

## Using of Morphological Theory to Improve English Reading Comprehension Ability of EFL Students

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### Abstract

This study aimed to 1) explore the English reading comprehension problems and needs of EFL students, 2) construct the English reading comprehension handbook by using morphological theory to improve their English reading comprehension ability, and 3) evaluate the effectiveness of the English reading comprehension handbook that uses morphological theory. The population consisted of 128 first-year EFL students who had taken the BRU English proficiency test and experienced difficulties with English during the 2023 academic year. From this population, a sample of 30 participants was selected using systematic sampling techniques. The study used several research instruments to collect data which included: 1) a questionnaire to identify the problems faced by students in comprehending English reading, 2) an English reading comprehension handbook by using morphological theory, 3) pre-test and post-test, and 4) a questionnaire assessing students' satisfaction with the English reading comprehension handbook that uses morphological theory. The results revealed that 1) most EFL students acknowledged facing challenges in English reading comprehension, with vocabulary knowledge receiving the highest, followed by fundamental knowledge, and knowledge of sentence structure, respectively. Moreover, the students express a high-level need to improve their English comprehension using morphological theory, 2) The handbook is structured into five chapters, each rooted in morphological theory to offer through assistance for students facing challenges in English reading comprehension, and 3)

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The English reading comprehension handbook, which utilized morphological theory, received the highest level of student satisfaction and students demonstrate higher English proficiency test scores after utilizing the English.

**Keywords:** English reading comprehension ability, English reading comprehension, morphological theory

## Introduction

English is an international language that is used to communicate and is the most common official language of countries. According to Crystal (1997), a total population of over two billion in 75 countries speaks English as an official language. It is a language of diplomacy, business, tourism, science, computer, technology, and education. Consequently, Nowadays the English language is very important, especially in education. In Thailand, the Ministry of Education emphasizes the importance and necessity of English language teaching management to strengthen the English language competencies of Thai students. However, English instruction has been a longstanding practice in Thailand. However, Chuanpongpanich (2021) indicate that Thai students demonstrate comparatively lower levels of English proficiency in contrast to their peers in neighboring ASEAN nations, indicating a noticeable disparity in English proficiency between Thai students and certain ASEAN countries. Consequently, there is a pressing necessity to elevate the English competency among Thai students across different educational levels. This imperative underscore the importance of exploring strategies to facilitate English language acquisition among Thai learners, equipping them with the requisite skills to thrive as global citizens in an increasingly interconnected world. Although, the English instruction in Thailand has developed continually, the problems associated with learning the English language in Thailand continue to persist, especially in reading skills. English reading was difficult because the students were unfamiliar with the language, especially in the test room (Kongcharoenkitkul, Nakum & Chatpunnarangsee, 2022). Reading is the most important as it serves as the primary means to gain knowledge. According to Sucompa (1998), reading emerges as a crucial skill, particularly in the tourism sector where professionals regularly engage with travel and business-related documents like incoming passenger cards and traveler's statements. Moreover, Brevik (2019) underscores the significance of reading proficiency for students, which is key to active participation in changing society. Therefore, reading skill is a part of Thai people in various careers. Thai students should try to develop their English reading skills to enhance their job ability in the future.

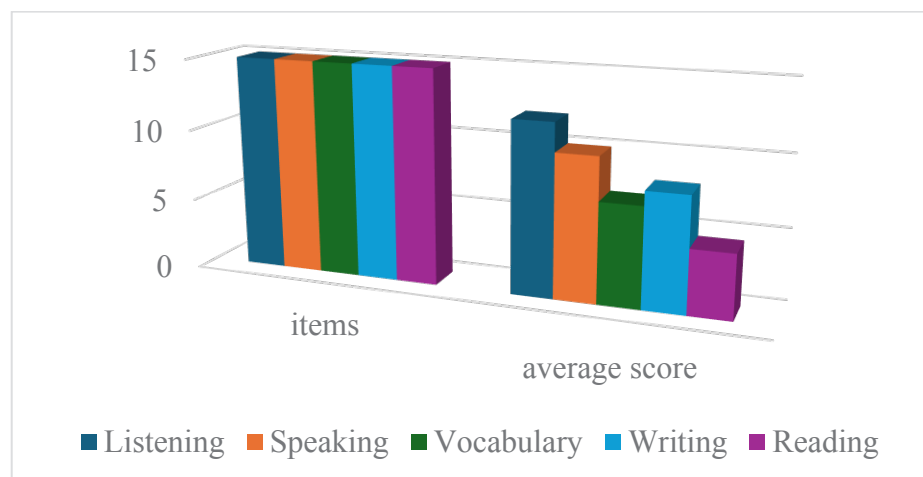
Educators in Thailand investigated the reading abilities of Thai students and found them to be at a low level, particularly in terms of vocabulary (Sokhamkaew, 2016), and most ESL/EFL students have a problem involved with word difficulties such as technical vocabulary, superordinate, synonyms, antonyms, and words with several meanings (Fathir, 2017). These groups of words are obstructed the students' reading comprehension ability. However, Garcia & Cain (2014) have identified that decoding and vocabulary development are essential to developing strong reading skills. Morphology is a critical element of successful vocabulary

