

EFL Intermediate Students' Attitudes towards the Impacts of Teaching Morphological Knowledge on the Degree of Lexical Complexity and the Quality of Academic Essays

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ABSTRACT

Writing is usually considered the most challenging skill for the majority of students in the Vietnamese context. Several previous studies revealed that the instruction of morphological knowledge has positive impacts on expanding students' vocabulary and indirectly improves the quality of academic writing. This current study was implemented in order to investigate EFL intermediate students' attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays in the context of an English language center in the Mekong Delta. This 14-week experimental research employed the use of pre-questionnaire and post-questionnaire, with the participation of two groups of EFL intermediate students who were studying at a similar level and progress. The results indicated that EFL intermediate students in the experimental group had positive attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of their academic essays throughout the research period, whereas no positive changes regarding attitudes could be found within the ones in the control group. From that, several recommendations and pedagogical implications were drawn with the attempt to contribute to the innovation of teaching vocabulary and teaching writing in the context of secondary schools and high schools in the Mekong Delta.

Keywords: Academic essays, lexical complexity, morphological knowledge, students' attitudes.

Published Online: September 06, 2023

ISSN: 2796-0064

DOI: 10.24018/ejlang.2023.2.5.109

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I. INTRODUCTION

Writing, which is commonly considered a challenging skill, plays a fundamental role in students' academic lives because it is an essential means for language learners to express their ideas (Pham & Truong, 2021). Despite its importance, writing is usually neglected in secondary schools and high schools, especially in the context of the Mekong Delta. Typical types of academic writing for the intermediate level are paragraphs and essays. Generally, students of this level are struggling with academic essays due to the high requirements of the writing tasks. Particularly, just a few of the students are capable of using new and advanced vocabulary in their writing essays. In other words, the lack of advanced vocabulary is mostly attributed to the current poor writing performance.

The breadth and depth of a student's vocabulary have a direct influence on the descriptiveness, accuracy, and quality of his or her writing (Ediger, 1999). Nevertheless, secondary and high school students seem to have an insufficient amount of advanced lexicon in general and superficial knowledge of how words are formed in particular. Morphological knowledge refers to the metalinguistic ability to reflect on and manipulate morphemes - in other words, the ability to analyze words into smaller meaningful parts such as prefixes, roots, and suffixes (Carlisle, 2000). Masrai (2016) points out that having a grasp of morphological knowledge is potentially a key factor in developing a considerable second language (L2) lexicon.

Morphological knowledge has been studied extensively in the literature of L2 acquisition, and mastery of morphological structure has long been proposed to be linked to vocabulary acquisition. However, to the best of my knowledge, there is relatively little research that has attempted to figure out EFL intermediate students' attitudes towards the instruction of morphological knowledge in academic essay writing lessons in the context of the Mekong Delta. The current study aims to answer the following question: *What are EFL intermediate students' attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays?*

II. LITERATURE REVIEW

A. Morphological Knowledge

Morphology refers to the study of words, their internal structure, and the mental processes that are involved in word formation (Aronoff & Fudeman, 2011). Nagy *et al.* (2014) define morphology as the study of word formation processes, including inflectional morphemes and derivational morphemes.

Inflectional morphemes change the grammatical features of a word but do not create a new word. Derivational morphemes derive or create a new word by adding prefixes or suffixes to a root. Arnbak and Elbro (2000) define prefixes as morphemes that change the meaning of a root but not its grammatical class, whereas suffixes are morphemes that change both the grammatical class and the meaning of a root.

The number of words with derivational morphemes gets increasingly greater over time as the complexity of content and text increases. Nagy and Scott (1990) estimated that in the middle grades and beyond, more than 60% of the new words that readers encounter have relatively transparent morphological structure - that is, they can be broken down into parts.

Morphological knowledge is the capability to reflect on and manipulate morphemes; in other words, the ability to analyze words into smaller meaningful parts such as prefixes, roots, and suffixes (Nagy *et al.*, 2014). Morphological awareness is regarded as a metalinguistic tool for language learners to use words efficiently and flexibly (Scott & Nagy, 2004). The use of morphological knowledge and awareness is possibly a vocabulary learning strategy applied by EFL/ESL learners as it develops their lexical knowledge (Wysocki & Jenkins, 1987).

