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The Significance of Derivational Morphology Awareness Impacting EFL Students' Vocabulary Literacy

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ABSTRACT

In English language learning (ELL), higher or lower derivational morphology awareness (DMA) may result in either students' strong or weak vocabulary literacy. Thus, this study examines whether the students' DMA impacts their vocabulary enrichment and differs based on gender, age, length of study, and academic backgrounds. This study used a quantitative approach with a nonexperimental causal-affect relationship research design involving 136 participants. To collect the data, this study used 10 successful two-layered multiple-choice tests to measure the student's derivational morphology. The data were analyzed using parametric statistical mediation regression and a series of independent sample t-tests. The statistical evidence applied in this study revealed that participants' DMA significantly impacted their vocabulary literacy simultaneously and the level of significance was strong and either positively or negatively patterned. So, this finding can be generally interpreted that the higher the participants' awareness on derivational morphology, the better they perform English vocabulary, on the contrary, the lower the participants' DMA, the more limited vocabulary they have. In fact, the participants' DMA and vocabulary differed based on the length of the study and academic courses but did not differ based on gender. So, this study advocates that linguistics has a primary role in promoting EFL vocabulary literacy.

Keywords: morphology, lexicon, EFL, vocabulary literacy

1. Introduction

In learning English as a foreign language (EFL), vocabulary literacy becomes the main concern of the language objectives and it plays an important role to convey meaning, either through spoken or written English. Therefore, according to Liang et al (2021), word meaning comprehension abilities should be developed to enrich vocabulary literacy, like how English words are formed into new grammatical, lexical, and semantic categories (Plag, 2018)). In addition, according to Borghi et al (2019), knowledge of word formation can develop the student's vocabulary. However, some previous studies (Franscy & Ramli, 2022; Fitriyani & Nulanda, 2017) reveal that literacy of English is more influenced by nonlinguistic elements, such as teaching-learning methods and talents. In fact, it is considered weak to claim that English language learning (ELL) can be achieved without linguistic consideration.

Empirically, the previous evidence of learning methods without a linguistic approach reveals three issues. First, the current student's learning method in mastering English vocabulary is conducted only by

memorizing the words without understanding the basic concepts of the word-formation (Tahaineh, 2012). This has impacted the limited number of remembered words. Lexicon memorization, according to (Yang & Dai, 2011), tends to be temporary and limited to remember. Second, the teacher's communicative and applicative teaching method only provides the context in reading activities to explore students' new vocabulary (Bailey et al., 2021). However, this method does not necessarily enrich students' vocabulary. Third, the idea of vocabulary enrichment is determined by the talent of the learners, which is of course outside of linguistic main concern (Reis & Fogarty, 2022) Talent cannot explain the phenomenology of linguistic vocabulary because it is the innate drive for intelligence. Therefore, the morphological theory provides students with a lot of information about the word structure of the language. So, the awareness of word formation rules is permanent and the scope of the words is more broadly expanded.

Based on this statement, derivational morphology awareness (DMA) is a solution for developing vocabulary. This statement is supported by Kay & Adnyani (2021) who suggest that morphemes can be

combined in word-formation rules to form new words with semantic or lexical category. Meanwhile, (Kalsum et al., 2021) explains that free morphemes are basic words that cannot be broken down into smaller units. These basic words then undergo a morphological process, namely inflection and word formation called derivational morphology. so, this study assumes that English vocabulary literacy can be impacted through the linguistic conception of word formation, called derivational morphology awareness (DMA).

Based on this assumption, DMA has been ignored by students and teachers in their teaching activities. The teaching and learning methods have so far ignored the role of the linguistic approach to mastering English vocabulary. The teacher briefly explains the changes in the form of verbs related to tense by providing a list of regular verbs and irregular words. Students then memorize the changes in the form of the verb without the context of the sentence. According to Chen (2022), the derivational morphological process is the initial mechanism of word formation through the rules of prefixes and suffixes on free morphemes or basic words. As suggested by (Afri & Putra, 2021), this study believes that through DMA, students are able to enrich their English vocabulary literacy.