development and accurate decoding awareness of morphology is a strong indicator of positive influence upon reading comprehension, on the other hand, if the students are weak in decoding and vocabulary skills. This is noted as a potent inhibitor to fully comprehending text (Stowe, 2020). Consequently, children aspiring to improve reading comprehension should cultivate vocabulary, intertwined with morphological awareness, emphasizing the morphemic structure of words.

Buriram Rajabhat University students have been organized on English proficiency by the BRU English Test, reading skill was the lowest score because they have limited English vocabulary. In addition, the researcher inquired into students who got a low score in reading skills, it found that the students were not familiar with the vocabulary, and based on the classroom experiences of the researcher, many Buriram Rajabhat University students could not use English skills effectively, especially concerning reading skills as Figure 1 indicated that the level of students' reading comprehension has a problem. (Language Development Institution of Buriram Rajabhat University, 2022).

**Figure 1**

*The Average Score from BRU English Proficiency Test of EFL Students*

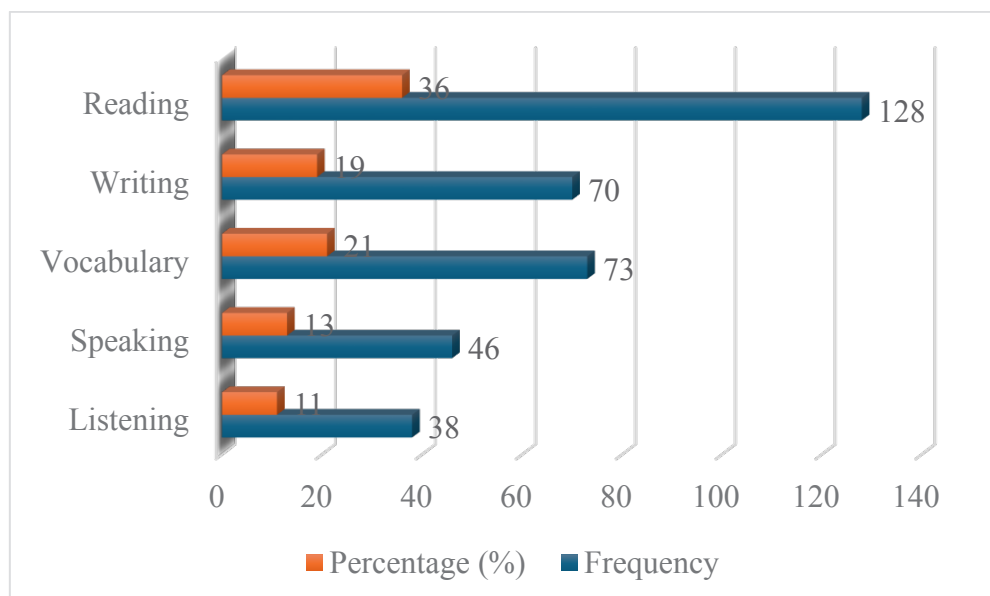


As indicated in Figure 1, the average score from the BRU English Proficiency Test of EFL students showed that listening had an average score of 12 out of 15 items, followed by speaking skills with an average score of 10. However, reading skills had the lowest average score of 4.5 out of 15 items, indicating a problem in their reading skill.

Additionally, the researcher examined the students' opinions of English skill difficulties of a randomly selected sample of 335 students out of a total of 2,559 who took the BRU-English proficiency test. The findings revealed that the students faced problems in English skills, as indicated in Figure 2.

