



## **The Relationship between Morphological Awareness and Vocabulary Errors among L2 Postgraduate Students**

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### **Introduction**

Writing is a skill and area of knowledge that is important for most university-level courses in which English is taught as a second language. Academic writing has been reported by Al Badi (2015) to be important for postgraduate students for mastering the English language and for succeeding academically. The importance of academic writing has been cited in previous studies, such as Arkoudis and Tran (2007) who pointed out that academic writing, as a form of thinking, was crucial and essential for tertiary students' academic success.

Despite the importance of academic writing and the role it plays for postgraduate students' academic success, it has been found to be problematic and not easy to achieve, especially in a second language context. Writing is believed to be a rigorous skill in which second language (henceforth referred to as L2) learners face various difficulties regarding vocabulary and grammar (Rose, 1985; Singh, 2015). According to Grami (2010), writing is not an easy cognitive task; rather it is believed to be a challenging and difficult mental production, which demands L2 learners to be more careful and concentrated to produce a high-quality outcome.

One of the biggest challenges that L2 postgraduate students have been found to encounter in their academic writing was making vocabulary errors (Al Fadda, 2012; Al-Khasawneh, 2010). Vocabulary errors affect the quality of writing as the vocabulary errors found in a text show that there is a lack of cohesion and coherence and make the text confusing to readers (Llach, 2007). Previous studies have shown that vocabulary errors played a significant role in indicating writing quality (Engber, 1995; Laufer & Nation, 1995; Singh, 2015). Singh (2015) stated that vocabulary errors were the greatest challenge for L2 students in their writing because these errors could lead to negative impressions on raters.

Despite the significance of academic vocabulary for L2 postgraduate students' academic success, their abstract and complex nature poses challenges. Many academic words are morphologically complex (Nagy & Townsend, 2012). The complexity of academic vocabulary is expected to vary from one level to another in order to express complex ideas (Northey, 2013). Studies have revealed that L2 students make morphological-related errors due to the difficulty of understanding the morphological system of the English language which deals with morphemes, the smallest meaningful parts of a word. Therefore, this study aimed to investigate the relationship between morphological awareness and vocabulary errors

among L2 postgraduate students. It also aimed to investigate the morphological-related errors and the most dominant type of vocabulary errors obtained in the students' academic writing.

It is essential to measure lexical errors made during writing, as they are considered predictors of learners' quality of writing and their vocabulary development (Llach, 2011). Linguistic accuracy plays an important role in the quality of written texts (Ponnudurai & De Rycker, 2012, p. 63). Consequently, vocabulary errors would affect their academic success and achievement. Vocabulary errors have an essential influence on the evaluation of writing as many vocabulary errors negatively affect the evaluation of a written composition (Llach, 2007). L2 learners often have difficulties and thus make errors when using English.

Few related studies have revealed that students have difficulties in academic writing. These studies have drawn the attention of several researchers (Idris, 2015). Many of these issues surfaced in academic writing because of the errors found in the students' academic writing. Al-Khairi (2013)'s study concluded that the participants had issues in their academic writing in terms of making grammatical errors, using inappropriate vocabulary choice, and making errors in irregular verbs, spelling, and punctuation. Abdulkareem (2013) conducted a qualitative study to investigate the academic writing problems that Arab postgraduate students were facing at Universiti Technology Malaysia (UTM) by distributing a questionnaire. The findings of the study revealed that the participants encountered academic writing problems related to errors in their sentence structure (53.8%), vocabulary (30.7%), and spelling (7.6%).

Akande (2005) presumed that Nigerian high school students had little knowledge about the English morphological system because of their misapplication, confusion, overgeneralization, and inconsistency of morphological rules, which caused them to make writing errors with the correct form of complex words (Akande, 2005; Idris, 2015; Karakas, 2012).

The research questions of this study were:

1. To what extent does morphological awareness relate to vocabulary errors obtained in the L2 postgraduate students' academic writing?
2. What is the most dominant type of vocabulary error obtained in the L2 postgraduate students' academic writing?