Previous research has proved that morphological knowledge is associated with significant areas, typically reading and writing. Furthermore, unlike phonological awareness, which lessens in importance after the early elementary years (Nagy *et al.*, 2006), morphological knowledge continues to grow across the upper elementary years (Berninger *et al.*, 2010) and beyond (Nagy & Scott, 2000; Tyler & Nagy, 1989). Morphological knowledge is potentially an area where more instruction should be taken to help students use accurate word forms, use morphologically complex words, and increase the quality of their lexicon. In this study, morphological knowledge is viewed as the ability to reflect on and manipulate morphemes by analyzing and using prefixes and suffixes, as well as the knowledge and awareness of parts of speech and word families.

B. Contribution of Morphological Knowledge to the Growth of Vocabulary Knowledge

It can be said that the most outstanding contribution of morphological knowledge to literacy is in the growth of vocabulary over time. Thanks to the knowledge of morphology, EFL learners can comprehend or create new words based on the words that they already know. Knowing the words with morphemes and knowing the meaning of prefixes and suffixes may help EFL learners develop their vocabulary. The relationship between morphological knowledge and vocabulary enhancement is seemingly reciprocal (Nagy *et al.*, 2003). When the learner has more insights into the word formation processes, he or she may easily acquire new morphologically complex vocabulary. Conversely, when he or she knows more morphologically complex words, they can recognize the patterns that the words represent with ease (Muse, 2005). It is therefore suggested that morphological knowledge and students' writing performances are interrelated.

C. Instruction of Morphological Knowledge

Goodwin and Ahn (2013) mention that the reasoning for morphological instruction is to provide students with the knowledge of word parts (morphemes) to "support literacy tasks," basically vocabulary, reading comprehension, spelling, and writing proficiency. They point out the most common forms of morphological knowledge instruction as "identifying morphemes within words, building words from morphemes, learning roots and affix meanings, highlighting morpheme patterns or rules, and forming new words using affixes."

In the current study, the instruction of morphological knowledge and awareness surrounds the teaching of prefixes, suffixes, parts of speech, and word families. The following activities are employed to explicitly teach morphology.

- (1) Dividing complex words into morphemes and then finding more words that share the same patterns;
- (2) Learning about suffixes and recognizing the part of speech of a word by looking at the suffix;
- (3) Learning about important prefixes, especially negative prefixes, and how to minimize the use of "not" by adding correct negative prefixes into the words;
- (4) Analyzing the words into prefixes, roots, and suffixes in order to guess the meaning of unfamiliar words and create new words;
- (5) Filling the blank in a sentence using the correct form (part of speech) of the given word;
- (6) Identifying and correcting the mistakes regarding parts of speech of the words used in writing;
- (7) Learning the word family of certain words in the course;
- (8) Avoiding repeating words by maximizing the use of prefixes and suffixes and flexibly using different words in the word family;

(9) Practicing writing pairs of sentences that share the same meaning, using different words in the word family;

(10) Transforming a sentence into other sentences using different parts of speech of a highlighted word (e.g., the process of *nominalization*).

D. Lexical Complexity

According to Laufer and Nation (1995), one of the determining factors of the vocabulary used in written composition is the vocabulary size of the writer, especially if the writer is an ESL learner with a relatively small vocabulary compared with native speakers. Measures of lexical complexity attempt to compute the degree to which a writer is using a varied and large vocabulary.

Lexical complexity involves the size, variety, and quality of a learner's vocabulary and may directly affect a learner's writing quality (Kim *et al.*, 2018). In terms of measuring lexical complexity, the measures of Laufer and Nation (1995) are implemented. These measures consist of lexical density, lexical diversity, and lexical sophistication.

Lexical density illustrates the proportion of lexical items in a text. In other words, lexical density is defined as the percentage of lexical words, i.e., nouns, verbs, adjectives, and adverbs, in the text. A high ratio indicates a lexically dense text. It is hypothesized that morphological knowledge may help increase the number of lexical words in writing and help the writing convey more information and meaning. According to Laufer and Nation (1995), lexical density (LD) is measured as follows:

$$LD = \frac{(\text{Number of lexical tokens} \times 100)}{\text{Total number of tokens}}$$

