A Morphophonemic Analysis On The Affixation In The Indonesian Language

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Abstract: The paper presents a morphophonemic process on the Indonesian word formation. The research aimed to explore both morphological and morphophonemic processes found in the Indonesian language. The data in this research were provided with a list of statements containing affixes of the words. The sources of data in this research were taken from the news in online newspaper: kompas.com. The data were processed through a verbal analysis, such as identify and to classify the affixes into their types. The results of the research showed that the affixation process transformed the word classes where the use of confix me-kan changed the roots of adjectives and nouns into the verbs and pe-an changed the roots into noun. Besides, the morphophonemic rules were also discussed from the variation of prefixes me- and pe-. The findings concluded that the affixation processes were very unique and interesting to learn. And, the implication of the research indicated that the Indonesian learners might compare the their native language and the other world languages.

Keywords: Morphophonemic, Affixation, Word Formation, Roots, Word Classes, Analysis, Indonesian.

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1 INTRODUCTION

As the name implies that morphophonemic is an interaction between morphology and phonology. That means that the Morphophonemic deals with the analysis and classification of phonological factors that affect morpheme, or, always relates to grammatical factors that influence phonemes [1]. Similarly, Jensen [2] states that morphophonemic is the process of affecting phonological conditions by morphemes and sequences of morphemes. Indonesian language has many variations of phonemes and morphemes related to prefix, suffix and confix. Prefixes are affixes that are structurally attached to the beginning of a basic word or basic form. Prefixes in Indonesian include: ber, men-, di-, per-, pe-, ke-,and ter-. The process of prefixing is the addition of prefixes or prefixes to the base words. Suffixes or endings are affixes that are structurally attached to the end of a basic word or basic form. Suffixes in Indonesian include: -kan, -i, -an, -man, -wan, -wati, -da, and -anda. The suffixation process is the addition of a suffix or suffix to the basic word or basic form. While the confixes are affixes consisting of two parts placed at the beginning and end of the basic word or basic form. Confixes in Indonesian are such as: pera, ke-an, and ber-an. The confirmation process is the addition of prefixes and suffixes simultaneously [3] (Chaer, 2008). The study applied a qualitative approach [4]. it was intended to categorize the types of affixation based on morphophonemic processes. Method of research is the steps or phases which had been done by the researcher based on the purpose of research. The data in this research were provided by identifying and administrating the words containing affixes in the Indonesian language. The sources of data in this research were taken from the news in online newspaper: kompas.com. The data analysis included identifying, administrating, and categorizing the words. The words covering affixes were classified into unit of categories or types in accordance with the morphophonemic processes.

2. THE CONCEPTS OF MORPHOPHONEMIC

In all languages, a simple word may be expanded and changed in meaning by the attachment or insertion of one or more units of meaning in terms of morphemes. The morpheme is the smallest unit of language whose meaning is relatively stable and cannot be divided over a smaller meaningful part. This is a process that often turns the word into a new part of speech. It is wonderful to consider, for example, the word 'true' in English is an adjective, which can be converted into a noun by the addition of the morpheme –th, so that it becomes the word 'truth'. This word, in turn, may become the adjective 'truthful', or its negative meaning is constructed with the use of prefix 'untruthful.' Similarly, the new adjective 'truthful' may be expanded into the adverbs 'truthfully' and 'untruthfully', or the new nouns 'truthfulness' and 'untruthfulness.' Morphology is a study of the way that words are built up from those smaller units to the minimal meaning-bearing units in a language [5]. For example, the English word 'able' consists of a single morpheme (the root word 'able') whilst the word 'disagree' consists of two morphemes: 'dis-' and 'agree.' The morphemes 'able' and 'agree' can stand alone as words, while prefix 'dis-' must appear bound to another morpheme. In the process of word formation, the morpheme undergoes one of the so-called morphophonemic evidence. Morphophonemic processes are phonological evidence that occur due to morpheme encounters with morphemes. The morphophonemic process in Indonesian occurs only in the realization of the basic morpheme with the realization of affix (morpheme), either prefix, suffix, infix, or confix[6]. Morphophonemic is a branch of morphology. It refers to the changes of phoneme as a result from the merging of one morpheme and another. Morphophonemic studies the interaction between morphological and phonological or phonetic processes. Its primary focus is the sound changes that take place in morphemes when they combine to form words. Morphophonological analysis often involves an attempt to give a series of formal rules that successfully predict the regular sound changes occurring in the morphemes of a given language. The existence of morphophonemic rules also influences the formation of words in the Indonesian language. A large number of words in Indonesian are formed by combining roots with affixes and other combining forms. Therefore, it is very essential to understand the meanings of derived words and to know how those words are formed. A large number of words used in the Indonesian language are formed by combining roots with affixes and other combining forms. Knowing how affixes is used becomes the key to understand the meanings of derived words and in learning to read the Indonesian language. If people know the meaning of a root and the rules for each type of affix, they will be better able to understand and predict the meanings of the words derived from those roots. There are a relatively small number