## Method

### Participants

A total of 26 L2 postgraduate students who attended an English intensive course at a Malaysian university participated in the present study. The participants were categorized based on their first language, gender, and level of study. The study included thirteen Arabic-speaking students (50%), five Indonesian-speaking students (19.23%), five Chinese-speaking students (19.23%), and three Somali-speaking students (11.54%). The study consisted of fifteen male participants (57.69%), and eleven female participants (42.31%) with 17 participants (65.38%) in the master's program and 9 participants (34.62%) in the PhD. program.

### Research Instruments

#### Academic writing test

An academic writing test was administered in which the participants were asked to write about one of the two academic writing topics provided to them: *"In some countries, the average weight of people is increasing and their levels of health and fitness are decreasing. What do you think are the causes of these problems and what measures could be taken to solve them?"* and *"In many countries, the amount of crime is increasing. What do you think are the main causes of crime? How can we deal with those causes?"*

To measure vocabulary errors in the academic writings of L2 postgraduate students, the Surface Strategy Taxonomy was used. Dulay, Burt, and Krashen (1982) suggested four types of errors to be included in the Surface Strategy Taxonomy (i.e., omission error, addition error, misformation error, and misorder error); James (2013) added the Blending Error as the fifth type of error in this taxonomy. Thus, James's (2013) Surface Strategy Taxonomy was used to classify the vocabulary errors in the present study. The vocabulary errors found in the writings of L2 postgraduate students were grouped and categorized based on the error type and on whether they were morphological-related errors or not.

### **Morphological awareness test**

A morphological awareness test was conducted in the present study to measure L2 postgraduate students' morphological awareness. The test included two subtests: *Morphological Identification Test* and *Morphological Structure Awareness Test*. Both subtests were piloted as the results of the pilot test showed that the morphological identification test and morphological structure awareness test were reliable at .912 and .834 in Cronbach's Alpha test, respectively.

### **Procedure**

All the participants completed the two tests of morphological awareness and wrote on one of the writing topics. Two adapted morphological awareness tests were included in the study. The two tests were piloted and the results showed that the morphological identification test was reliable at .912 and the morphological structure awareness test was reliable at .834 as per a Cronbach's alpha test. The vocabulary errors made in the L2 postgraduate students' writing were classified based on James's (2013) Surface Strategy Taxonomy. The essays were marked by the researcher and quantitatively analyzed by counting all the vocabulary errors made in the students' essays. They were then classified into type of error (Omission, Addition, Misformation, Misorder, and Blending). Additionally, the vocabulary errors as a result of misunderstanding and misapplication of morphological rules were grouped under the 'morphological-related errors' and the rest of the errors were labeled as 'morphological-unrelated errors' (as shown in Table 1).

### **Data Analysis**

Before answering the first Research Question "To what extent does morphological awareness relate to vocabulary errors obtained in the L2 postgraduate students' academic writing?", preliminary data preparation was collected to test the four assumptions of correlation analysis (normality, outlier detection, linearity, and homoscedasticity). Table 2 displays the descriptive statistics of the variables including the mean, standard deviation, skewness, and kurtosis values. George and Mallery (2016) state that data is normally distributed when both skewness and kurtosis values fall within the range of -2 and +2. Thus, the table shows that the data of the current study was normally distributed as the values of skewness (-0.045, 0.013) and kurtosis (-0.382, -.769) for the two variables of the study (vocabulary errors and morphological awareness) fell within the range. Therefore, the assumption of normality was not violated.

According to Tabachnick and Fidell (2007), outliers are the cases that have standardized residuals, displayed in the scatterplot, which are less than -3.3 or more than 3.3. Figure 1 shows that there were no outliers detected as the standardized residuals were not more than 3.3 or less than -3.3.

Regarding the assumption of linearity, Figure 2 shows that the scatterplots of the scores for the L2 postgraduate students' vocabulary errors and morphological awareness took a linear shape (not U-shape or other curvilinear shape) (Pallant, 2005; Tabachnick & Fidell, 2012). This is an indication that the assumption of linearity was met and was not violated. Finally, since the assumption of normality was met, the assumption of homoscedasticity was also met due to the connection between the two assumptions (Tabachnick & Fidell, 2012).