Lexical diversity is a measure of the number of different words in a writer's lexical repertoire and informs the understanding of systemic complexity. In other words, it is the type/token ratio. Read (2000) uses the term *lexical variation* to refer to this concept. For the text to be highly diverse, the speaker or writer must use a wide range of different words with little repetition of the words already used. It is hypothesized that learners who know how to use suffixes, prefixes, parts of speech, and word families may increase the number of different words, avoid repeating words, and use accurate vocabulary in writing. According to Laufer and Nation (1995), lexical variation (LV) is measured as follows:

$$LV = \frac{(\text{Number of types} \times 100)}{\text{Number of tokens}}$$

Lexical sophistication, also labeled as lexical rareness, is defined as the proportion of low-frequency words, or advanced words, in a text "rather than just general, everyday vocabulary" (Read, 2000). In order to determine what vocabulary is advanced, it is necessary to take the learner's level into consideration. In this study, the researcher employed the BNC/COCA lists, which were developed by Paul Nation. It is hypothesized that students having good morphological knowledge may know a greater number of less-frequent words through the transformation of words using prefixes and suffixes and using different words in the word families. According to Laufer and Nation (1995), lexical sophistication (LS) is measured as follows:

$$LS = \frac{(\text{Number of advanced tokens} \times 100)}{\text{Total number of lexical tokens}}$$

E. Impact of Morphological Knowledge on the Degree of Lexical Complexity and the Quality of Academic Essays

Recent studies suggest that learners acquiring the knowledge of morphology have a tendency to have a larger lexicon and better writing (Templeton, 2012). Additionally, Coutu-Fleury (2015) has also examined that the instruction of morphological knowledge has a great influence on the reading and spelling abilities of EFL students, which specifically helps with reading comprehension and writing proficiency (Moats *et al.*, 2010). Increasing the EFL students' knowledge of morphology would help in enlarging the size and the quality of their English vocabulary used in writing in terms of using a variety of words and using more low-frequency words to improve and enhance the quality of their academic writing. As a result, morphology is potentially an effective instructional tool for EFL intermediate learners to develop and use vocabulary creatively and flexibly. The role of vocabulary in the attempts at writing mastery is undeniable because it is impossible for learners to write effectively and flexibly without an adequate amount of vocabulary. It has also been proved by many studies that a high degree of lexical complexity can lead to the complexity and

good quality of academic essay writing (Higginbotham & Reid, 2019; Johansson, 2008; Kim *et al.*, 2018; Lu & Ai, 2015; Schnur & Rubio, 2021).

F. Attitudes

According to Haddock and Maio (2004), attitudes refer to the overall evaluations of people, groups, and objects in the social world. Indicating an attitude comprises making a decision concerning liking versus disliking or favoring versus disfavoring an attitude object. Attitudes are basically structured along three dimensions: cognitive (perceptions and beliefs), affective (likes and dislikes, feelings, or evoked emotions), and behavioral (actions or expressed intentions toward the object based upon the “cognitive” and “affective” responses) (Vargas-Sánchez *et al.*, 2011).

According to Albarracin *et al.* (2005), attitudes are typically measured using the Likert Scales: five response categories range between two extreme positions, e.g., *strongly disagree* and *strongly agree*. This study implemented a Likert-scale questionnaire to measure EFL intermediate students’ attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays.

III. METHODOLOGY

A. Participants

The participants were EFL intermediate students who were studying at a private English center in Can Tho City, Vietnam. The population of the two groups was relatively equal, which was 20 students for the control group and 17 students for the experimental group.

B. Instruments

The pre-questionnaire and post-questionnaire were implemented to collect data on the students’ attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays. The questionnaire in this study was adopted and adapted based on the theoretical framework of morphological knowledge and awareness and lexical complexity constructed in the studies of Nagy and Scott (1990), Laufer and Nation (1995), Read (2000), Scott and Nagy (2004), Bulté and Housen (2012), and Goodwin and Ahn (2013).

The first section was composed of five questions asking for the participants’ background information. The next four sections consisted of thirty-six items aimed at obtaining insights into the students’ attitudes towards the impacts of teaching each component of morphological knowledge, namely prefixes, suffixes, parts of speech, and word families.

The results from the *Scale Test* indicated that the reliability scores of the questionnaires were all higher than 0.7, the required coefficient. The result of the *Scale Test* is illustrated in Table I.

TABLE I: THE RELIABILITY SCORES OF THE QUESTIONNAIRES

Group	Pre-questionnaire	Post-questionnaire
Control	0.91	0.96
Experimental	0.90	0.83

C. Intervention

The experimental group received the treatment during the 14 weeks. The knowledge of morphology, which mainly focused on prefixes, suffixes, parts of speech, and word families, was combined into reading and writing lessons every week. There were no official and formal lessons that intensively taught the students about the knowledge of morphology, but the knowledge was supplemented throughout the course. For the control group, the students were not exposed to the knowledge of morphology throughout the courses. In terms of teaching vocabulary, the students learned about spelling and meaning. Regarding writing, the students in this group were only taught about the content and organization of the essays. There was little, if any, access to the knowledge of morphology during the research period. The intervention is presented in Table II.

