).

2.1. Indonesian Morphemes

Since my study deals merely with Indonesian morphemes, I need to review them in brief. According to Alwi et al., being unable to be broken down further, a morpheme is considered as the minimal meaningful part of a word. There are two kinds of morphemes. One is free morphemes, which are morphemes that can stand alone meaningfully. They include nouns, adjectives, verbs, and functional words; for example nouns **sapu** (broom) and **air** (water), adjectives **dingin** (cold) and **kuning** (yellow), verbs **pukul** (to hit) and **lihat** (to see), function words **dari** (from) and **tetapi** (but). The other is bound morphemes, which are morphemes that must go with a root or base to modify its basic meaning. They include affixes like noun affixes *ke-*, *per-*, *peng-*, *-an*; **adjective** affixes *se-*, *ter-*, *-em-*, *-i*, *-iah*, *-wi*, *-if*, *-er*, *-al*, *-is*; and verb affixes *meng-*, *ber-*, *per-*, *ter-*, *di-*, *-kan*, *-an*, *-i*, *ber---an*, *ke---an*. In this case, free morphemes act as roots. Meanwhile, free morphemes that already have affixes and are still able to be derived or inflected act as bases. For example, **berhubungan** (be related to) consists of a base hubungan (relation) and affix *ber*-, while hubungan itself consists of a root hubung (to relate) and affix *-an*.

To know what Indonesian morphemes are is important for making my instrument, which is a multiple-choice test, and for analyzing the data. Constructing the test, I need to design four possible answers, one of which is the correct answer, for each question. In this case, I surely need to know what free morphemes and verb affixes are so that I can form affixed verbs. I mean, if I mistakenly joined free morphemes to other-part-of-speech affixes, I would make wrong multiple choices. In addition, knowing the difference between the Indonesian free and bound morphemes helps me know not only Indonesian verb affixes but also types of errors when I analyze the data. The types of errors denote the syllables and phonemes of the roots to which affixes are attached. For example, one of the answers of the multiple-choice questions is memperbesar. and some subjects make errors by choosing incorrect verbs such as mempebesar and memperbersar as their correct answers. Then, in data analysis, I will not mention that the errors happen when prefix meng- is added to root perbesar because I know that both meng- and per- are bound morphemes or verb prefixes. Instead, I mention that errors happen when prefix per- is added to the root besar. a root whose first syllable does not contain phoneme /ər/.

2.2. Indonesian Verb Affixes

Alwi et al. explain the Indonesian verb affixation, which is the process of adding an affix to a root or base in order to form a verb. There are three types of Indonesian verb affixes, each of which has its sub-types. The first type is a verb prefix, which is an affix added to the front roots or bases forming verbs. Its sub-types are prefixes *meng-*, *per-*, *ber-*, *ter-*, and *di-*. The second is a verb suffix, which is an affix added to the final roots or bases forming verbs. Its sub-types are suffixes *-kan*, *-i*, and *-an*. The last is a verb konfix, which is prefix(es) and a suffix added to roots or bases simultaneously forming verbs. Its sub-types are

konfixes *ke-an*, and *ber-an*. The clear description about the types and sub-types of Indonesian verb affixes is described in the table below:

The types of	The sub-types of		
Indonesian verb affixes	Indonesian verb affixes		
prefixes	a. prefix meng-		
	b. prefix <i>per</i> -		
	c. prefix ber-		
	d. prefix <i>ter</i> -		
	e. prefix di-		
suffixes	a. suffix – <i>kan</i>		
	b. suffix – <i>i</i>		
	c. suffix – <i>an</i>		
konfixes	a. konfixes ber—an		
	b. konfixes ke—an		

Table 2.2.1. The types and sub-types of Indonesian verb affixes

Source : Tata Bahasa Baku Bahasa Indonesia

I find that there are two ways of writing the prefix meng-. Pusat Pembinaan dan Pengembangan Bahasa (1999) in Kamus Besar Bahasa Indonesia and Masyarakat Linguistik Indonesia (1993) in Penyelidikan Bahasa dan Perkembangan Wawasannya use prefix me(N) instead of meng-. However, I use prefix meng- because the written form of meng- is intended to the ease of teaching practice. Besides, I want to be consistent that I only use Alwi et al.'s book and thus use Alwi et al.'s term of prefix meng-.