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of Indonesian affixes in common usages. The Indonesian language is still very much a root-based language with nice complete word "families". This is in contrast to English where there are many more affixes from diverse sources and the study of roots and their "families" is not as useful. There are at least 100 different English affixes and combining forms in common usages. The Indonesian language has about 40 affixes in common usages that are combined with a relatively small group of roots. There is a certain simplicity and consistency inherent in the Indonesian language that makes it an easy language to learn. If this were a logical world, the Indonesian language would immediately be the world's international language. The morphological process is the one in which the language user combines one morpheme with another in order to form a word. Hence, the morpheme plays a role as the smallest element in the structure of word [7]. The morphological process is a process to combine two or more morphemes in finding a new word. To Nida [8][9], morphology is the study of morphemes and their arrangements in forming words. Hockett [10] says that morphology included the stock or segmental morpheme and the ways in which words are built out of them. Thus, Katamba says that "morphology is the study of internal structure of the words.[11] The terminology 'morphophonemic' implies linguistic statements that describe the phonemic structure of morphemes. For instance, the source cited here indicates that the morphophonemics of the English plural morpheme involve the alternations of the /s/ allomorph in cats, the /z/ in dogs and the /Iz/ in losses. Chomsky and Halle [12] prefer the expression 'phonological representation'. But in the present study, we will use the term 'morphophonemics' to refer to the sense in which Gimson and Cruttenden use it above. Furthermore, morphophonemic process is the processes which study of the phonological realization of the allomorphs of the morphemes of a language or the study of the phonemic representation of morphemes in different environments. It is related to the affixation processes, the term is called as morphophonemic processes. The term is derived from two words; they are 'morpheme' and 'phoneme'. The word 'morphophonemic' refers to the variation in the form of morphemes because of the influence phonetic factor or the study of this variation. To Parera, the change of form in a morpheme is based on the sounds surrounding it which relates to the correlation between morphemes and phonemes. It is also called as a morphophonemic change. To Ramlan in Nurhayati[12], morphophonemic refers to the changes of phoneme as a result from the merging of one morpheme and another. It is also stated that the morphophonemic process is a process of form changes in which phoneme and morpheme are involved. William, Dobrovolsky and Aronoff state that the linguistic case of morphology is the study of word structure [17]. It seeks to characterize the system of categories and rules involved in the word formation and interpretation. The psycholinguistic study of morphological processing seeks to understand how this word structure plays a role in language processing. Further, they state that rules that account for alternations among allomorphs (morphophonemic alternations) are called the morphophonemic rules.