IV. RESULTS

A. EFL Intermediate Students’ Attitudes towards the Impacts of Teaching Morphological Knowledge on the Degree of Lexical Complexity and the Quality of Academic Essays between the Two Groups

The results from the *Descriptives Statistics Test* are illustrated in Table III. The results from the *One-Sample T-Tests* showed that EFL intermediate students of the two groups reacted to the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays at the

acceptable level, both before and after the study ($t = -4.52, p = 0.000$; $t = -3.97, p = 0.001$; $t = -3.53, p = 0.002$; and $t = -3.56, p = 0.003$, respectively).

TABLE II: THE INTERVENTION

Domain	Example
Teaching prefixes and suffixes	- Teach important prefixes: negative prefixes (e.g., <i>dis-</i>, <i>un-</i>, <i>il-</i>, <i>im-</i>, <i>ir-</i>, <i>in-</i>), <i>super-</i>, <i>over-</i>, <i>extra-</i>, <i>multi-</i>, <i>inter-</i>, <i>uni-</i>, <i>com-</i>, and so on, - Teach important suffixes: noun suffixes (<i>-tion</i>, <i>-sion</i>, <i>-ment</i>, <i>-ness</i>, <i>-ty</i>, <i>-ance</i>, <i>-ence</i>, <i>-ism</i>, <i>-th</i>), verb suffixes (<i>-ize</i>, <i>-ate</i>, <i>-fy</i>, <i>-en</i>), adjective suffixes (<i>-al</i>, <i>-ous</i>, <i>-y</i>, <i>-ive</i>, <i>-ic</i>, <i>-ical</i>, <i>-ful</i>, <i>-less</i>), adverb suffix (<i>-ly</i>). - Teach how to minimize the use of “not” by using negative prefixes. - Teach how to identify the parts of speech of the words in the sentences by looking at the suffixes. - Teach how to guess the meaning of unfamiliar words by analyzing the prefixes and using the prefixes to form new words.
Teaching parts of speech	- Teach how to recognize the part of speech of a word and which part of speech is needed in a specific position of the sentence, - Teach how to use the right part of speech in writing and recognize the mistakes regarding parts of speech in writing, - Teach how to increase the lexical words, nouns, verbs, adjectives, and adverbs in a sentence.
Teaching word families	- Teach word families of the important words in the course and how to change from a part of speech into another part of speech (e.g., change a noun into a verb and vice versa), - Teach how to use different words within a word family in writing to write different sentences, - Teach how to avoid repeating words and grammatical structures by using different words in the word family.

TABLE III: THE MEAN SCORE OF THE QUESTIONNAIRES

Questionnaire	Group	N	Min	Max	M	SD
Pre-questionnaire	Control	20	3.53	4.83	4.12	0.38
	Experimental	17	3.50	4.81	4.11	0.40
Post-questionnaire	Control	20	3.11	4.89	4.09	0.52
	Experimental	17	3.78	4.69	4.27	0.26

The results from the *Independent T-Test* pointed out that there was no difference between the two mean scores of the two groups before the study ($t = 0.06, df = 35, p = 0.95$). EFL students' attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays were the same between the two groups before the study. However, the results also illustrated that there was a difference between the two mean scores of the two groups after the study ($t = -1.32, df = 35, p = 0.005$). EFL students in the control group and the experimental group reacted to the instruction of morphological knowledge in academic essay writing lessons in different ways: the latter was at a higher level than the former. Details can be seen in the Fig. 1 below.

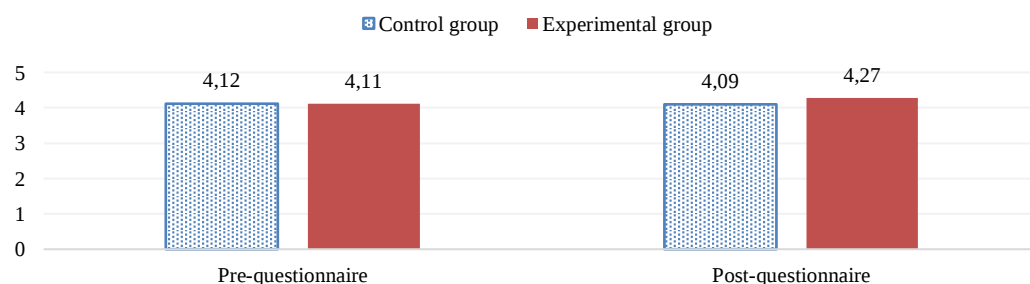


Fig. 1. Mean scores of the questionnaires for each group.