Dalam buku ini dipilih *meng*- untuk mewakili semua alomorf itu karena bentuk *meng*- itu terdapat di muka dasar yang diawali dengan salah satu dari keenam vokal Indonesia atau dengan konsonan /k/, /g/, /h/, /x/ sehingga *meng*- merupakan bentuk yang paling luas distribusinya. Itulah sebabnya dalam buku tata bahasa ini, demi kemudahan pengajaran, dipilih bentuk *meng*-. (Alwi et al., 2000: 30)

Here, Alwi et al. prefer to use the term *meng*- because allomorph *meng*is used more frequently to derive and inflect roots and bases than other allomorphs like *men*-, *me*-, *mem*-, *meng*-, *meny*- are; thus, using *meng*- helps the ease of teaching. In fact, allomorph *meng*- is used to derive and inflect roots and bases that have initial phonemes of the six Indonesian vowels or consonants like /k, g, h/.

An almost similar form to a konfix is a complex affix. In the latter, prefixes and suffixes are joined in succession. A complex-affixed verb is inflected or derived subsequently from a base and (an) affixes while a konfixed verb is inflected or derived simultaneously from a root and a konfix. Concerning that in constructing a complex-affix verb, prefixes and suffixes are put in sequence; there are ways about what affixes come first and later. When (a) prefixes and a suffix are used together, the affix that firstly modifies and adds meaning to a root comes first to the root, and the affix that modifies and addes the meaning of the base comes afterward. The examples of **berhalangan** (be hindered) and **bepergian** (to go) show their difference. **Halangan** (hindrance), which is derived from a root **halang** using suffix *-an*, is formed first before **halangan** is joined to prefix *ber*-to form a root *pergi* (to go) using prefix *ber*- as well as suffix *-an*.

<i>Ber</i> halang <i>an</i>	ber- + halangan	(a complex affixed verb)
Bepergian	ber- + pergi + -an	(a verb using konfix ber-an)

The rules to put prefixes and suffixes in constructing complex affixed verbs are as follows:



To know what Indonesian verb affixes are is required. It is due to the fact that my data will be in the forms of Indonesian affixed verbs. Thus, when I meet Indonesian affixed verbs, I can mention their sub-types of Indonesian verb affixes. For example, one of my data is **menertawakan** (laugh at). In the data analysis, I will separate the affixes from the word **mentertawakan**, and finally classify them. In this case, I get that the verb affixes are prefixes *meng-*, *ter-* and suffix *--kan*.

2.3. Processes of Forming Indonesian Affixed Verbs

As stated by Alwi et al, an affixed word can be formed by either derivation or inflection. Derivation is the change of the form of a root because of the addition of affixes, and such change contributes to the change of the part of speech of the root. Meanwhile inflection is the change of the form of a root because of the addition of affixes, but such change does not contribute to the change of the part of speech of the root. For example, an affixed verb **berhalangan** (be hindered) is derived from a noun base **halangan**_(hindrance) with prefix *ber*- while the noun base **halangan** is inflected from a noun root **halang** with suffix *-an*.

 $\frac{berhalangan}{\downarrow} \Rightarrow ber + \underline{halangan} \Rightarrow ber + (\underline{halang} + -an)$ $\downarrow \qquad \qquad \downarrow \qquad \qquad \downarrow \qquad \qquad \downarrow$ affixed verb base root

Conducting my research, I am not going to derive and inflect all free and bound morphemes. I derive noun roots/bases as well as adjective roots/bases and inflect verb roots/bases. I only derive some functional words like **karena**, **dekat**, and **atas** because functional words are words having little or no lexical meaning but used to show syntactic relation or structure as conjunctions, pronouns, and prepositions. Meanwhile, I only use affixes that form affixed verbs, namely verb affixes. In other words, affixed verbs are derived from nouns, adjectives, or some functional words using verb affixes; and are inflected from verbs with affixes. The examples of the derivation and inflection are as follows:

Table 2.3.1. The Examples of Derivation

Verb affixes	Noun	Adjective	Functional word	Affixed verbs
prefix meng-	sapu (broom)			<i>meny</i> apu (to sweep)
prefix di-, suffix -kan		dingin (cool)		<i>di</i> dinginkan (to cool down)
			karena (because)	dikarenakan (caused by)

Verb affixes	Verb	Affixed verbs
prefix meng-	pukul (to hit)	memukul
		(to hit)
prefix ter-	lihat (to see)	terlihat (to be
		seen)

Table 2.3.2. The Examples of Inflection

The processes of derivation and inflection are needed to know because they become the bases of the data analysis. By those processes, I know what affixes, roots, and bases from which affixed verbs are formed.

2.4. Indonesian Allomorph and Morphophonemics

According to Alwi et al., affixes can have allomorphs by means of morphophonemic processes. Allomorphs are a group of morphemes whose forms are different but whose functions and meanings are still the same. Allomorphs are experienced by all verb affixes. In this case, the phoneme(s) of verb affixes can change and become other phoneme(s) in accordance with the phoneme(s) of roots or bases, to which the verb affixes are attached. The process of such change is called a morphophonemic process. For example, *mem*- and *men*- are two out of six allomorphs of the morpheme {*meng*-}. According to the morphophonemic rules of Indonesian verb prefix *meng*-, when *meng*- is added to a root having an initial phoneme /b/, it becomes *mem*-. The complete morphophonemic rules of all verb affixes are as follows:

- a. The morphophonemic rules of the prefix meng-
 - If prefix meng- is added to a root whose initial phoneme is one of these phonemes: /a, i, u, e, o, a, k, g, h, x/; both the prefix meng- and the root do not experience any changes.

meng- + ikat	\rightarrow	<i>meng</i> ikat
meng- + garap	\rightarrow	<i>meng</i> garap
meng- + harap	\rightarrow	<i>meng</i> harap
meng- + kukus	\rightarrow	<i>men</i> gukus

Note: The initial phoneme /k/ will normally be dropped and become /ŋ/. However, exception happens. /k/ will not be dropped in order to differentiate meanings. For example, **mengkaji**, inflected from **kaji** using *meng-*, means to think something deeper while **mengaji**, also inflected from **kaji** using *meng-*, means to deepen knowledge about Islam.

If prefix meng- is added to a root whose initial phoneme is one of these phonemes: /l, m, n, ñ, ŋ, r, y, w/; meng- becomes me-

meng- + latih	\rightarrow	melatih
meng- + makan	\rightarrow	<i>me</i> makan

 If prefix meng- is added to a root whose initial phoneme is one of these phonemes: /d, t, c, j/; meng- becomes men-

meng- + dikte	\rightarrow	<i>men</i> dikte
meng- + syaratkan	\rightarrow	<i>men</i> syaratkan
meng- + tanam	\rightarrow	<i>men</i> anam

Note: The initial phoneme /t/ will normally be dropped and become /n/.

 If prefix meng- is added to a root whose initial phoneme is one of these phonemes: /b, p, f, v/; meng- becomes mem-

meng- + babat	\rightarrow	<i>mem</i> babat
meng- + vaksinasi	\rightarrow	<i>mem</i> vaksinasi
meng- + paku	\rightarrow	<i>mem</i> aku

Note: The initial phoneme /p/ will normally be dropped and become /m/.

 If prefix meng- is added to a root whose initial phoneme is /s/, mengbecomes meny-

meng- + sate	\rightarrow	<i>meny</i> ate
meng- + sablon	\rightarrow	<i>meny</i> ablon

Note: The initial phoneme /s/ will normally be dropped and become /n/.