3. AFFIXATION

One of the processes of word formation is known as affixation. Affixation is the process by which new words are formed through the additions of bound morphemes to words. Through this process, a variety of lexical items can be created. As for instance, the word 'encouragement' is formed from the root 'courage' by the prefix 'en' and the suffix 'ment'. Morphemes such as 'en' and 'ment' which are parts of the words are called affixes. Affixes are therefore not words. They are subsidiary to the root or the base of words and may be added directly to the root or base form or to the constructions consisting of a root plus one or more other morphemes. As stated by Quinion that in English, a prefix is an element placed at the beginning of a word to adjust or qualify its meaning[13], for examples: de-, non-, and re-. A suffix is an element placed at the end of a word to form a derivative, such as -ation, -fy, -ing, frequently one that converts the stem into another part of speech. A combining form can be either a prefix or a suffix; the difference is that the combining form adds a layer of extra meaning to the word. For example, bio- adds the idea of life or living things to words, as in 'biochemistry', the study of the chemical processes which occur within living organisms; -cide adds the idea of killing or a killing agent, as in 'pesticide', comparing these examples with a prefix such as ex- or a suffix such as -ic, neither of which add meaning, but only modify an existing meaning. Words in Indonesian are built from their roots by means of a variety of morphological operations including compounding, affixation, and reduplication. Indonesian concatenative morphology regulates how a stem and its affixes glue together, while a non-concatenative one combines morphemes in more complex ways. Affixes in Indonesian can be classified as four categories[14]. Prefixes precede the base form, i.e. meN-, di-, peN-, per-, ke-, and ter-. Suffixes follow the base form, i.e. -kan, -an, and -i. Infixes are inside the base form, i.e. -el-, -em-, and -er-. Circumfixes, also called confixes, wrap around the base form. While circumfixes are formally the combinations of allowed prefixes and suffixes; they have to be treated as discontinuous units for semantic and grammatical reasons. In our Indonesian morphological analyzer, we have handled prefixes, suffixes, and circumfixes. In the Indonesian language, these rules can generally be divided into two groups. The first group consists of four rules that model the phonetic changes in stems, whereas the second group consists of seven rules that model the phonetic changes in affixes. Moeliono states The morphotactic rules for the Indonesian language can be classified into 13 classes. Ten of these classes are determined by which the suffixes are merged with the root. The first ten classes can be identified as concatenative morphology, while the other three are nonconcatenative morphology. The ten classes that belong to concatenative morphology are the morphotactic rules for the prefixes meN-, peN-, di-, per-, ber-, ter-, and ke-, and the morphotactic rules for the suffixes -an, -kan, and -i. Some examples for the cases that belong to these 10 classes are as follows:

1) meN + root (verb, noun, adjective or etc.) + kan→Verb. Example: membersihkan (meN+bersih+kan). In this example, the word bersih is an adjective. After merging with meN-kan, the resulting word is a verb.

2) peN + ber + root (verb, noun, adjective or etc.) + an → Noun. Example: pembelajaran (peN+ber+ajar+an). In this example, the word ajar is a verb. After merging with peN-ber-an, the resulting word is a noun.

3) ke + ber + root (verb, noun, adjective or etc.) + an → Noun. Example: keberhasilan (ke+ber+hasil+an). In this example, the word hasil is a noun. After merging with ke-ber-an, the resulting word is also a noun.

4) root (verb, noun or adjective) + i → Verb. Example: terangi

(terang+i). In this example, the word terang is an adjective. After merging with –i, the resulting word is a verb.

The four rules in the first group which covers prefixation are as follows:

(1) /k/ replacement with /ng/ if the word starts with meN- or peN-. Example: meN+kantuk → mengantuk.

(2) /s/ replacement with /ny/ if the word starts with meN- or peN-. Example: peN+sebaran → penyebaran.

(3) /p/ replacement with /m/ if the word starts with meN- or peN-. Example: peN+pakai → pemakai.

(4) /t/ replacement with /n/ if the word starts with meN- or peN-. Example: meN+tertawakan → menertawakan.

It is necessary to note that the rules above only change the stem initial segment. To complete the replacement processes, the following seven rules from the second group are needed to get the correct prefix forms:

(1) /N/ deletion if meN- is followed by /l/, /m/, /n/, /r/, /y/, /w/, /t/, /s/, /p/, /k/ or if there is peN followed by /l/, /m/, /n/, /r/, /d/, /w/, /t/, /s/, /p/, /k/. Example: meN+lukis → melukis.

(2) /r/ deletion if there is ber-, ter-, or per- followed by /r/ or the word that its first syllable ended with /er/. Example: ber+runding → berunding.

(3) /N/ replacement with /n/ if there is meN- followed by /d/, /c/, /j/, /sy/ or there is peN- followed by /d/, /c/, /j/. Example: peN+jual →penjual.

(4) /N/ replacement with /m/ if there is meN- or peN- followed by /b/, /f/. Example: peN+buru □ pemburu.