As can be seen in Fig. 1, EFL intermediate students in the two groups reacted to the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays in the same way before the study. However, after the 14-week period, the students in the experimental group reacted to this issue more positively than the ones in the control group.

B. EFL Intermediate Students' Attitudes towards the Impacts of Teaching Morphological Knowledge on the Degree of Lexical Complexity and the Quality of Academic Essays within the Two Groups

A *GLM for Repeated Measure Test* was performed to inspect whether EFL intermediate students' attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays in the control group before the study ($M = 4.12$) and after the study ($M = 4.09$) were different. The results pointed out that there was no difference between the two mean scores ($p = 0.71, F = 0.14$). Hence, during the study period, EFL intermediate students in the control group did not

change their attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays.

The results from the *GLM for Repeated Measure Test* also revealed that there was an insignificant difference between the two mean scores within the experimental group ($M_{pre} = 4.1$, $M_{post} = 4.27$; $p = 0.09$, $F = 3.26$). The 14-week study witnessed a slight improvement in the students' attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays.

C. EFL Intermediate Students' Attitudes towards the Impacts of Teaching the Four Components of Morphological Knowledge on the Degree of Lexical Complexity and the Quality of Academic Essays between the Two Groups

The data from the Descriptive Statistics Test is illustrated in Table IV.

TABLE IV: THE MEAN SCORES OF THE SPECIFIC COMPONENTS BETWEEN THE TWO GROUPS

Questionnaire	Group	N	Prefixes	Suffixes	Parts of speech	Word family
Pre-questionnaire	Control	20	4.02	4.04	4.18	4.24
	Experimental	17	4.03	4.03	4.26	4.12
Post-questionnaire	Control	20	4.01	4.07	4.11	4.17
	Experimental	17	4.24	4.22	4.42	4.22

The results from the *Independent-Sample T-Test* pointed out that, before the study, there was no difference between the two groups regarding the attitudes towards the impacts of teaching prefixes, suffixes, parts of speech and word family ($t = -0.08$, $p = 0.94$; $t = 0.04$, $p = 0.97$; $t = -0.59$, $p = 0.56$, and $t = 0.76$, $p = 0.45$, respectively). EFL intermediate students reacted to the impacts of teaching the four components of morphological knowledge on the degree of lexical complexity and the quality of academic essays in the same way between the two groups before the study. Details can be seen in Fig. 2 below.

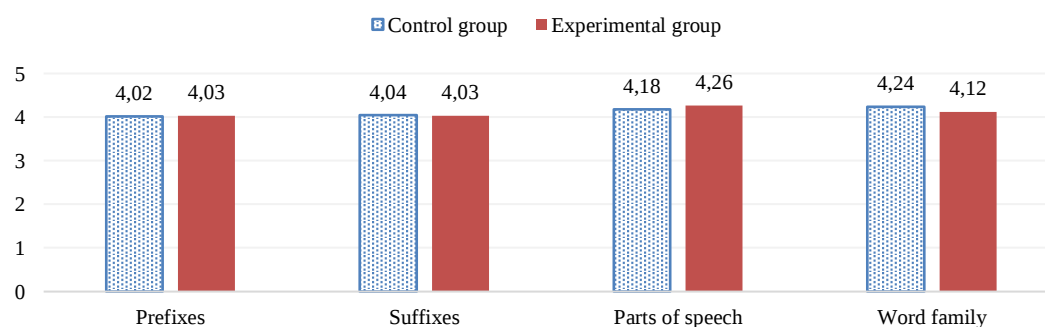


Fig. 2. Mean scores of the specific components for each group before the study (pre-questionnaire).

The results also revealed that, after the study, there were no significant differences in the way EFL intermediate students reacted to the impacts of teaching prefixes, suffixes, and word family ($t = -1.5$, $p = 0.14$, $t = -1.05$, $p = 0.3$, $t = -0.32$, $p = 0.75$, respectively). However, the students in the experimental group reacted to the impacts of teaching parts of speech differently from the ones in the control group ($t = -2.07$, $p = 0.046$). Thus, after the study, EFL intermediate students in the experimental group reacted to the impacts of teaching the components of morphological knowledge on the degree of lexical complexity and the quality of academic essays a bit more positively than the ones in the control group, especially parts of speech. The Fig. 3 summarizes the data.