**Figure 2**

*The Students' Opinions of English Skill Difficulties who took the BRU English Proficiency Test*



As indicated in Figure 2, the findings demonstrate that a significant percentage of students (36%) encountered problems in their English reading skills, according to their feedback during the BRU English proficiency test. Based on the report from the Registration Office of Buriram Rajabhat University (2012), it is highlighted that students' reading comprehension skills are poor due to their difficulty in decoding written words, which is an essential aspect of reading. Additionally, there are students who lack sufficient exposure to English reading materials. Moreover, students with limited experience in English reading and vocabulary require teachers who can effectively plan and introduce morphological theory. It is imperative for teachers to receive guidance on applying morphological theory to enhance students' reading skills. Nevertheless, the researchers conducted interviews with students who faced problems in reading skill. The findings revealed that these students encountered difficulties in accurately transcribing words and frequently encountered unfamiliar vocabulary. Specifically, when the researchers inquired about their familiarity with morphological theory, it was discovered that most students were not acquainted with this theory. As English lecturers at Buriram Rajabhat University, the researchers aim to enhance the reading comprehension skills of the university students by incorporating morphological theory. The study's findings will be valuable for lecturers seeking to improve their students' reading comprehension abilities and for students looking to practice their reading skills. The handbook can serve as a useful instructional resource, offering students the essential background knowledge of morphological theory, ultimately leading to improved reading comprehension.

## Literature Review

### 1. Morphological Theory

Morphological theory encompasses the study of morphology within the linguistic field, focusing on the internal structure of words and the analysis of words based on their

meaningful components. While some words cannot be deconstructed into distinct meaningful parts, many words are composed of multiple meaningful units (Aronoff & Fudeman, 2010). According to White et al. (1989), numerous language educators find the principles of morphological analysis beneficial in aiding students to enhance their language abilities, particularly in reading. Students who grasp how words are constructed through roots and affixes tend to possess larger vocabularies and exhibit improved reading comprehension skills. Hence in this study, morphological theory involves analyzing the internal structure of words and describing word-building processes to students. In addition, Nagy et.al. (1984) noted that developing morphological awareness is very important for readers in reading comprehension by developing readers to learn transparent structures and morphemes for fostering familiarity to be able to guess the meaning. Zang and Koda (2013) observed that morphology encompasses the intricate formation of complex words, which occurs through three main processes: base words, prefixes, and suffixes. In English, there exist eight inflectional affixes, all of which function as suffixes. These affixes serve to establish grammatical relationships between words within sentences, a process referred to as inflectional affixation. Furthermore, the process of forming new words by adding prefixes and suffixes to base words is integral to this function. It is called derivational affixes. In conclusion, morphological theory refers to a linguistics framework that analysis of the structure and forms of words within a language which plays an important role in closely related to reading comprehension. As it deals with studying the structure of words and how words are formed form subunits known as morphemes. It helps reader break down unfamiliar words and decode their meaning based on prefixes, suffixes, and root words. Therefore, it is necessary to provide the reader with morphological awareness so that the reader has a foundation and able to develop vocabulary into familiar words by study to words form, known as morphology. It can also be used to guess the meaning of reading comprehension.

## *2. Reading Comprehension*

Adamson (2019) emphasized the critical significance of reading proficiency for both ESL (English as a Second Language) and EFL (English as a Foreign Language) students, as well as students across various academic disciplines. Reading mastery is deemed essential for achieving success in language acquisition endeavors, particularly within the context of ESL and EFL education. According to Punksirikul (2020), reading is described as an interactive process wherein readers engage with texts to extract meaning from the words. To effectively navigate this process, readers require a solid understanding of systematic linguistic knowledge, particularly in morphological theory, which aids in identifying and comprehending word structures within texts. Zimmerman & Hutchins (2023) define reading comprehension refers to the ability to process the text, understand the meaning of the text, and integrate it with what the reader is reading. Furthermore, Garcia & Cain (2014) state that reading comprehension is more closely aligned with a reader's word recognition skills, which are essential for skilled word decoding, oral fluency, vocabulary development, and active engagement with the text. Thus, in this study reading comprehension is the ability to process the readers' understanding the meaning of the text's meaning. To sum up reading is the process between readers and texts as try to extract the meaning of the words to texts comprehension which is one of master skill

to ensure success in language learning. Consequently, reading involves not only pronouncing words, but also understanding the text. However, people with poor reading comprehension cannot analyze word, text structure, and summarize the main concepts of the text. Furthermore, they have a limited vocabulary and inability to decode words and combine form the words which related with the morphological theory. Consequently, the morphological theory and Reading comprehension are related.