(5) /N/ replacement with /nge/ if there is meN- followed by a word that has only one syllable. Example: meN+rem → mengerem.

(6) /N/ replacement with /l/ if there is peN- followed by the word ajar. Example: peN+ajar→ pelajar.

(7) /r/ replacement with /l/ if there is ber- followed by the word ajar. Example: ber+ajar → belajar.

4. THE MORPHOLOGICAL PROCESS ON THE AFFIXATION ASPECT

Affixation in the Indonesian Language.
The affixation types in the Indonesian language comprise prefix, suffix, infix, and confix. However, in this research, the most common types of affixation used are prefix, suffix, and confix.

a. Prefix
The kinds of prefixes obtained from the news in online newspaper: kompas.com consist of six kinds, i.e. me-, di-, ber-, se-, ter-, and pe-. These prefixes have several variations in the word formation.

(1) Prefix *me-* signifies active sentences and it has five variations as follows:

Prefix	word	meaning
me-	mencari	to seek
mem-	membeli	to buy
meng-	menggali	to dig

(2) Prefix *di-* has a strong connection with the *me-* group of prefixes discussed above. The *me-group* indicates the active voice while the *di-* prefix creates a verb indicating the passive voice.

Prefix	word	meaning
di-	dibangun	to be built
di-	dirancang	to be designed

(3) Prefix *ber-* functions as to indicate that the subject of a sentence is the experiencer or recipient of the action in the sentence. The variation of *ber-* is *be-*.

Prefix	word	meaning
ber-	bersedih	sad
ber-	beragam	to have variety

(4) Prefix *se-* can function as to have the same degree or level, for example *sebesar {se+besar}* which means as big as or as much as. Prefix *se-* can also function as an adverb.

Prefix	word	meaning
se-	secara	in a manner
se-	sesaat	a moment

(5) Prefix *ter-* is to indicate the resultant state or condition of the action, with little concern for who did it.

Prefix	word	meaning
ter-	terpusat	to be focused
ter-	tersebut	to be mensioned

(6) Prefix *pe-* has similar variations with prefix *me-*.

Prefix	word	meaning
pe-	penumpang	passenger
pen-	pencipta	creator
pem-	pembicara	speaker

There are also several variations in using prefixes in the word formation. It covers loss of phoneme and simple consonant change. The formation words are obtained from the news in kompas. Those words indicate the morphophonemic rules in which the base word when merging with the prefixes encounter phonetic changes. For example, the base tambah is changed into nambah after being attached to prefix {me-} menambah (to increase). The change from /t/ to /n/ preceded by prefix me- goes along with the morphophonemic rule. The word menangis (cry) with the base tangis and the word menurut (according to) with turut also change after the prefix me-. Another phoneme that is not found in the text is /p/ changing into /m/, such as the base word started by /p/ in putar changes into memutar (turn around). It can be inferred that if the word with initial /t/ is preceded by prefix {me-}, phoneme /t/ is changed by /n/. This is also parallel with the change from phoneme /p/ into /m/. The prefix {me-} necessarily transforms into {mem-} when encountering with the phonemes /b/, /f/, and /v/. In the data, the word membeli (buy) is the formation from prefix {mem-} and base beli. Another instance obtained is membuat (make) with the base form buat. The phenomenon of prefix {me-} into {mem-} before the phoneme /b/ highly occurs since both /m/ and /b/ are grouped as bilabial consonants. The category of labiodental sounds such as /f/ and /v/ is included in this rule as well. Another rule of morphophonemic is the transformation of prefix {me-} into {meng-}. All vowels, /a/ /e/ /i/ /u/ /o/ and other phonemes, such as /g/, /h/, /k/, and /x/ as initial sounds cause the prefix transformation. The data show that the word ajak is