TABLE 1

Examples of Vocabulary Errors in the L2 Postgraduate Students' Academic Writing Based on James (2013)'s Surface Strategy Taxonomy

	No	Example (Correction)	Category
Morphological-Related Errors	1	Today, there are some <i>problem</i> and very danger on our life (problems)	Omission
	2	<i>Fix</i> the crime is not easy. (fixing)	Misformation
	3	We have to <i>controlling</i> our <i>weights</i> . (control, weight)	Addition
	4	Hard to find <i>employment</i> (be employed)	Misformation
	5	Crimes in developing <i>country</i> are worse than those in <i>nation</i> (countries, nations)	Omission
	6	The <i>poorness</i> is part of the problem (poverty)	Misformation
	7	To sum up, some people should <i>to cooking</i> in their house. (cook)	Addition
	8	<i>Crimers</i> deprives of all walk of life (criminals)	Misformation
Morphological-Unrelated Errors	9	To avoid <i>obacity</i> , heart illness and <i>pressore</i> (obesity, pressure)	Blending
	10	Level of health and sports is getting down. This case is also makes <i>increase the weight</i> . (weight increases)	Misorder
	11	If you are parents, eat more healthy food with <i>nuritions</i> (nutrition)	Blending
	12	I think we must <i>to</i> make balance in food to keep our health.	Addition
	13	Parents can take this task because they carry the big important <i>responsbality</i> . (responsibility)	Blending
	14	Any meals can contain <i>things harm</i> (harmful things)	Misorder
	15	<i>Sometime</i> , we can select some sports like swimming or <i>basketball</i> . (sometimes, playing basketball)	Omission

TABLE 2  
*Descriptive Statistics of Normality Test*

	Vocabulary Errors	Morphological Awareness
N	26	26
Mean	8.15	42.73
Std. Deviation	2.852	13.818
Skewness	-.045	.013
Std. Error of Skewness	.456	.456
Kurtosis	-.382	-.769
Std. Error of Kurtosis	.887	.887



Figure 1. Scatterplot of the regression residuals for vocabulary errors and morphological awareness.



Figure 2. Scatterplot of the scores of vocabulary errors and morphological awareness.

## Results

Table 3 shows the results of the Pearson coefficient analysis test for the relationship between morphological awareness and vocabulary errors. The results reveal that there was a significant negative relationship ( $r = -.424$ ) at the 0.05 level of significance ( $p = .031$ ) between morphological awareness and vocabulary errors. In other words, those students who gained more morphological awareness would perform better and have fewer vocabulary errors in their academic writing.

TABLE 3

*Results of Pearson Coefficient Analysis Test of the Relationship between Morphological Awareness and Vocabulary Errors*

		Morphological Awareness	Vocabulary Errors
Morphological Awareness	Pearson Correlation	1	-.424*
	Sig. (2-tailed)		.031
	N	26	26
Vocabulary Errors	Pearson Correlation	-.424*	1
	Sig. (2-tailed)	.031	
	N	26	26

\* Correlation is significant at the 0.05 level (2-tailed).

Table 4 shows the relationship between each aspect of morphological awareness and vocabulary errors among L2 postgraduate students. The results shows that both aspects of morphological awareness were significantly correlated with vocabulary errors ( $r = -.399, -.417$ ) at the 0.05 level of significance ( $p = .043, .034$ ).

TABLE 4

*Results of Pearson Coefficient Analysis Test of the Inter-Correlation between Aspects of Morphological Awareness and Vocabulary Errors*

		Morphological Identification Test	Morphological Structure Awareness Test	Vocabulary Errors
Morphological Identification Test	Pearson Correlation	1	.789**	-.399*
	Sig. (2-tailed)		.000	.043
	N	26	26	26
Morphological Structure Awareness Test	Pearson Correlation	.789**	1	-.417*
	Sig. (2-tailed)	.000		.034
	N	26	26	26
Vocabulary Errors	Pearson Correlation	-.399*	-.417*	1
	Sig. (2-tailed)	.043	.034	
	N	26	26	26

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Table 5 shows the distribution of vocabulary errors in the 26 essays written by the participants in the current study. It reveals that 65.09% of the vocabulary errors obtained were morphological-related errors, whereas 34.91% of the errors were morphological-unrelated errors. The results indicated that the participants had more errors related to morphology than other errors, such as spelling, word order, or wrong use of words. Table 5 also shows that the most dominant type of vocabulary errors made among L2 postgraduate students was the misformation error.