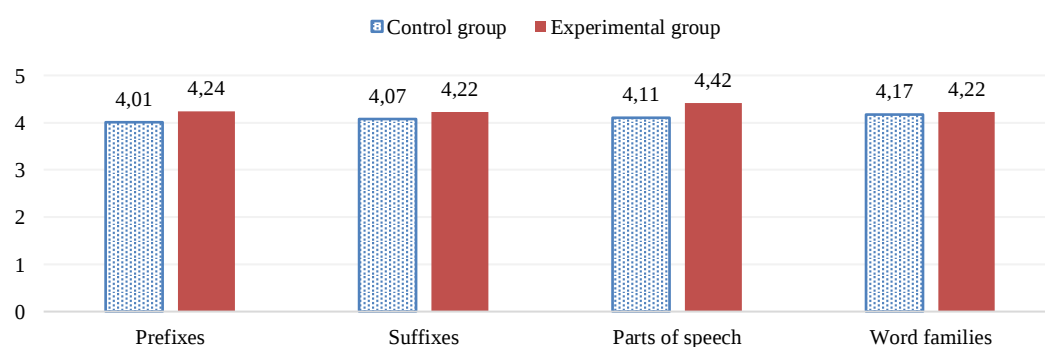


Fig. 3. Mean scores of the specific components for each group after the study (post-questionnaire).

D. EFL Intermediate Students' Attitudes towards the Impacts of Teaching the Specific Components of Morphological Knowledge within the Experimental Group

The results from the *Paired-Sample T-Tests* presented that the EFL students in the experimental group reacted to the impacts of teaching prefixes, suffixes, and parts of speech slightly differently before and after the intervention ($t = -1.74$, $p = 0.102$, $t = -2.1$, $p = 0.052$, and $t = -1.63$, $p = 0.123$, respectively), whereas there was no difference in the way they reacted to the impacts of teaching word families before and after the intervention ($t = 0.17$, $p = 0.46$). In a nutshell, after the 14-week period being taught about morphological knowledge, EFL intermediate students in the experimental group had more positive attitudes towards the impacts of teaching prefixes, suffixes, and parts of speech, whereas they kept the same attitudes towards the impacts of teaching word families. These changes, however, were not very significant. Details can be seen in the Fig. 4 below.

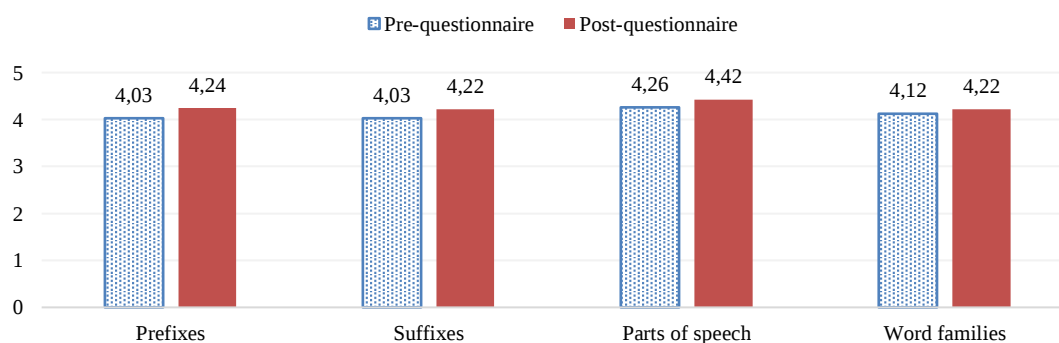


Fig. 4. Mean scores of the specific components for the experimental group before and after the study.

E. EFL Intermediate Students' Attitudes towards the Impacts of Teaching Prefixes and Suffixes within the Experimental Group

The *Paired-Sample T-Tests* already pointed out that EFL intermediate students in the experimental group reacted to the impacts of teaching prefixes and suffixes after the study a bit more positively than before the study ($t = -1.74$, $p = 0.102$, and $t = -2.1$, $p = 0.052$, respectively).

The results of the *One-Sample T-Test* revealed that they reacted to the impacts of teaching prefixes and suffixes on the degree of lexical complexity and the quality of academic essays at the acceptable level, both before and after the study ($t = -4.56$, $p = 0.00$, $t = -3.35$, $p = 0.004$; $t = -5.04$, $p = 0.000$, and $t = -3.80$, $p = 0.002$, respectively).

F. EFL Intermediate Students' Attitudes Towards the Impacts of Teaching Parts of Speech within the Experimental Group

EFL intermediate students in the experimental group reacted to the impacts of teaching parts of speech after the study a bit more positively than before the study ($t = -1.63$, $p = 0.123$).