Even though many studies on English vocabulary have been carried out, the conception of derivational morphology has not become a priority for studies. Only through a linguistic approach, language acquisition can be more focused (An & Thomas, 2021). Therefore, this research is conducted to explore the students' conception of derivational morphology. In contrast to previous studies, this study also aims to examine the extent to which students' conceptions of derivational morphology differ based on gender, study period, and academic courses.

Considering the phenomenon, this study only focuses on (1) the conceptual level of students' derivational morphology, and (2) the differences in students' knowledge based on gender, learning experience, and academic courses. From the focus of this study, this study proposes two research problem formulations that can be answered and proven by the research results.

- a. Does the English derivational morphology awareness significantly impact the participant's vocabulary enrichment?
- b. How do English derivational morphology awareness and vocabulary literacy differ based on gender, the length of the study, and academic courses?

Based on the above phenomenon, scientific evidence regarding the students' conception of derivational morphology can provide a new perspective on the role of linguistics in the development of English vocabulary. So, teachers can map the goals and strategies of language learning through a linguistic strategy approach. Therefore, this study is aimed (1) to prove and explain the level of students' conceptions of derivational morphology; (2)

to examine the extent to which students' conceptions of derivational morphology differ based on differences in gender, age, learning experience, and institutional status; and (3) explaining the factors

2. Literature Review

The discussion on derivational morphology of English cannot be separated from morphological segmentation because this term is a word-formation process. (Gaston et al., 2021) state that derivation is a morphemic process that produces new lexemes. In other words, derivations are different word forms from different paradigms. What is meant by lexeme in this discussion is the smallest abstract lexical unit either singular or complex from word forms in a paradigm. Lexemes are usually written in capital letters, for example: requires, required, requiring and the lexeme is REQUIRE. Each affix consists of several morphemes that differ in word formation.

According to Yastanti et al (2021) word formation is the combination of bound morphemes as suffixes or prefixes with base words which are also known as free morphemes. These basic words have semantic categories acting as verbs, nouns, adjectives, and adverbs and are combined through the process of word formation into new words with different word classes (Ali et al., 2021).. Affixation also combines prefixes, base words, and suffixes. The theoretical discussion on derivational morphology is packaged into three classifications, namely the conception of derivational morphology; derivational prefix, and derivational suffix

2.1 Conception of English Morphology

Conception of morphological awareness are the same terms for an individual's knowledge of the structure of words. According to (Asaad & Shabdin, 2021), the conception of derivational morphology refers to an individual's awareness of the morphemic structure of a word and its ability to reflect and manipulate that structure. According to (Stump, 2019), the study of morphology in word forms is usually considered as segmenting words into morphemes and determining the overall syntactic class of word forms. For example, the word "il-logic-al" consists of three morphemes, namely the prefix that marks the negative meaning of the noun "il-logic", and the morpheme of the adjective -al. So, this word formation changes the semantic category of the original word. However, 'cats' consists of two morphemes: cat as a root word and the plural marker -s. The second process is called inflection which determines only grammatical categories. So the core theory of morphology is morphemic. So, based on the above review, the conception of morphological derivation consists of (i) several principles regarding the morphemes of a language, (ii) morphotactics, namely limits on how morphemes are allowed to be attached, and (iii) spelling changes that can occur due to morpheme combinations.

This view is in line with Manova & Knell (2021) who state that: 1) derivation is a morphemic change that produces a word with another morphemic identity; 2) two words that are the same but have different lexical meanings; 3) The derivation rule is a rule in chronological order. Based on this explanation, it can be seen that the derivation does not only occur in different word classes but also in the same word but with different lexical meanings, besides that the derivation has a limited distribution but has very diverse affixes. So, the formation of the derivation consists of a complex structure including the same distribution class as the members of the word class. The derivation tends to be core layer formation. This process tends to be statistically more diverse, but more limited in distribution and certainly exhibits a change in word class.

2.2 Derivational Prefix

The derivational prefix is a term in morphology where a word-formation process occurs through the combination of the bound morpheme and the free morpheme at the beginning of the word. In other words, prefixation is the process of adding a prefix to the base with or without changing the word class, for example, en- + rich (Adj) enrich (V) or dis- + agree (V) disagree (V). According to Mena & Saputri (2018), the formation of derivation through changes in the basic meaning when affixes are attached to the root word, for example, un-happy (adj) becomes 'unhappy' (adj). The two-word classes are the same but have opposite meanings, so these words fall into the derivational category. It also changes the base word class, for example: care (N) + ful becomes 'careful' (adj) and the words 'careful' + ly (adv) becomes carefully (Adv). The addition of suffixes to the base word results in a change in word class, from nouns to adjectives and from adjectives to adverbs of manner.