## Research Objectives

1. To explore the English reading comprehension problems and needs of EFL students.
2. To construct the English reading comprehension handbook by using morphological theory.
3. To evaluate the effectiveness of the English reading comprehension handbook that uses morphological theory, in terms of achievement E1/E2, students' satisfaction, and including effect size.

## Research Questions

1. What are the problems and needs of English reading comprehension of EFL students to support the information and guide to construct the English reading comprehension handbook by using morphological theory?
2. How to construct the English reading comprehension handbook by using morphological theory?
3. What is the evaluation criteria for the effectiveness of the English reading comprehension handbook that uses morphological theory, in terms of achievement, students' satisfaction, and including effect size?

## Definition of Key Terms

1. BRU-English test refers to the acronym for Buriram Rajabhat University Test of English Proficiency, modeled on the TOEIC test. BRU- English Test was established and is run by the Language Development Center of the International Office at Buriram Rajabhat University. The test is aimed at Buriram Rajabhat University staff and students. It is required for admission to the bachelor's, master's, and doctorate programs. The purposes of this test are to assess the listening, speaking, vocabulary, writing, and reading skills of those candidates who take this examination. These skills are necessary for common life (Buriram Rajabhat University, 2016).
2. EFL students refer to students who are studying at Buriram Rajabhat University, in the Northern of Thailand.
3. English reading comprehension ability refers to the ability to process the text, understand the meaning of the text, and integrate it with what the reader is reading (Zimmerman & Hutchins, 2023). Reading comprehension is skill of word recognition and decoding, a well-developed vocabulary, and active engagement with the text (Greta & Estso, 2010). Thus, in this study reading comprehension is the ability to process the readers' understanding the meaning of the text's meaning.



4. English Reading comprehension problems refer to the challenges, difficulties, or obstacles that Buriram Rajabhat University students encounter when trying to understand and interpret English texts on background knowledge, vocabulary knowledge, and sentence structure knowledge.

5. Morphological theory refers to the analysis of morphology in linguistics field, the internal structure of words or analysis of a word based on the meaning full parts contained.

## **Methodology**

This section deals with the design of the study, methods of data collection and statistical analysis, and the validity and reliability of the research instruments.

### *1. Research Design*

The primary objective of this research was to develop a handbook for English reading comprehension, applying morphology theory, to enhance the reading comprehension skills of EFL students who had limited proficiency in English reading comprehension in the academic year 2023. This study employed both qualitative and quantitative research methods to collect data from a sample of volunteers consisting of students with low proficiency in reading English comprehension at Buriram Rajabhat University.

### *2. Population and Samples*

The population of this study comprised 128 first year EFL students at Buriram Rajabhat University who had taken the BRU English proficiency test and had English reading problems during the academic year 2022. The sample was 30 EFL students from the list of 128 individuals. They were selected by systematic sampling technique. The systematic sampling process started by determining a sampling interval, obtained by dividing the total population by the desired sample size. With 128 individuals and a target of 30 participants, this yielded a sampling interval of 5. Subsequently, every fifth individual was systematically selected in a structured manner.

### *3. Data Collection*

In this study, the data were collected by the researchers and obtained by any of the following procedures. Firstly, the researchers investigated the problems in English reading comprehension of the students who are studying at Buriram Rajabhat University and then reviewed the literature to find the appropriate way to improve and develop their reading English comprehension skills. Next, the researchers request permission to collect the data from Buriram Rajabhat University. Then, researchers presented the research objectives to participants, who then underwent pretesting for English reading comprehension ability. Following this, participants practiced using the English reading comprehension handbook based on morphological theory for 12 days or 36 hours. After completing the handbook, participants were assessed again through a post-test to evaluate their English reading comprehension ability. Lastly, the questionnaire was used to explore the participants' satisfaction with the English reading comprehension handbook by using morphological

theory, assessing three main aspects; the handbook format, the contexts presented in the handbook, and its integration and implementation.