 If prefix meng- is added to a root that only has 1 syllabyle, mengbecomes menge-

meng- + tik	\rightarrow	<i>menge</i> tik
meng- + rem	\rightarrow	mengerem

Exception: borrowed words are treated in accordance with the frequency and the duration of their use. If the words are still considered as relatively new words, there will not be assimilation. If the words are familiar, the morphophonemic rules of the words follow the standard morphophonemic rules, which have been explained above.

meng- + brutal	\rightarrow	<i>mem</i> brutal
meng- + kritik	\rightarrow	<i>meng</i> kritik

- b. The morphophonemic rules of the prefix per-
 - If prefix *per-* is added to either roots preceded by phoneme /r/ or roots having /ər/ in its first syllable, *per-* becomes *pe-*

per- + rendah	\rightarrow	<i>pe</i> rendah
per- + kerjakan	\rightarrow	<i>pe</i> kerjakan

 Prefix *per*- does not experience any changes if it is added to roots except those characterized in the rule above

per- + kumpulan	>	<i>per</i> kumpulan
per- + kotaan	\rightarrow	<i>per</i> kotaan

• Exception: if prefix per- is added to a special root as ajar, it becomes pel-

 $per-+ajar \rightarrow pelajari$

c. The morphophonemic rules of the prefix ber-

 If prefix ber- is added to either roots preceded by phoneme /r/ or roots having /ər/ in its first syllable, ber- becomes be-

ber- + ranting	\rightarrow	beranting
ber- + kerja	\rightarrow	<i>be</i> kerja

 Prefix *ber*- does not experience any changes if it is added to roots except those characterized in the rule above

ber- + karya	\rightarrow	<i>ber</i> karya
ber- + kurban	\rightarrow	<i>ber</i> kurban

Exception: If prefix ber- is added to a special root as ajar, it becomes bel-

ber-+ajar
$$\rightarrow$$
 belajar

- d. The morphophonemic rules of the prefix ter-
 - If prefix ter- is added to roots preceded by phoneme /r/, ter- becomes te-

ter-+ rebut \rightarrow terebut

 The prefix *ter*- does not experience any changes if it is added to roots that are not preceded by phoneme /r/

ter- + cermin	\rightarrow	<i>ter</i> cermin
ter-+ganggu	\rightarrow	<i>ter</i> ganggu
ter- + makan	\rightarrow	<i>ter</i> makan

e. The morphophonemic rule of the prefix di-

If prefix *di*- is added to any root, both prefix and root do not experience any changes.

<i>di-</i> + beli	\rightarrow	<i>di</i> beli
di- + ambil	\rightarrow	<i>di</i> ambil
<i>di-</i> + tes	\rightarrow	<i>di</i> tes

f. The morphophonemic rule of the suffix -kan

If suffix -kan is added to a root, both suffix and root do not experience any changes.

tarik + -kan	\rightarrow	tarik <i>kan</i>
letak + -kan	\rightarrow	letak <i>kan</i>

- g. The morphophonemic rules of the suffix -i
 - If suffix -i is added to roots ended by phoneme /i/, suffix -i is deleted.

mengisi + -i \rightarrow mengisi

 If suffix -*i* is added to roots that are not ended by phoneme /*i*/, both suffix and root do not experience any changes.

mengukir + -i \rightarrow mengukiri

h. The morphophonemic rule of the suffix -an

If suffix *-an* is added to a root, both suffix and root do not experience any changes.

berminum + -an \rightarrow berminuman

berdua + -an \rightarrow

→ berdua*an*

The morphophonemic rule of the konfix *ber--an* The morphophonemic rules of the konfix *ber--an* follow the

morphophonemic rules of the prefix ber- and suffix -an.

ber - + pergi + -anbepergian ber-+ jatuh + -an berjatuhan \rightarrow berdekatan ber - + dekat + -an \rightarrow ber + iauh + -anberjauhan \rightarrow ber-+cinta+-an bercintaan \rightarrow ber + batas + -anherhatasan \rightarrow ber - + dua + -an*ber*dua*an* \rightarrow

j. The morphophonemic rule of the konfix ke-an

If konfix *ke—an* is added to a root, prefix *ke-*, the root, and suffix *-an* do not experience any changes.

ke- + lapar + -an	\rightarrow	kelaparan
ke- + tumpah + -an	\rightarrow	<i>ke</i> tumpah <i>an</i>
ke- + banjir + -an	\rightarrow	<i>ke</i> banjir <i>an</i>
ke- + hujan + -an	\rightarrow	<i>ke</i> hujan <i>an</i>
ke-+dingin+-an	\rightarrow	<i>ke</i> dingin <i>an</i>
ke- + panas + -an		<i>ke</i> panas <i>an</i>