Dermawansyah et al (2022) add the statement that from this combination there is a process of changing phonemes in the orthography and pronunciation due to the phonological process. Prefixes in English word-formation can be grouped according to their meaning and function into negative prefixes, inverse prefixes, pejorative prefixes, level prefixes or measures, orientation and attitude prefixes, locative prefixes, time and order prefixes, number prefixes, and neoclassical prefixes. In general, the presence of prefixes in the basic form does not change the basic form of the word class, but only provides a semantic modification to the basic form.

The research which was conducted by Mahamu & Sofyan (2021) on the principle of morpheme recognition in English found (1) forms of indefinite pronouns, comparative level, superlative degree, and reflexive pronouns; (2) singular and plural forms; (3) past participle form regular {-d}/ {-ed} and irregular {- n}; (4) forms of singular and plural nouns and present and past verbs; (5) homonymous forms; and (6)

free and bound morpheme forms. From the results of the classification, morphemes can be identified based on word form, word class, and meaning that appears. Subsequent research which was conducted by (Anita et al., 2014) found that the level of student competence in the word recognition process in morphological knowledge needed to be increased because it was still categorized as moderate.

2.3 Derivational Suffix

According to Berg & Aronoff (2021), suffixation is the process of adding bound morphemes as a suffix to the end of the base form with or without changing the basic word class, for example, speak (V) + -er becomes speaker (N), speech (N) + -less turns into speechless (Adj) 'without words'. In contrast to prefixation which tends to change the meaning, it does not change the word class. The presence of suffixes in the basic form tends to change the basic word class (Utami & Mujadidah, 2021). Suffixes in derivational morphology do not play too much semantically on the basic form (Fernández Alcaina, 2021). Its main function is to change the basic form of word class. Mahendra & Indrawati (2017) mention that suffixes in English word-formation can be grouped according to the word class resulting from their morphological process into several types, namely (i) denominal, (ii) deverbal noun suffix, (iii) deadjective noun suffix, (iv) denominal adjective suffixes, (v) deverbal adjective suffixes, (vi) adverb suffixes, and (vii) verb suffixes.

Based on the theoretical explanation and empirical studies above, this research emphasizes some basic principles of derivational morphology conception. The concept referred to in this study is the ability of students to identify derivational morphological forms and explain holistically and in detail changes in word forms and meanings from morphological processes so that new forms of the mechanism of these changes can be predicted. The basic principles are (i) derivational morphology is the process of forming words through affixation; (ii) affixation is the merging of morphemes in basic words through the addition of morphemes as prefixes and morphemes as suffixes which can change the meaning and class of words; and (iii) the context of the sentence greatly determines the choice of the form of derivation. For this reason, this study predicts the level of students' conceptions of derivational morphology is determined by the context of the sentence. However, students' conceptions are indeed from the learning process and misconceptions are caused by less learning experience.

3. Method

a. Research design

This study used a quantitative approach with a nonexperimental causal-affect relationship research design. Nonexperimental designs are research designs that examine social phenomena without direct

manipulation of the conditions that the subjects experience (Cresswell et al., 2015). To see the difference in achievement based on gender, length of the study, and academic background, a comparative analysis was also applied. According to Pappas & Woodside (2021), comparative research enables the researcher to examine the differences between two or more groups on the phenomenon that is being studied. The independent variable of this study is derivational morphology awareness as the cause and its value is independent of other variables. Meanwhile, the dependent variables of this study are vocabulary literacy, gender, length of the study, and academic background as the effect. Its value depends on changes in the independent variable.