#### 4. Data Analysis

Descriptive statistics, namely the frequency, percentage, median, means, and standard deviations were applied for the analysis of the questionnaire. A paired sample *t-test* was also used to identify differences in the participants' reading comprehension abilities before and after the intervention. The data of the questionnaire were analyzed using the statistical analysis program in version 23 to achieve the objective of the study.

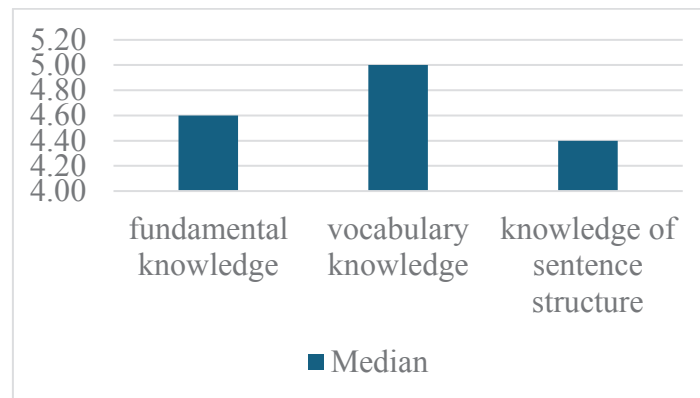
#### 5. Validity and Reliability

The initial version of the questionnaire, designed to investigate challenges encountered by students in English reading and to identify areas for improvement, underwent expert editing and revisions to ensure validity in Teaching English for Specific Purposes. *The Index of Objective Congruence items* achieved a validity of 0.97, with a reliability of 0.86. The pre-test and post-test were analyzed to evaluate the level of difficulty, indicating their ease or difficulty. The difficulty index for this study was 0.52, and for the post-test, it was 0.51. According to Crocker & Algina (1986), a difficulty index between 0.30 and 0.70 was generally considered suitable for both pre-test and post-test assessments. Hence, the pre-test and post-test of this study were considered suitable for a difficulty index. Additionally, the researchers considered the reliability coefficient using the formula from Kuder Richardson Reliability or KR-20, which is based on the proportion of correct and incorrect responses to each of the items on a test. The researchers obtained a reliability coefficient value of 0.73 for the tryout pre-test instrument and a value of 0.74 for the post-test, respectively. According to Ary et al. (2010), if the reliability coefficient falls between 0.60 and 0.80, the instrument demonstrates good classification with relatively little error and good reliability. From this statement, the researchers inferred that both instruments, the pre-test and post-test, were reliable and could be used as appropriate measures to assess students' mastery in English reading comprehension. The handbook was submitted for examination and evaluation by a focus group consisting of three experienced English language instructors. Satisfaction with the English reading comprehension handbook, assessed through a questionnaire utilizing morphological theory, was revised and expertly evaluated to determine the Item Objective Congruence at 0.98, with a reliability of 0.81.

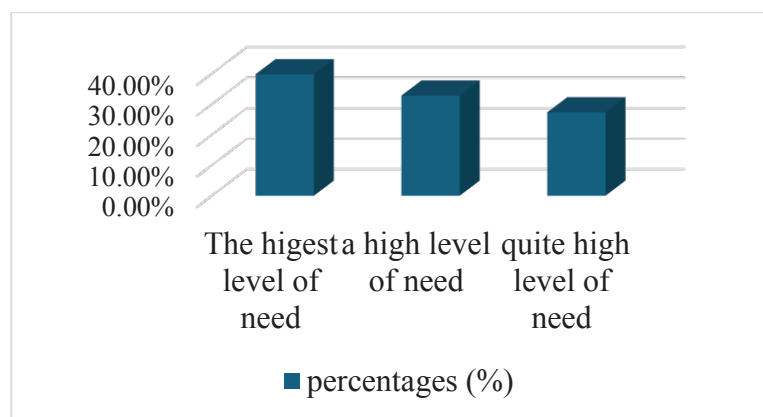
### Results

1. The study focused on identifying problems and needs related to English reading comprehension among EFL students. The issues were categorized into three aspects: fundamental knowledge, vocabulary knowledge, and knowledge of sentence structure. The findings revealed that most EFL students acknowledged facing challenges in English reading comprehension, with vocabulary knowledge receiving the highest rating at 5.00, followed by fundamental knowledge at 4.60, and knowledge of sentence structure at 4.40. These results are illustrated in Figure 4.