TABLE 5  
*Distribution of Vocabulary Errors and Errors Types in the L2 Postgraduate Students' Academic Writing*

Type of Vocabulary Errors	N (percentage)
Morphological-Related Errors	138 (65.09%)
Morphological-Unrelated Errors	74 (34.91%)
Total	212 (100%)
Inflectional Errors	76 (35.85%)
Derivational Errors	62 (29.25%)
Spelling Errors	47 (22.17%)
Other Errors (Word Order, Wrong Use)	27 (12.73%)
Total	212 (100%)
Omission Error	53 (25%)
Addition Error	38 (17.92%)
Misformation Error	75 (35.38%)
Misorder Error	9 (4.25%)
Blending Error	37 (17.45%)
Total	212 (100%)

## Discussion

Previous studies related to vocabulary errors have focused mainly on analyzing vocabulary errors qualitatively; however, the current study has followed a quantitative design in which an investigation was conducted to reveal the relationship between morphological awareness and L2 postgraduate students' vocabulary errors. Mustafa and Kirana (2017)'s study aimed to analyze the errors made by junior high school students. The researchers used the surface strategy taxonomy and linguistic category taxonomy to categorize the learners' errors produced in their writings. The results of the study revealed that misformation errors (72%) were the most dominant errors made by the learners, based on the Surface Strategy Taxonomy, followed by omission errors (14.4%), and addition errors (10.6%), whereas the linguistic category taxonomy results showed that word forms errors (48.4%) were the most dominant errors.

Following a descriptive qualitative approach, Ririn (2010) found that the fifth-semester students of English letters and language department of UIN Malan in 2008 made many morphological errors in their essays in which the researcher categorized the errors based on the Surface Strategy Taxonomy. The results also showed that the omission errors were the most dominant errors (40.98%). However, the findings of the qualitative study conducted by Idris (2015) revealed that the most dominant type of errors made by the participants was simple addition and the participants' first language was a factor in the occurrence of these errors.

The literature related to morphological awareness has shown that many previous studies focused on the relationship between morphological awareness and reading (Kirby et al., 2012; McCutchen & Logan, 2011; Nagy, Berninger, & Abbott, 2006), word reading (Kirby et al., 2012; Singson, Mahony, & Mann, 2000), and receptive vocabulary size (Khodadoust, Aliasin, & Khosravi, 2013; Sparks & Deacon, 2015; Sumarni, 2016; Tabatabaei & Yakhabi, 2011; Yucel-Koc, 2015). However, to the best knowledge of the researcher, there is a lack of studies that have investigated the relationship between morphological awareness and vocabulary errors, especially among L2 postgraduate students.

The results of the present study suggest that morphological awareness was useful for L2 postgraduate students to reduce vocabulary errors made in their academic writing. In other words, the more morphological awareness students gain, the fewer vocabulary errors are made in their academic writing.

## Implications of the Study

The implications of the current study can be presented regarding its possible usefulness and significance as a guideline for practical English language teaching and learning, teaching materials' developers, and future empirical research. The present study may provide an insight to guide both the learners and teachers of English as a second language by shedding light on the significance of being aware of morphology and what benefits they both can gain in improving the performance of L2 postgraduate students and enhancing the accuracy of their vocabulary production during writing texts. Morphological awareness is a possible way of independent learning in which L2 postgraduate students would possibly be able to use and strengthen their vocabulary knowledge and reduce morphologically related errors made in their academic writing.

The current study may draw teachers' attention to the importance of teaching morphology and the different forms of words and to encourage their students to employ different morphological forms of words in their writing.

## Conclusion

This research aimed to investigate the relationship between morphological awareness and vocabulary errors made by L2 postgraduate students, and to determine the most dominant type of vocabulary errors made in their writing. The results showed that there was a significant negative relationship between morphological awareness and the students' vocabulary errors and the most dominant error was the misformation error (35.38%) followed by omission error (25%), addition error (17.92%), blending error (17.45%), and misorder error (4.25%). The findings also showed that the participants made more morphological-related errors than morphological-unrelated errors. These morphological-related errors may occur because of the students' misunderstanding of the morphological rules, and probably because of their confusion, overgeneralization, and lack of awareness of the role of morphology in reducing these errors. Therefore, L2 postgraduate students are recommended to raise their morphological awareness, which might help in mitigating the problem of making vocabulary errors in their academic writing.

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