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b. Participants

The participants of this study were 136 students of Maharasaswati Denpasar University. They were 68 from the English study program (ESP) and another 68 students from the management study program (MSP). ESP students have learned English morphology but MSP have learned general English. For the gender differences, this study involved 68 male students and 68 female students. For the length of their study, 68 students were in semester 2, and the same number of students were in semester 4. This university was selected as the place of conducting the research due to the high misconception of derivational morphology that might cause their limited vocabulary. Furthermore, this study gathered the students as participants because they indicated not to pay high intention to linguistic roles in vocabulary literacy.

c. Instruments and data collection

Data were collected through tests to measure students' DMA and vocabulary literacy. The type of test used for measuring DMA was two-layered multiple-choice test items. First-layer was used to measure students' ability to identify the correct derivational morphology within four choices. Meanwhile, the second-layer items had four options containing the reasons for choosing the form in the first layer.

The number of questions tested was 16 questions consisting of 8 questions to measure the conception of prefix derivation, and 8 questions for suffix derivation. Each item was arranged according to the rules for writing multiple-choice questions. For this reason, the questions were structured in well contextual sentences so as not to trap students by leading students to answer incorrect answers with predictable answers. During the pandemic, to avoid face-to-face interactions, the test was prepared and distributed using a Google Form, and a question link was emailed to participants who had to answer based on their understanding.

16 recommended items to measure students' conceptions were examined by 5 experts consisting of 3 lecturers in the faculty of teacher training and

education and 2 English senior high school teachers. A consensus was reached among the experts and only 10 items were declared eligible for testing. After the test score data was obtained, they were sorted from the largest to the smallest scores. The item difficulty level (FV) and item discrimination index (DV) in the test were calculated. The 25 item statistics were calculated by considering 27% of the upper and lower groups as presented in Table 1.

Table 1. Test Item Analysis

Test item	FV	DV	Criteria
1	0.339	0.371	good
2	0.339	0.000	bad
3	0.323	0.323	good
4	0.395	0.306	good
5	0.258	0.129	bad
6	0.411	0.306	good
7	0.226	0.194	bad
8	0.339	0.355	good
9	0.266	0.048	bad
10	0.315	0.403	good
11	0.298	0.048	bad
12	0.306	0.355	good
13	0.355	0.387	good
14	0.331	0.339	good
15	0.323	0.000	bad
16	0.444	0.565	good

The results of the difficulty test item analysis (FV) above are interpreted into three categories, namely "difficult", "medium", and "easy". FV < 0.30 is categorized as "difficult", FV 0.30 - 0.70 is categorized as "moderate", and FV > 0.70 is categorized as "easy". So, if FV < 0.30 or FV > 0.70 then the test cannot be used. Based on the FV in the table above, the difficulty level index of the questions ranges from 0.226 to 0.444. Meanwhile for the interpretation of discriminating index (DV), where DV 0.70 is categorized as "very good" (used), 0.40 DV < 0.70 is categorized as "good" (used), 0.20 DV < 0.40 is categorized as "enough", and DV < 0.20 categorized as "bad" (not used). Based on the data in the table, the discrimination index ranges from 0.048 to 0.565. There were 6 items in the test that were deleted (2, 5, 7, 9, 11, dan 15) because the discrimination value of the item was smaller than 0.20. So, there were only ten (1, 3, 4, 6, 8, 10, 12, 13, 14, 16) test items used to measure the students' DMA.

On the other hand, the vocabulary test was in the form of filling in the blanks items taken from the lecturer's guided book approved by the institution head. Therefore, there was no trial test administered because they were considered valid and reliable. There were twenty items of filling the blanks where the students wrote the best word formation to complete. The score was objective; the correct one gets one. The results of the tests were then checked to determine the raw score, mean score, and average score. Each score

was categorized into specific criteria of “excellent” (scores 84% to 100%), “good” (scores 68% to 83%), “fair” (scores 52% to 67%), “poor” (scores 36% to 51%), and “very poor” (scores 20% to 35%), where these categories directly reflect learning achievement.

d. Data analysis

This study used parametric statistical mediation regression analysis because the data were normally distributed after applying the Kolmogorov-Smirnova and Shapiro-Wilk normality tests, where sig .845 > p.0.05 and homogeneous category, where sig .845 > p.0.05. To measure whether there were any possible impacts of DMA towards vocabulary literacy, this study used modeling and causal steps Syafiq et al (2022) in causal steps statistical test method with one-way linear regression. In addition, to measure the differences in the derivational morphology awareness of participants and their vocabulary literacy based on gender, length of study, and academic major, this study used an independent sample t-test.