**Figure 4***The Problems of English Reading Comprehension of EFL Students*

According to the results, students encountered challenges in English reading comprehension, particularly with vocabulary, which aligns with Richard's (2014) assertion that vocabulary knowledge aids in interpreting and deriving meaning from texts. Additionally, Alaeddine (2016) highlights the usefulness of morphological analysis in assisting students in enhancing their reading skills. Understanding how words are formed through roots and affixes contributes to a larger vocabulary and improved reading comprehension. Morphological theory is described as the mental system involved in word formation (Aronoff & Fudeman, 2010). Consequently, the researcher investigated students' need to enhance their English reading comprehension abilities through the application of morphological theory. The findings indicated that 39.80% of students expressed a high-level need to improve their English comprehension using morphological theory, followed by 32.8% at the highest level and 27.3% at the quite high level, respectively. The results are illustrated in Figure 5.

**Figure 5***The Need for Improving the English Reading Comprehension Ability by Using a Morphological Theory of EFL Students*

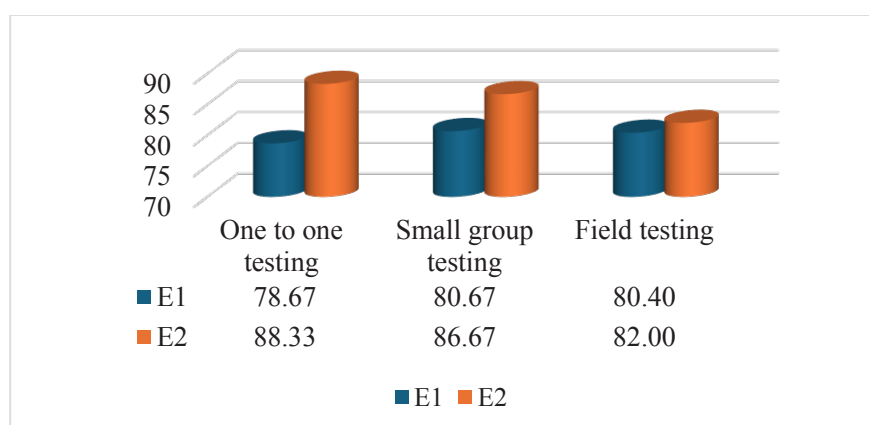
In Figure 5, the needs for improving English reading comprehension ability using morphological theory among EFL students were illustrated. The highest percentage, 39.80%, indicated the greatest demand for improving English reading comprehension ability through morphological theory among EFL students.

2. The construct of the English reading comprehension handbook was guided by morphological theory (Zang & Koda, 2013), addressing problems and needs across three aspects: fundamental knowledge, vocabulary knowledge, and knowledge of sentence structure. Given that students faced the most challenges in the vocabulary knowledge, the handbook prioritized this aspect (See figure 1). The handbook was organized into five chapters, each chapter grounded in morphological theory to provide comprehensive support for students encountering difficulties with English reading comprehension. The chapter were as follows: Chapter 1 focused on the morphological theory, Chapter 2 emphasized into morphology, Chapter 3 explored Word Formation, Chapter 4 examined inflectional and derivational morphemes, and the final chapter centers on context clues. The last chapter aligned with Bear et al.'s (2013) mention that recognizing morphemes aided in breaking down complex terms, seamlessly integrating with context clues to enhance the ability to predict and infer meanings.

3. The researchers have determined the structure and contents according to the problems and need for improving the English reading comprehension ability of EFL students, Next the structure and the contents were submitted to the experts. Then, the structure and contents were verified for the suitability, conformity, and implementation by the researchers. After that, the researchers used the English reading comprehension handbook to experimental by three steps as follows: 1) One to One testing, 2) Small group testing, and 3) filed testing to find the effectively of processing the English reading comprehension handbook by using morphological theory based on criteria which “One-to-One testing” was 70/70, “small group testing” was 75/75 and “field testing” was 80/80 (Wisit, 2021).

**Figure 6**

*The Effectively of Processing the English Reading Comprehension Handbook by Using Morphological Theory*



As in Figure 6, the results revealed that the English reading comprehension by using morphological theory handbook for EFL students was high. One to one testing gained 78.67/88.33, small group testing gained 80.67/86.67 and, filed testing gained 80.40/82.00.