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preceded by {me-} by adding {-ng} and form mengajak (invite). The final rule of prefix {me-} is the phonemes /r/ /l/ /m/ and /n/ do not encounter any transformation. The base form remains the same as in the word formation. For example, the word merancang (design) derives from prefix {me-} and base {rancang} in which the phoneme /r/ is neither changed nor dropped. Based on the explanation above, the variations of prefix {me-} in morphophonemic rule can be seen in the following model: the important thing to notice is that the prefix {me-} in the indonesian language mostly indicates that the subject is the actor who is doing something. It is usually used to form an active transitive verb. The prefix {di-} functions as a passive transitive verb, so it is the opposite of the prefix {me-}, indicating that the subject is the object of an action. For examples, the word digelar (held) is the passive form of menggelar (hold), dilarang (forbidden) is the opposite of melarang (forbid). Prefix {di-} does not have many variations like prefix {me}. Other examples found in the data are dirilis (released), ditakar (measured), dibangun (built), diberi (given), dirancang (designed), and ditata (organized). Those are the opposites of merilis (release), menakar (measure), membangun (build), memberi (give), merancang (design), and menata (organize). The variations of prefix {me-} have been elaborated above. The next prefix is {ber-} having the meaning of "to do, to have or to be something". The examples obtained are beragam (to have more than one kind) with the base ragam (kind). The same rule is applied in the word berbeda (to be different). The formula that can be inferred from the data is that when {ber-} is followed by a phoneme /r/, the /r/ in {ber-} is dropped. So, it does not change into berragam but beragam, instead. The other words are bertambah (to have increase), bersedih (to be sad), berlayar (to do a trip or an excursion ship), berbagai (to have many kinds), berada (to be somewhere). Prefix {se-} functions as an adverb in the indonesian language. It has several functions. The word sebesar (as big as) from the root besar (big) indicates a positive degree. The same rule is applied in the word selama (as long as). Another meaning of prefix {se-} can be inferred from the words setara (to be at the same level, e.g. height), sesuai (in accordance with), secara (in a manner). Prefix {se-} is also used as a substitution of the word "one", such as seorang (one person). The next prefix is {ter-}. It also denotes a passive intransitive verb. However, it is different from prefix {di-} in which {ter-} tends to be accidental or unplanned. It can be seen from the words terapung (to be floated) and terbuat (to be made). Other instances are terisak (sobbed), tersebut (mentioned). In the indonesian language, prefix {ter-} also designates a superlative meaning, such as the words termurah (the cheapest), termahal (the most expensive). The last prefix obtained in the data is {pe} to form a noun, especially a person, profession or tool. In english, it is similar to –er. This has the same rule as {me-}. For instance, the base halang (to hinder) causes the change from {pe-} to {peng-} due to the presence of phoneme /h/. The words pengelola (manager) and pengunjung (visitor) are another unique case. Prefix {pe-} is transformed into {peng-} when it is followed by a phoneme /k/. What is unique is that this phoneme is dropped, such as in the roots kelola (to manage) and kunjung (to visit), merged with {peng-}, alter to pengelola and pengunjung.

b. Suffix
Two kinds of suffix are found in the research: -an and -kan
(1) Suffix –an derives nouns from verbs and to a lesser extent, from nouns, adjectives and other classes.

Suffix	words	meaning
-an	*bangun*	building
-an	*jalanan*	pathway

(2) Suffix –kan
Adding the -kan suffix to a verb results in a verb indicating causation; making or causing something to happen. Its main function is to carry or transfer the action of the verb to some other parts of the sentence. It is often used for imperatives.

Suffix	words	meaning
-kan	*jelaskan*	*explain*
-kan	*berikan*	give

A suffix is a letter or a group of letters added to the end of a word to change its meaning or to ensure it fits grammatically into a sentence. Suffix –an and –kan are attached after the root either functions as a noun or an imperative. Adding the "-an" suffix to a root of the verb often creates a noun indicating an end product or result of an action relating to the character of the verb. In the word tuju (to go to), the addition of –an in tujuan (destination) creates a new word class from verb into noun. The same case is applied in the word bangunan (building); the root bangun itself means to build and suffix –an changes the word class which reflects the character of the verb. Other instances are cobaan (trial) from the root coba (try), hadapan (front) from hadap (face), and liburan (holiday). Another function of suffix –an is adding the "-an" suffix to a root of the noun and it creates another noun that often has a more specific application which is related to the character of the root word. The words lautan (ocean) and ruangan (room) are derived from the roots serving as nouns. However, attaching –an results a bigger/larger quantity from the root meaning: laut (sea) becomes lautan (ocean) and ruang (room) becomes ruangan (room with larger area). In addition to –an, suffix –kan is also obtained in the data. Adding the "-kan" suffix to a verb results in a verb indicating causation; making or causing something to happen. Its main function is to carry or transfer the action of the verb to some other parts of a sentence. It is often used for imperatives on product labels or with instructions for cooking recipes. The suffix "-kan" can sometimes be viewed the same as a short form of "akan", the same as adding the preposition "akan" after the root word. It is frequently used in conjunction with the prefix me- and also frequently as the sole affix for imperative or instructional verbs. The word jelaskan (explain!) is originated from jelas (clear). It serves as an imperative. Other cases can be found in the words selesaikan (finish!), jadikan (make –something- be!), and tunjukkan (show!). The roots are varied, those can be adjectives or verbs.