There are two decisions in the causal-effect statistical test; the comparison of the statistical significance and the comparison of the t-count value with the t-table. Significance value is presented in (P < 0.05). If the significance value is higher than 0.05 (P < 0.05), English DMA significantly affects the participants' vocabulary literacy. On the other hand, if the significance value is lower than 0.05 (P > 0.05), then the DMA does not affect the participant's vocabulary literacy; (2) the comparison of the t-count value with the t-table. If the t-count value is higher than t-table (rob > rcv), then DMA affects vocabulary literacy and vice versa, if the value of rob < rcv, then it does not affect literacy of English vocabulary.

To see the difference between DMA and vocabulary literacy based on participant characteristics, decision-making at this stage uses a significance value of 0.05. If the significance value is < 0.05, then the student's DMA or vocabulary is significantly different based on gender, study range, and educational background. On the other hand, if the significance value is higher (> 0.05), then, DMA and vocabulary literacy do not differ based on gender, study range, and educational background.

4. Result

4.1 Conception and Misconception of DM

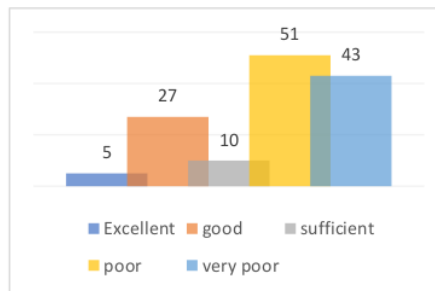
The results of the first research question of whether or not English derivational morphology awareness significantly impacts the participant's vocabulary enrichment are presented in the numeric data. The data were the scores of two-layered multiple-choice tests and interpreted in different levels of criteria. Therefore, the level of students' English DMA in each item can be presented in Table 2.

Table 2. Students' Conception of Derivational Morphology

Answer Criteria	T/T High conception	T/F low conception	F/T Lost conception	F/F Mis conception
N	F/%	F/%	F/%	F/%
1	52 (38%)	18 (13%)	26 (19%)	40 (30%)
2	76 (56%)	25 (18%)	20 (15%)	15 (11%)
3	58 (43%)	30 (22%)	28 (20%)	20 (15%)
4	81 (60%)	22 (16%)	15 (11%)	18 (13%)
5	90 (66%)	16 (12%)	10 (7%)	20 (15%)
6	73 (54%)	21 (15%)	9 (7%)	33 (24%)
7	47 (34%)	24 (18%)	16 (12%)	49 (36%)
8	60 (44%)	26 (19%)	14 (10%)	36 (27%)
9	47 (34%)	30 (22%)	20 (15%)	39 (29%)
10	56 (41%)	19 (14%)	21 (15%)	40 (30%)
Total	640 (47%)	231 (17%)	179 (13%)	310 (23%)
Mean	47.06	16.99	13.16	22.79

The total number of correct answers regarding the participants' conception of derivational morphology (DMA) in Table 2 was 640 gained by 64 participants and the total number of incorrect answers was 720 gained by 72 participants. The average score of participants' DMA was 47.06 and the average score of incorrect answers was 52.94. The participants' conception of prefixes and suffixes in this study were categorized as “poor”. It can be seen from the data that 23 or 17% of participants had “less comprehension” because they only identified the derivation form of the words correctly, but could not determine their semantic category. Furthermore, 18 or 13% of participants failed to identify the correct form of derivation but gave the correct reason. This indicated that the participants were not familiar with derivational morphology. Students selected the correct reason not because they understood but by guessing it blindly. The data in the last column showed that 31 or 23% of participants had misconceptions because they could not identify the correct word formation concepts. To clarify, the participants' level of DMA is presented in Figure 1.

Figure 1. Participant's DMA



The finding presented in Figure 1 revealed the participant's awareness category of how the words are formed in English derivational morphology. From the figure, it can be seen that only 4% of the participant had

'excellent', 20% of the participants had "good", 7% of the participant had "sufficient", 37% of the participant had "poor", and 32% participant had "very poor" awareness in English derivational morphology. From this result, it can be stated that the participants' DMA is categorized "poor".