4. Comparing participant's English reading comprehension ability by pre-test and post-test before after using the English reading comprehension by using morphological theory handbook for EFL students. They were as follows:

**Table 1**

*The Participants' Academic Achievement who are Learning by Using the English Reading Comprehension by Using Morphological Theory Handbook for EFL students by Individual Score*

Experimenter	Scores			
	Pre-test	Post-test	$\Sigma D$	$\Sigma D^2$
No.1	10	20	10	100
No.2	9	19	10	100
No.3	6	18	12	144
No.4	8	17	9	81
No.5	7	16	9	81
No.6	5	15	10	100
No.7	6	17	11	121
No.8	6	18	12	144
No.9	6	17	11	121
No.10	7	15	8	64
No.11	5	18	13	169
No.12	9	14	5	25
No.13	4	15	11	121
No.14	6	14	8	64
No.15	8	16	8	64
No.16	8	17	9	81
No.17	7	15	8	64
No.18	6	14	8	64
No.19	3	16	13	169
No.20	8	17	9	81
No.21	4	16	12	144
No.22	3	16	13	169
No.23	6	17	11	121
No.24	5	18	13	169
No.25	4	15	11	121
No.26	6	18	12	144
No.27	4	15	11	121
No.28	7	18	11	121
No.29	6	16	10	100
No.30	5	15	10	100
<i>Totals</i>	184	492	308	3268
<i>M</i>	6.13	16.40	10.27	105.47

As in Table 1, revealed that the participants' academic achievement who are learnt by using the English reading comprehension by using morphological theory handbook after learning was higher than before learning. The average of score after they learned at 16.40 and the average of score before they learned at 6.13.

**Table 2**

*Compares Participants' English Reading Comprehension Ability by Pre-test and Post-test before and after Using the English Reading Comprehension Handbook by Using Morphological Theory for EFL students*

Experimental Group	<i>M</i>	<i>S.D.</i>	<i>Different of Mean</i>	<i>t</i>	<i>df</i>	Sig
Pre-test	6.13	0.32	10.26	18.91	29	.000*
Post-test	16.40	0.28		58.15		

\*  $p \leq .05$

As indicated in Table 2, it was revealed that the average testing English proficiency of participants showed a significant improvement at the .05 significance level. The average testing score of posttests was 16.40, higher than the pretest score was 6.13. Consequently, it was found that participants developed their English reading comprehension ability using English reading comprehension handbook grounded in morphological theory, and this improvement was statistically significant at the .05 level. The results underscore the effectiveness of the intervention in enhancing participants' English reading comprehension skills.

5. The students' satisfaction with the English reading comprehension handbook that uses morphological theory was very satisfaction ( $M = 4.18$ ,  $S.D = 0.82$ ) which can be classified into three aspects; the handbook format, the contexts in the handbook, and the integrated and implemented as follows:

**Table 3**

*The Students' Satisfaction with the English Reading Comprehension Handbook that uses Morphological Theory in term of the Handbook Format*

The handbook format	<i>M</i>	<i>S.D.</i>	Meaning
1. The handbook format is fascinating.	3.96	0.34	satisfied
2. The suitability of the fonts size	4.13	0.81	Very satisfied
3. Convenience in application	4.47	0.89	Very satisfied
4. The size of the handbook is appropriate	4.47	0.97	Very satisfied
5. The color and cover design are fascinating.	4.43	0.90	Very satisfied
Total	4.30	0.78	Very satisfied

As shown in Table 3, the student's satisfaction with the English reading comprehension handbook that uses morphological theory in terms of the handbook format was very satisfied ( $M = 4.30$ ), particularly, the convenience in the application and the size of the handbook is appropriate at the highest ( $M = 4.47$ ), followed by the fascinating with the color and cover

design ( $M = 4.43$ ). However, the handbook format had the lowest satisfaction among students ( $M = 3.96$ ). The criteria for interpreting satisfaction are based on Srisawat (2013).