c. Confix
Confix is an affix consisting of a prefix and a suffix that are affixed simultaneously to the root. The confix types obtained in the research are me-kan, me-i, pe-an, per-an, ke-an, ber-an, ber-kan, di-kan, and di-i.

(1) Confix *me--kan*

Prefix	base	suffix	word	meaning
me-	*rinci*	*-kan*	*merincikan*	to detail
me-	*rasa*	*-kan*	*merasakan*	to feel

(2) Confix *me-i* also applies the same rule as *me-kan*. It can be seen as follows:

Prefix	base	suffix	word	meaning
me-	*luka*	*-i*	*melukai*	to hurt
me-	*lengkap*	*-i*	*melengkapi*	to complete

(3) Confix *pe-an*

Prefix	base	suffix	word	meaning
pe(n-)	*didik*	*-an*	*pendidikan*	education
pe(ng)-	*guna*	*-an*	*penggunaan*	usage
pe (m)-	*pandang*	*-an*	*pemandangan*	scenery
pe(r)-	*jalan*	*-an*	*perjalanan*	trip

The three types of confix grouped above are considered important to elaborate more since those go through some modifications in forming word. The confix has many functions, such as to form a noun, intransitive verb, active verb, passive verb, and so forth. The first confix is me-kan showing an action or doing something. It represents the character of the root word. Since a confix consists of a prefix, the variations of prefix me- also occurs. The variations of prefix found are mem-, men-, meng-, and meny-. In some words me- remains the same because of the influence of a phoneme that follows. The word merincikan (to make a detail) is originated from rinci which implies the same meaning. Other examples are melakukan (do), merupakan (constitute), and merasakan (feel). The morphophonemic rules can be seen from the variation men- in which prefix me- is changed into men- due to the phoneme that follows, /t/ like the word meningkatkan (to increase) from the root tingkat (level), menanyakan (ask) derived from tanya. Another phoneme is /d/ in the word mendatangkan (make someone present). Besides, prefix mem- results from phoneme /b/ like in the word memberikan (to give); prefix meny- is influenced by phoneme /s/, from the root sampai into menyampaikan (to tell); prefix meng- is created before phonemes /i/, /h/, and /k/, and it can be seen from the words menghilangkan (to lose), mengingatkan (to remind), and mengenalkan (to introduce). The most essential thing to note down is that confix me-kan always requires an object. Therefore, it functions as a transitive verb. The second confix is me-i which is similar to me-kan serving as a transitive verb. The morphophonemic rules applied are also the same, such as melengkapi (to complete), mengunjungi (to visit), and mengarungi (to sail). The next confixes with the variations in the prefix are pe - an, pem - an, pen - an, peng – an, penge - an, and peny – an. These confixes have the same meaning and usage, but they have different spellings. The use of each depends on the first letters of the root to which they are attached. We refer to these as the "pe - an group". Adding a confix from this group usually creates an abstract noun that indicates the process of performing the action referred to the verb in the sentence (as opposed to the result of the action). The Indonesian words formed from the "pe - an group" are often nouns that have English translations which use the "-ing" English suffix when referring to a process in the sense of a noun. The examples of pe-an confix group provided are penggunaan (use), pendidikan (education), penempatan (placement), penyesuaian (adjustment), penginapan (lodging), pemandangan (scenery), pembelajaran (learning), perbaikan (improvement), perjalanan (trip), and perusahaan (company). The transformation of prefix pe- in the confix pe-an has the same morphophonological rule in confix me-an. Based on the