The participants' DMA found in this study might affect their vocabulary enrichment. Therefore, in the vocabulary test, the participants filled the blanks in the incomplete sentences with the best word forms and raw scores were judged and the mean scores were categorized. The results of the participants' vocabulary test are presented in Figure 2.

Figure 2. Participant's Vocabulary Literacy

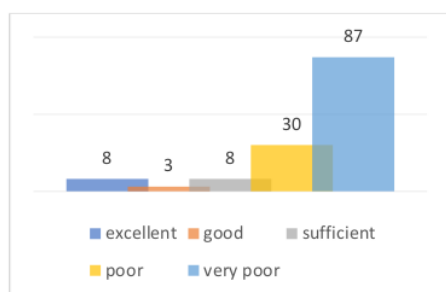


Figure 2 indicated the participant's poor ability in identifying the correct forms of suffixes and prefixes and determining the word class in the post lexical context. It can be seen that 8,6% of the participants had "excellent", 3,2% of the participant got "good", 8,6% of the participants had "sufficient", 30,22% of the participants had "poor", and 87,64% of the participants had "very poor" vocabulary literacy from DMA.

4.2 The Impact of DMA on Vocabulary Literacy

Analysis of regression describes statistically (1) the measurement of the simultaneous test (F test) and (2) the significant measurement of the significance level of the F test (<0.05). The findings revealed that the significance value was less than 0.05 (F = 466.609, Sig. .000 <0.05) then there is an impact of the student's MDA on their vocabulary literacy. Further analysis is to determine the significance level of the variables. The significance of DMA on vocabulary can be presented in Table 3.

Table 3. The significance of DMA on Vocabulary

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Cons)	-6.339	2.152			-2.945	.004
DMA	.896	.041	.881		21.601	.000

a. Dependent Variable: vocabulary literacy

The English DMA included in this study impacted participants' vocabulary achievement significantly since the result of the linear regression correlation test showed that Sig 0.004 < Alpha (0.05) and *tob* (2.945) > *tcv* (1.667) and that Sig 0.000 < Alpha (0.05) and *tob* (21.601) > *tcv* (1.667). Taking the analysis into account, this study found that Ho: p = 0 (there is no impact of MDA on vocabulary literacy) is now rejected. H1: p ≠ 0 (there is a simultaneous impact on DMA students' vocabulary literacy) is accepted.

From the analysis of the regression, it can be interpreted that the level of participants' MDA has a strong and positive impact on their vocabulary literacy simultaneously. That is, the higher DMA the participants gain, the wider their vocabulary can be developed, and conversely, the lower the participants' MDA, the more limited vocabulary the students can gain.

4.3 Differences in DMA based on Gender, grade, and department

Referring to the second subproblem, this study reveals that students' conceptions might differ based on gender, age, educational period, and academic major. For this reason, the t-test was applied. Associated with the characteristics of male and female students, Differences in DMA based on gender can be presented in Table 4.

Table 4. Differences in DMA based on Gender, Grade, and Department

Gender	N	Mean	F	Sig.	t	df	Sig. (2-tailed)
Male	68	49.41	4.566	.034	1.221	134	.224
Female	68	44.85			1.221	126.439	.224
Grade							
Year 2	68	37.79	6.797	.010	-4.729	134	.000
Year 3	68	54.71			-4.729	128.612	.000
department							
ESP	68	55.59	8.531	.004	5.306	134	.000
MSP	68	37.94			5.306	122.601	.000

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The results of the independent sample t-test in table 4 above showed that female and male participants had relatively the same level of conception of derivational morphology. This can be seen from the results of the two-layered multi-choice test where the t-value of DMA was 1.221 and the p-value (>0.05) (*t* = 1.221, *p* > 0.05). This means that there was not any tendency for female participants to understand English word formation better than male students. Male and female students had the same difficulties in English derivational morphology. The next analysis is the extent to which differences in the conception of derivational morphology are influenced by the length of the study.

Considering the finding presented in Table 3, this study confirms that the difference in the period of study can affect students' understanding of forming English

words. This can be seen from the t-test with a t value of -4.729 and a p -value was 0.000 ($t = -4.729, p < 0.05$). This value shows a significant difference based on the group of academic levels. Participants of semester 4 performed DMA better than participants of semester 2. The different academic departments have also an impact on the level of students' awareness of the word-formation process through derivational morphology.