The results from the *One-Sample T-Test* indicated that there was a difference between the mean score of the pre-questionnaire and the test value 4.5 ($t = -2.04$, $p = 0.058$) and no difference between the mean score of the post-questionnaire and the test value 4.5 ($t = -1.16$, $p = 0.26$). The results revealed that they reacted to the impacts of teaching parts of speech on the degree of lexical complexity and the quality of academic essays at the acceptable level before the study but at a highly acceptable level after the study.

G. EFL Intermediate Students' Attitudes towards the Impacts of Teaching Word Families within the Experimental Group

EFL students in the experimental group responded to the impacts of the instruction of word families in the same way before and after the study ($t = 0.17$, $p = 0.46$).

The results from the *One-Sample T-Test* uncovered that they reacted to the impacts of the instruction of word families on the degree of lexical complexity and the quality of academic essays at the acceptable level before and after the study ($M_{pre} = 4.12$, $M_{post} = 4.22$; $t = -2.93$, $p = 0.01$, and $t = -2.93$, $p = 0.01$, respectively).

V. DISCUSSION

The current study was implemented with an attempt to investigate EFL intermediate students' attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays. Through the implementation of the questionnaires, some main findings were discovered as follows.

First, EFL intermediate students from the two groups reacted to the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays at the acceptable level, both before and after the study. Before the study, no differences could be found regarding the students' attitudes towards the issue between the two groups. However, after the intervention, the students in the experimental group reacted to the issue more positively than the ones in the control group.

Second, EFL intermediate students in the control group did not change their attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays. On the other hand, a slight improvement in these attitudes was recorded in the experimental group.

Third, EFL intermediate students in the two groups responded to the impacts of teaching the four components of morphological knowledge, namely prefixes, suffixes, parts of speech, and word families, in the same way before the study. However, after the study, the students in the experimental group reacted to the impacts of teaching the four components of morphological knowledge a bit more positively than the ones in the control group, especially the instruction of parts of speech.

Fourth, within the experimental group, it was recorded that the students had more positive attitudes towards the impacts of teaching prefixes, suffixes, and parts of speech, whereas no changes in the attitudes towards the impacts of teaching word families could be identified.

Last, within the experimental group, before and after the intervention, the students reacted to the impacts of teaching prefixes, suffixes, and word families at an acceptable level both before and after the study. However, their attitudes towards the impacts of teaching parts of speech increased from an acceptable level to a highly acceptable level after the intervention.

It can be said that the students participating in the current study reacted to the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays in a positive manner. The findings of the current research are consistent with the hypothesis, literature, and some of the results of the previous studies.

The results revealed that EFL intermediate students in both groups had positive attitudes towards the impact of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays. However, the students in the control group did not change their attitudes throughout the study period, but the ones in the experimental group changed their attitudes in a more positive manner. These findings are partly in line with a few previous studies (Quy *et al.*, 2022; Tariq, 2019). Such studies shared several findings; for example, morphological knowledge is very important to writing learning. The knowledge of morphology helps improve the quality of writing in several aspects: conveying more information, diversifying vocabulary use, using vocabulary more academically, and facilitating the learning process. The current study, together with previous ones, recorded the participants' approval when learning morphological knowledge, as well as their willingness and eagerness to study it in upcoming lessons.

VI. CONCLUSION

It was reported that most of the students hold positive attitudes towards the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays. They acknowledged the importance of learning the four components of morphological knowledge, recognized their improvement in academic essay writing thanks to the instruction of morphological knowledge, and expressed their willingness and eagerness to have more exposure to the knowledge in upcoming lessons. No opposition to the instruction of morphology was recorded.

For EFL teachers, the understanding of the impacts of teaching morphological knowledge on the degree of lexical complexity and the quality of academic essays will support them to have a more positive perspective towards the benefits that the instruction of morphological knowledge can bring to their students, and then encourage them to integrate the knowledge of morphology into their teaching practices. For improving the quality of EFL intermediate students' essays, the knowledge of morphology is not sufficient on its own. In other words, aside from teaching students the knowledge of morphology, teachers also need to raise their awareness of using more advanced and morphologically complex words in their writing, as well as paying more attention to the use of prefixes, suffixes, correct parts of speech, and word families. It is important that teachers encourage students to apply what they have learned to their writing practices.