morphophonemic rule stated in chapter 2, prefix pe-an becomes pem-an when the prefix is followed by phonemes /b/ and /p/; prefix pen- in pen-an comes before phonemes /d/ and /t/; prefix peny- is followed by phoneme /s/; prefix peng- is before phoneme /g/. pe confix has the same morphophonological rules in confix me-an. The next is confix ke-an. One of the functions is to form a noun indicating a state or condition that has a connection with the root word in a general sense. Many of the English translations for these nouns have the English "-ness" suffix which indicates a certain condition, for examples: kesempatan (opportunity), kehidupan (life), and kebaikan (kindness). Another function is to form a noun referring to a place or region, like kementerian (ministry). Confix ke-an also changes the class of adjective into noun, such as kemewahan (luxury) and kecantikan (beauty) with roots mewah (luxurious) and cantik (beautiful). There are two different ways to form words using both the ber- prefix and the -an suffix; a non-confix method and a confix method. Unfortunately, the derived words under both methods are spelled the same and look identical, but they have different meanings. One approach to identify the method used is to consider the context in which they appear and if a notion of mutuality or reciprocity is present, it will indicate that a confix is probably used. If the context indicates that the derived "ber-an" word has a notion of "being something" or "having a certain attribute" (without a notion of mutuality), it will indicate that the non-confix method is probably used. The non-confix method involves two separate steps: 1) adding the -an suffix to a root word to form a new word that is usually a noun and 2) later adding the ber- prefix to this new word. The resulting word will be a verb that follows the rules for using the ber-prefix discussed in the prefix section above (with a meaning of "being something" or "having a certain attribute"). For examples: step 1 - adding the -an suffix to tuju verb root creates the noun tujuan. Step 2 - adding ber- prefix to the noun tujuan creates the verb bertujuan which means "having a purpose or goal". The confix method involves a single step of adding the ber- prefix and the -an suffix at the same time. The resulting form is a verb that indicates "having a certain attribute or place. For example: adding confix ber - an to noun root atap = beratapkan (to be under a roof of). Both confix di-kan and confix di-i indicate a passive state, as for instances: dianggarkan (budgeted), digunakan (used), diarahkan (directed), diwakili (represented), diikuti (followed). In forming a word, a confix sometimes comprises more than one prefix and has its own functions and word classes. Confix keter-an in the word keterbukaan (openness) is derived from non-confix word terbuka (open). The same case goes to the word kepemilikan (ownership) from the non-confix pemilik (owner). These new forms of words serve as nouns. Confix meke-an functions as a verb with the modification in the prefix meke- become menge-, such as the word mengeluarkan (issue) due to the presence of phoneme /k/. The last, confix keberke-an with three prefixes, functions as a noun like the word keberkepanjangan (sustainability/prolongation) from the root panjang (long). To recall the morphophonemic rules by Alwi et al. (2003) that confixes me-kan, pe-kan, and ber-an change the word class category. The noun rasa as the root transformed into a verb after the attachment of confix me-kan in merasakan. However, the research also reveals that the confix me-i has similar transformation, such as from the adjective lengkap into the verb melengkapi. The transformation of verb into noun goes along with their rules in

which the addition of confix pe-an in pembelajaran functioning as a verb from the word belajar. In addition, the confix types also obtained in the research are, ke-an, ber-an, ber-kan, di-kan, and di-i. The combinations of prefixes are also obtained, such as keter-an, kepe-an, meke-an, and keberke-an. The confix might cover one or more prefixes before the root and a suffix following.

5. REFERENCES

A morphophonemic rule has the form of a phonological rule, but it is restricted to a particular morphological environment. The morphophonemic rules applied in the process of affixation can be seen in the word formation involving prefix, suffix, and confix.

Morphophonemic Rules on the Prefix.
There are six prefixes that are obtained from the data. However, in the aspect of morphophonemic process, only three kinds of prefix in the Indonesian language have particular rules in the word formation. Those prefixes are me-, ber-, and pe-

1 Prefix me-
The rules of morphophonemic applied on the prefix me- is shown as follows:

2 Prefix ber-
Prefix ber- has one variation, namely be- as shown below: Prefix ber which serves as a verb is usually derived from noun, adjective, and the verb itself. Prefix ber- harbors a variation of be- when it is followed by phoneme /r/ and /a/.