The data in Table 3 reveals that there is a significant difference in scores measuring students' DMA between participants in English education and participants in management. This statement is supported by the statistical results of the study, where the DMA t-test showed that the p -value was less than 0.05 ($t = 5.306, p < 0.05$). This statistic value showed a significant difference based on the background of different study programs. The participants who learn English morphology had higher scores than participants who learn general English. So, there are differences in the level of conceptions and misconceptions between the students of the English language study program and students from the management study program.

4.4 Difference in vocabulary literacy

Vocabulary literacy can in such a way enrich the quantity of lexicon by taking into account derivational morphology awareness. Based on the finding above, DMA impacted students' vocabulary significantly, in this case, it can be interpreted that the weakness of DMA made the participant's vocabulary limited. This finding, of course, can be used as a theoretical and empirical reflection for a better possible pedagogy treatment. However, the independent sample t-test is required to find out whether vocabulary literacy differs based on gender, length of the study, and academic course. Differences in vocabulary based on gender, length of the study, and academic courses can be presented in Table 5.

Table 5. Differences in Vocabulary based on Gender, Grade, and Department

Gender	N	Mean	F	Sig.	t	df	Sig. (2-tailed)
Male	68	38.18	.317	.575	1.182	134	.239
Female	68	33.76			1.182	133.011	.239
Grade							
Year 2	68	34.71	4.988	.027	-.628	134	.531
Year 3	68	37.10			-.628	125.986	.531
department							
ESP	68	27.50	16.923	.000	-4.845	134	.000
MSP	68	44.26			-4.845	112.278	.000

Considering the data presented in Table 5, this study confirms that both male and female participants got the same problems in enriching vocabulary. This can be seen that the t-test was 1.182 and the p value was $.239$ which was higher than 0.05 ($t = 1.182, p > 0.05$). It means that there are no statistically significant

differences in vocabulary literacy based on gender. Moreover, different levels of education might influence different vocabulary literacy. In fact, this study revealed that year three participants' vocabulary enrichment was not better than year two participants. It means that both groups had the same problems in vocabulary enrichment. It can be seen from the statistical significance the t-test was $-.628$ and P -value was $.531$ ($t = -.628, p > 0.05$). However, there was a significant difference in vocabulary literacy between ESP participants and MSP participants. This statistic findings revealed that t -value was $-.4.845$ and P -value was $.000$ ($t = -4.845, p < 0.05$). It can be interpreted that ESP participants perform broader vocabulary literacy than MSP participants.

5. Discussion

The findings of this study have answered the two research questions early stated. First, the finding revealed that participants' DMA was categorized as "poor" on a broad scale that impacted significantly their vocabulary literacy. Second, this study found that participants' DMA did not differ based on gender differences. Sonbul & El-Dakhs (2021) supported this finding that both male and female participants had the same ability and difficulty in identifying, determining, and explaining forms of prefixes and suffixes. However, students' DMA differed according to the length of study and academic background. The second-year participants recognized fewer forms of English prefixes and suffixes compared to the third-year participants. Although both participants of ESP and MSP had the same problem in the DMA, participants of ESP performed slightly better than participants of MSP. Meanwhile, vocabulary literacy did not differ based on either gender and length of the study but it differed based on the academic courses, where ESP participants performed recognized more vocabulary than the MSP participants.

More specifically, from the responses to the two-layered multiple-choice questions that were observed, 47% of participants answered the English prefix and suffix questions correctly. Meanwhile, 17% of participants could only identify the correct form of derivation in the gap text but could not explain why they used that form. Furthermore, 13% of 136 participants could not determine English prefixes and suffixes but could answer the reasoning part correctly. This ensures that students did not understand or were just blindly guessing. Of all the questions tested, 23% of participants had misconceptions about the derivational morphology of English because they could not identify and explain prefixes and suffixes correctly. This finding agreed with (Kieffer & Lesaux, 2008) that the linguistic approach through the conception of derivational morphology can have an impact on students' vocabulary in reading skills. That is, this study supports the previous suggestions of (Schmitt & Zimmerman, 2002) that the better concepts of

derivational morphology students have, the more easily they can develop English vocabulary and of course, the more proficient they perform the four language skills.