APPENDIX

Questionnaire: The Impact of Morphological Knowledge on the Degree of Lexical Complexity and the Quality of Academic Essays of EFL Intermediate Students at a Private Language Center

A. Section 1: Personal Information

Your full name _____
Your gender Male ☐ Female ☐
Your address _____
Your age _____ years old
Your school Primary ☐ Secondary ☐ High school ☐
Years of learning English _____ years

B. Section 2: Students' Attitudes towards the Knowledge of Prefixes and the Effects of Knowledge on the Level of Lexical Complexity and Quality of the Academic Essays

Please answer the following statements by putting (✓) in a box, according to the following scale:

1 (strongly disagree) 2 (disagree) 3 (neutral) 4 (agree) 5 (strongly agree)

Questionnaire items	1	2	3	4	5
1. The knowledge of prefixes is very important to my writing learning.					
2. The knowledge of prefixes helps me improve the quality of my writing.					
3. The knowledge of prefixes helps me convey more information and meaning in my writing.					
4. The knowledge of prefixes helps me avoid repeating words in my writing.					
5. The knowledge of prefixes helps me use more less-frequent words in my writing.					
6. The knowledge of prefixes helps me diversify the vocabulary use in my writing.					
7. The knowledge of prefixes helps me use the vocabulary more sophisticatedly and academically.					
8. The knowledge of prefixes is interesting to me.					
9. I would like to study more about prefixes.					

C. Section 3: Students' Attitudes towards the Knowledge of Suffixes and the Effects of Knowledge on the Level of Lexical Complexity and the Quality of The Academic Essays

Please answer the following statements by putting (✓) in a box, according to the following scale:

1 (strongly disagree) 2 (disagree) 3 (neutral) 4 (agree) 5 (strongly agree)

Questionnaire items	1	2	3	4	5
10. The knowledge of suffixes is very important to my writing learning.					
11. The knowledge of suffixes helps me improve the quality of my writing.					
12. The knowledge of suffixes helps me convey more information and meaning in my writing.					
13. The knowledge of suffixes helps me avoid repeating words in my writing.					
14. The knowledge of suffixes helps me write more grammatically correctly.					
15. The knowledge of suffixes helps me diversify the vocabulary use in my writing.					
16. The knowledge of suffixes helps me use the vocabulary more sophisticatedly and academically.					
17. The knowledge of suffixes is interesting to me.					
18. I would like to study more about suffixes.					

Section 4: Students' Attitudes towards the Knowledge of Parts of Speech and the Effects of Knowledge on the Level of Lexical Complexity and the Quality of the Academic Essays

Please answer the following statements by putting (✓) in a box, according to the following scale:

1 (strongly disagree) 2 (disagree) 3 (neutral) 4 (agree) 5 (strongly agree)

Questionnaire items	1	2	3	4	5
19. The knowledge of parts of speech is very important to my writing learning.					
20. The knowledge of parts of speech helps me improve the quality of my writing.					
21. The knowledge of parts of speech helps me convey more information and meaning in my writing.					
22. The knowledge of parts of speech helps me avoid repeating words in my writing.					
23. The knowledge of parts of speech helps me write more grammatically correctly.					
24. The knowledge of parts of speech helps me diversify the vocabulary use in my writing.					
25. The knowledge of parts of speech helps me use the vocabulary more sophisticatedly and academically.					
26. The knowledge of parts of speech is interesting to me.					
27. I would like to study more about parts of speech.					

D. Section 5: Students' Attitudes towards the Knowledge of Word Families and the Effects of Knowledge on the Level of Lexical Complexity and the Quality of the Academic Essays

Please answer the following statements by putting (✓) in a box, according to the following scale:

1 (strongly disagree) 2 (disagree) 3 (neutral) 4 (agree) 5 (strongly agree)

Questionnaire items	1	2	3	4	5
28. The knowledge of word families is very important to my writing lesson.					
29. The knowledge of word families helps me improve the quality of my writing.					
30. The knowledge of word families helps me expand my vocabulary easily and naturally.					
31. The knowledge of word families helps me diversify the vocabulary use in my writing.					
32. The knowledge of word families helps me avoid repeating words in my writing.					
33. The knowledge of word families helps me use vocabulary more sophisticatedly and academically.					
34. The knowledge of word families helps me write more flexibly and creatively.					
35. The knowledge of word families is interesting to me.					
36. I would like to study more about word families.					

ACKNOWLEDGMENT

My gratitude goes to the principal of the center where I am working, Mr. Nguyen Hai Quan, for allowing me to carry out the research at the center. I also appreciate all the students of the two classes for being the participants of the study. Without their support, I could not have collected the data for the study.

CONFLICT OF INTEREST

The authors declare that they do not have any conflict of interest.

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