3 Prefix pe-
The morphophonemic rules applied in prefix pe- are the same as that in prefix me-. It is presented as follows:
Figure 8: The rules of morphophonemic on the prefix pe-
Prefix pe- has four variations, namely pen-, pem-, peng-, and peny-. This change is affected by the certain phonemes that follow.

Table 1. *The transformation of prefixes in the Indonesian language due to the interference of phoneme.*

No	Confix	Variations of Prefix	Phonemes	Roots	Word Formation	Meaning
1	me-kan	me-	/l/	laku	melakukan	do
		men-	/t/	tanya	menanyakan	ask
		mem-	/b/	beri	memberikan	give
		meng-	/i/	ingat	mengingatkan	remind
		meny-	/s/	selesai	menyelesaikan	finish
2	me-i	me-	/l/	lengkap	melengkapi	complete
		meng-	/a/	arung	mengarungi	sail
3	pe-an	peng-	/g/	guna	penggunaan	use
		pen-	/d/	didik	pendidikan	education
		peny-	/s/	sesuai	penyesuaian	adjustment
		pem-	/b/	belajar	pembelajaran	learning
			/p/	pandang	pemandangan	scenery

Morphophonemic Rules on the Confix
The transformation of prefixes in Indonesian language due to the interference of the following phoneme is shown in Table 2:

Table 2: *The transformation of prefixes in Indonesian language*

No	Prefixes	Variations of Prefix	Phonemes	Roots	Word Formation	Meaning
1	me-	me-	/r/	rancang	merancang	design
		men-	/t/	tambah	menambah	increase
			/j/	jadi	menjadi	become
		mem-	/b/	beli	membeli	buy
		meng-	/a/	ajak	mengajak	invite
		meny-	/s/	sebut	menyebut	mention
2	di-		/g/	gelar	digelar	Held
			/l/	larang	dilarang	forbidden
3	ber-	ber-	/b/	beda	berbeda	different
		be-	/r/	ragam	beragam	various
4	se-		/t/	besar	sebesar	as big as
			/l/	lama	selama	for
5	ter-		/a/	apung	terapung	floated
			/b/	buat	terbuat	made
6	pe-	pe-	/l/	luang	peluang	opportuniy
		peng-	/k/	kelola	pengelola	manager
			/h/	halang	penghalang	obstacle
		pen-	/t/	tumpang	penumpang	passenger
		pem-	/b/	buat	pembuat	maker
		peny-	/s/	sebab	penyebab	cause

6. CONCLUSION

The study obtains that the affixation process is a part of morphological process. The affixes in Indonesian consist of prefix, suffix, and confix. The prefixes obtained are me-, di-, ber-, ter-, se-, and pe-. The variations occurring in the three prefixes (me-, ber-, and pe-) show the morphophonemic influence in which the process causes the loss of phoneme and the simple consonant change. Prefix ber- with its variation be- indicates the loss of phoneme /r/ followed by the same phoneme. Furthermore, the variations of other two prefixes (me- and pe-) cause the simple consonant change, particularly in these prefixes (men-, meny, pen-, peny-). The suffixes found are –an showing nominalization and –kan as an imperative. The confix types obtained in the research are me-kan, me-i, pe-an, per-an, ke-an, ber-an, ber-kan, di-kan, and di-i. Other combined prefixes are also obtained, such as keter-an, kepe-an, meke-an, and keberke-an. In the formation of words, the morphophonemic rules in prefix are also applied to confix. It is concluded that the affixation process transforms the word classes in which the use of confix me-kan changes the roots 'adjective' and 'noun' into verb and pe-an change the root into a noun. In addition, the morphophonemic rules can be seen from the variation of prefixes me- and pe-. Prefix me- comes before phonemes /l/, /r/, /m/, and /n/; men- before /c/, /d/, /j/, and /t/; mem- before /b/, /p/, /f/, and /v/; meng- before /a/, /e/,

/i/, /u/, /0/, /g/, /k/, and /h/; and meny- before /s/. The same variations also occur in prefix pe-.

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