Concerning English vocabulary acquisition, the finding of the study confirms that the misconception of derivational morphology is caused by 3 basic factors, namely (i) differences in the linguistic system of English and Indonesian; (ii) inconsistency between English prefixes and suffixes in the morphological process; and (iii) words memorizing-based learning. The first issue is, linguistically, where the word alteration of the English morphological process is different from Indonesian; the suffix in English is the prefix in Indonesian. For example, the word "keep" - ER is interpreted as *peN-jaga* in Indonesian. In the second issue, the word base of English verbs differs from Indonesian verbs that have contained a derivational prefix and suffix. For example, the verb 'to push' in Indonesian has obtained the prefix '*meN-dorong*', or the verb "to buy" already has a derivational prefix and a suffix; *meN-beli-Kan* in Indonesian. The last issue is the way the students memorize the English word formation may seem hard to keep the words in mind because memorizing is not the same as how linguistic cognitive works (Roediger & McDermott, 1995). To support this statement, the two most difficult forms of derivational morphology were displayed in the test that participants faced.

1. Mr. Highton, over a of the students in this class failed their year-end examination. What can you offer as an explanation? THREE 49 / 136
2. The increase in the of the main street will mean better parking facilities but pedestrians will have a narrower sidewalk. WIDE 46 / 136

Several confirmations have been put forward regarding the two issues above, that (i) the differences in linguistic systems are theoretically dynamic. This means that changes in language form are due to a universal language system, both in Indonesian and English. For example, the addition of morphemes as prefixes or suffixes to basic words undergoes a phonological (morphophonemic) process through phonemes substitution in assimilation; (ii) the mental process of word-formation morphologically does not necessarily change the category, there are exceptions which are often referred to as zero conversion; (iii) implicit learning is needed so that the basic concept of word formation in the source language L1 can be a means for understanding the derivational morphology of the target language (L2). From these three statements, derivational morphology is a mental process of assembling morphemes into different lexical derivative forms and semantic categories.

Based on the findings, the factors causing the high misconceptions of English derivational morphology, and the confirmation of the research finding issues, the results of this study approve theoretical and practical benefits, especially to

teachers, lecturers, and educational institutions. The research provides factual information about the students' conception of the word-formation rule which is still low as a linguistic phenomenon in language learning. So, this study advocates the right pattern of language acquisition learning, and the teaching approach can change the paradigm that linguistics has a secondary role in language learning rather than a primary one. Indeed, derivational morphology is metacognitive processing that is believed to be able to develop English vocabulary literacy.

6. Conclusions

A low or high level of derivational morphology awareness is a linguistic phenomenon in EFL participants' vocabulary literacy. From this phenomenon, this study concludes that the level of students' awareness of using the correct words with English prefixes and suffixes is categorized as "poor". This weakness is directly related to their vocabulary literacy which is classified as "poor" too. Even though many participants recognized the form of English suffixes and prefixes, in fact, they could not use them in the context of wider types of sentences. The evidence of statistical significance reveals that DMA impacts the participants' vocabulary literacy simultaneously and differs based on the length of the study and academic courses but does not differ based on gender. It can be interpreted that the more the participants are aware of DMA, the more literate they are in expanding the vocabulary and the less they gain DMA, the less vocabulary they know.

From the point of view of obtaining a morphological conception, male students have the same problem as female students. This means that gender differences have no impact on students' understanding of morphology. However, the conception of morphology in this study differs based on differences in level of study and academic majors. The factors that mostly cause students' derivation misconceptions are the difference in the linguistic system, the inconsistency of the morpheme switching mechanism, and words memorizing-based learning.

This linguistic study on the phenomenon of EFL learning is limited only to looking at what level the students' conception of English morphology and the different conceptions based on the character of the participants. So, based on the theoretical statements and the factors of derivational morphology, experimental studies on the relationship between learning theory and the acquisition of English morphology are required for further investigation. For this reason, this study suggests that future researchers study more about the role of linguistics in strengthening the understanding of EFL students. Finally, this research generally states that linguistic conception is the key to the success of language skills through adequate learning and evaluation methods.

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