Note: like the morphophonemic rule of the prefix *di*-, if prefix *ke*- is added to a root, both prefix and root do not experience any changes

k. The morphophonemic rule of the complex affixes

The morphophonemic processes in constructing complex-affixed verbs follow the morphophonemic rules that have been discussed above. In making the instrument, I did not focus any questions about the morphophonemic rules of Indonesian verb complex-affixes as I did to examine learners' proficiency in using the morphophonemic rules of Indonesian verb prefixes, suffixes, and konfixes. However, I used the morphophonemic rules of Indonesian verb complex-affixes in order to modify the meanings of affixed verbs or bases. I mean, deriving and inflecting roots using prefixes, suffixes, or konfixes do not guarantee that the affixed verbs are meaningful. Sometimes, the affixed verbs need other affixes to modify the meanings of the affixed verbs. Since this is the case, complex-affixed verbs are formed, and their rules are used. For example, one of the multiple-choice questions is *Natalia* tawa (A. *Mentertawakan B. Menternawakan C. Mentermawakan D. Mentetawakan*) badut itu (Natalia laughs at that clown). I only want to test learners' proficiency in using prefix ter-. However, the correct answer for that sentence is not tertawa (to laugh) but mentertawakan (laugh at). In this case, prefix meng- and suffix -kan are used to modify the meaning of the base tertawa so that the addition of prefix meng- and suffix -kan to tertawa brings the meaning of doing an action as stated by the base tertawa. Knowing that complex affixes are still used to modify the meanings of bases only, I give the morphophonemic rules of Indonesian verb complex-affixes as follows:

	Prefix(es) + root + suffix	The complex affixed verbs	The morphophonemic processes
a.	meng- + root + -kan	meng- + root + -kan	The morphophonemic process follows the morphophonemic
b.	meng-+root+-i	meng-+root+-i	rules of the prefix <i>meng</i> - and the suffix <i>-kan</i> . The morphophonemic process follows the morphophonemic
			rules of the prefix <i>meng-</i> and the suffix $-i$.
C.	di- + root + - kan	di-+root+- kan	The morphophonemic process follows the morphophonemic
			rules of the prefix <i>di</i> - and the suffix -kan.
d.	di-+root+- i	di-+root+-i	The morphophonemic process follows the morphophonemic
			rules of the prefix di - and the suffix $-i$.
e.	ter - + root + -kan	ter- + root + -kan	The morphophonemic process follows the morphophonemic
			rules of the prefix <i>ter</i> - and the suffix -kan.
f.	ter - + root + -i	ter - + root + -i	The morphophonemic process follows the morphophonemic
			rules of the prefix <i>ter</i> - and the suffix $-i$.
g.	meng- + per- + root	memper- + root	The morphophonemic process follows the morphophonemic
			rules of the prefix <i>per-</i> .
h.	di-+ per -+ root	diper- + root	The morphophonemic process follows the morphophonemic
			rules of the prefix per