**Table 4**

*The Students' Satisfaction with the English Reading Comprehension Handbook that uses Morphological Theory in term of the Contexts in the Handbook*

The contexts in the handbook	<i>M</i>	<i>S.D.</i>	Meaning
1. The contents are comprehensive and complete.	3.43	0.38	Neutral
2. The appropriateness of the exercises.	3.93	0.96	satisfied
3. The content is coherent and clear.	4.73	0.49	Extremely satisfied
4. The content of the handbook is concise and easily understandable.	4.13	0.82	Very satisfied
5. The content is appropriate and up to date.	4.37	0.89	Very satisfied
6. The content is organized in a sequential manner.	4.33	0.84	Very satisfied
7. The vocabulary and content used are easily and understandable.	4.23	0.92	Very satisfied
8. The vocabulary and content are sufficient for practical.	4.43	0.77	Very satisfied
Total	4.20	0.75	Very satisfied

As showed in Table 4, the students' satisfaction with the English reading comprehension handbook that uses morphological theory in term of the contexts in the handbook was very satisfied ( $M = 4.20$ ), particularly, the content is coherent and clear at the highest ( $M = 4.70$ ), followed by the vocabulary and content are sufficient for practical ( $M = 4.43$ ). However, the contents are comprehensive and complete was the lowest satisfaction among students ( $M = 3.43$ ).

**Table 5**

*The Students' Satisfaction with the English Reading Comprehension Handbook that uses Morphological Theory in term of the Integrated and Implemented*

The integrated and implemented	<i>M</i>	<i>S.D.</i>	Meaning
1. The knowledge from the handbook, can be applied to solve the problems.	4.23	0.92	Very satisfied
2. The knowledge from the handbook, can be applied solve with the English reading comprehension.	4.47	0.97	Very satisfied
3. You are more confident with English reading comprehension after learning from the handbook.	3.39	0.91	Neutral
Total	4.03	0.93	Very satisfied

As shown in Table 5, the students' satisfaction with the English reading comprehension handbook that uses morphological theory in term of the integrated and implemented was very

satisfied, particularly the knowledge from the handbook, can be applied solve with the English reading comprehension at the highest satisfied ( $M = 4.47$ ), followed by the knowledge from the handbook, can be applied to solve the problems ( $M = 4.23$ ), and the students feel more confident with the English reading comprehension after learning from the handbook ( $M = 3.39$ ), respectively.

## Discussion and Conclusion

The problems of English reading comprehension of EFL Students were facing challenges in English reading comprehension, with vocabulary knowledge, followed by fundamental knowledge, and knowledge of sentence structure, respectively. These aspects are essential factors affecting English reading comprehension, especially vocabulary knowledge. Vocabulary knowledge is important as readers need to adeptly interpret and assign suitable meanings to words. Naga, Anderson, and Herman (1987), that good readers have a high level of vocabulary to measure of reader's knowledge, according to the context accordingly, Elizabeth (2005) vocabulary knowledge is very important because the readers must be flexible in applying appropriate meaning to the words based on the context. Furthermore, Alaeddine (2016) asserted that students who understood how words were formed, including roots, prefixes, and suffixes, experienced enhanced reading comprehension. This understanding aided English as a Foreign Language (EFL) students in interpreting and comprehending texts more effectively, particularly when the formation of words was connected to morphological theory. Consequently, English reading comprehension by using a morphological handbook was created based on the challenges facing students. The handbook is organized into five chapters: 1) morphological theory, 2) morphology, 3) word formation, 4) inflectional and derivational morpheme, and 5) context clues. The efficiency is based on criteria the higher score as follows: One-to-One testing gained 78.67/88.33, small group testing gained 80.67/86.67 and, filed testing gained 80.40/82.00 which Pisit (2012) stated that the criteria for the effectiveness of the handbook are based on skills standards, namely 70/70, 75/75, and 80/80. This study found that the handbook exceeded the specified standards. However, the participants' academic achievement who learned by using the English reading comprehension by using the morphological theory handbook after learning was higher than before learning. Hence, morphological theory helps the students improve their English reading comprehension ability. Moreover, the student's satisfaction with the English reading comprehension handbook that uses morphological theory was very satisfied. The handbook format was the highest satisfied, followed by the contexts in the handbook, and the integrated and implemented, respectively. However, the design of English reading comprehension by using the morphological theory handbook adopted the ADDIE model (Sameer, 2018) as a systematic framework for designing the learning and development process. It encompasses stages beginning with analysis, design, development, implementation, and evaluation.

## For Future Research

Future research should be conducting a longitudinal follow-up study to assess the long-term impact of the handbook on students' reading comprehension skills and develop the English



reading comprehension handbook using morphological theory available online. This would facilitate easy access to the material for lecturers and individuals interested in enhancing English reading comprehension.

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