Table 2.4.1. The Morphophonemic Rules of the Indonesian Verb Complex-Affixes

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meng- + per- + root + -kan	<i>memper-</i> + root + - <i>kan</i>	The morphophonemic process follows the morphophonemic
		rules of the prefix <i>per</i> - and the suffix -kan
meng- + per- + root + -i	memper- + root + -i	The morphophonemic process follows the morphophonemic
		rules of the prefix <i>per</i> - and the suffix $-i$
di + per + $root$ + $-kan$	diper- + root + -kan	The morphophonemic process follows the morphophonemic
		rules of the prefix <i>per</i> - and the suffix -kan
di-+ per -+ $root$ + - i	diper - + root + -i	The morphophonemic process follows the morphophonemic
		rules of the prefix <i>per</i> - and the suffix $-i$
meng- + ter- + root + -kan	<i>menter-</i> + root + -kan or	The morphophonemic process follows the morphophonemic
	mener- + root + -kan	rules of the prefix ter- and the suffix -kan
meng- + ter- + root + -i	<i>menter</i> - + root + - i or	The morphophonemic process follows the morphophonemic
	mener - + root + -i	rules of the prefix <i>ter</i> - and the suffix $-i$
di-+ ter -+ $root$ + - kan	diter- + root + -kan	The morphophonemic process follows the morphophonemic
		rules of the prefix ter- and the suffix -kan
di-+ ter -+ $root$ + - i	diter - + root + -i	The morphophonemic process follows the morphophonemic
		rules of the prefix <i>ter</i> - and the suffix $-i$
meng- + ber- + root + -kan	member- + root + -kan	The morphophonemic process follows the morphophonemic
		rules of the prefix <i>ber</i> - and the suffix -kan.
	meng- + per- + root + -i $di- + per- + root + -kan$ $di- + per- + root + -i$ $meng- + ter- + root + -kan$ $meng- + ter- + root + -i$ $di- + ter- + root + -i$	meng- + per- + root + -imemper- + root + -i $di- + per- + root + -kan$ $diper- + root + -kan$ $di- + per- + root + -i$ $diper- + root + -i$ $meng- + ter- + root + -kan$ $menter- + root + -kan$ or $mener- + root + -kan$ $meng- + ter- + root + -i$ $menter- + root + -kan$ $di- + ter- + root + -i$ $menter- + root + -i$ or $mener- + root + -i$ $di- + ter- + root + -kan$ $diter- + root + -kan$ $di- + ter- + root + -i$ $diter- + root + -i$

(continued)

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r.	di-+ ber -+ root + - kan	diber- + root + -kan	The morphophonemic process follows the morphophonemic rules of the prefix <i>ber</i> - and the suffix <i>-kan</i> .
S.	ter - + ber - + root + -kan	<i>terber-</i> + root + - <i>kan</i>	The morphophonemic process follows the morphophonemic rules of the prefix <i>ber</i> - and the suffix <i>-kan</i> .
t.	<i>ke-</i> + root + <i>-an</i>	$ke-+ \operatorname{root} + -an$	The morphophonemic process follows the morphophonemic rules of the konfix <i>ke-an</i> .
u.	<i>ke-</i> + root + - <i>i</i>	ke-+root+- <i>i</i>	The morphophonemic process follows the morphophonemic rules of the prefix- ke - (which are explained in the morphophonemic rules of the konfix ke —an) and the suffix $-i$.
V.	per- + root + -kan	per- + root + -kan	The morphophonemic process follows the morphophonemic rules of the prefix <i>per</i> - and the suffix <i>-kan</i> .
W.	per-+root+-i	per-+root+-i	The morphophonemic process follows the morphophonemic rules of the prefix <i>per</i> - and the suffix $-i$.
X.	<i>ber-</i> + root + - <i>kan</i>	ber- + root + -kan	The morphophonemic process follows the morphophonemic rules of the prefix <i>ber</i> - and the suffix <i>-kan</i> .
у.	<i>ber-</i> + root + <i>-i</i>	ber-+root+-i	The morphophonemic process follows the morphophonemic rules of the prefix <i>ber</i> - and the suffix $-i$.

All of the morphophonemic rules explained above are important to make the instrument of the data collection-the multiple-choice tests-and to analyze the data. Because in the multiple-choice questions, I provide four possible answers, I need to construct the answers in such away that one answer is the right answer following one correct morphophonemic rule stated above, and the other three are distractors or the wrong answers that deviate from the rule. For example, in a question Ibu sapu (A. menyapu B. mesapu C. mengapu D. menapu) dapur. The correct derivation of the root sapu is menyapu because it follows the morphophonemic rule of the prefix meng-. Added by sapu, which is a root whose initial phoneme is /s/, prefix meng- becomes meny-, and phoneme /s/ drops and becomes /ñ/. Meanwhile, mesapu, mengapu, and menapu are wrong because they do not follow the rule. In addition, analyzing the data, I need the morphophonemic rules to identify verbal errors and classify the errors to their sub-types of Indonesian affixes as well as their allomorphs. Based on the example above, if a subject of the study crossed B, I would mention that crossing B was wrong, and the error happened in deriving a root having initial phoneme /s/ using prefix meng- (forming allomorph meng-).