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The Effect of Word Part Strategy Instruction on the Vocabulary Knowledge of Thai Primary School Learners

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Abstract

Vocabulary learning strategies are essential in vocabulary acquisition and one particularly important strategy is word part strategy. This quasi-experimental research attempted to investigate the effects of word part strategy instruction on vocabulary knowledge among primary school students in a Thai EFL context. It also sought to explore primary school students' attitudes about the use of the word-part strategy instruction on vocabulary acquisition and development. The participants consisted of two intact classes divided into experimental and control groups. The experimental participants received thorough training on word part strategies, while the control group received no instruction on word part strategies. Three measures of word part knowledge were developed and validated before the data collection. A five-point Likert scale questionnaire was also employed to explore the experimental participants' attitudes towards implementing word part strategy instruction in vocabulary learning. Descriptive and inferential statistics were used to analyze the quantitative data. The results showed that the students who had received word part strategy instruction outperformed those in the control group, indicating a positive effect of word part strategies on vocabulary learning among primary school students. The current study also showed that primary school students were highly satisfied with the word part strategy instruction. Together, the present findings suggest the efficacy of word part strategies on vocabulary learning and development among primary school learners. Other implications relevant to pedagogical practices and suggestions for further studies are also discussed.

Keywords: word part strategy, deliberate vocabulary learning, Thai primary school students

1. Introduction

Vocabulary is central to language learning (Amer, 2002) and knowing words is key to understanding and being understood (Laufer & Goldstein, 2004; Nation, 2013; Schmitt, 2010; Schmitt & Schmitt, 2014). Vocabulary learning is a significant concern for second language (L2) learners (Nation, 2013) and several studies have been conducted in the field (Nation, 2013; Schmitt, 2010; Singleton, 2008), including research into the variety of teaching techniques (Nation, 1990) and the number of word lists offered for different purposes (Laufer, 1992; Nation, 1990; West, 1953).

Two teaching methods have been proposed for effective vocabulary learning (Schmitt, 2000). The first method is 'explicit learning', which draws attention to the learned information. The second method is 'incidental learning', where language is used for communicative purposes and does not focus exclusively on new words in the text. L2 vocabulary researchers have shown that explicit (intentional) learning is more effective than implicit (indirect) methods (Hunt & Beglar, 2005; Prince, 1996) and can enhance vocabulary development (Schmitt, 1998; Zimmerman, 1997). Accordingly, direct vocabulary instruction is highly recommended by many practitioners for providing necessary assistance to language learners in both lexical learning and long-term retention (Rodriguez & Sadoski, 2000).

In Thailand, learning English as a foreign language is a compulsory subject. Many students have learned English from kindergarten to university. However, they still struggle to communicate in English. One of the problems in learning English is students cannot remember the vocabulary and its meaning. To facilitate students in learning vocabulary, teachers should consider the techniques that help them learn and remember words. Nation (2008) suggested four vocabulary learning strategies: word parts, word cards, dictionaries, and context clues. In addition,

Nation (2001) proposed three domains of lexical knowledge: form, meaning, and use. Form encompasses the ability to identify the verbal and printed forms and declarative affixes of a word. Knowing the meaning of a lexical item entails that a learner has insight into form and meaning, concepts and referents, and lexical networks (associations). Finally, the domain of 'use' refers to the skills required to use the word with language accuracy (grammatical functions) and to use appropriate collocations, as well as the awareness of word usability (constraints on use), including register and frequency. The current study focused on word parts strategy in all aspects of form, meaning, and use. This strategy aims to help learners increase their vocabularies by analyzing newly encountered words by breaking down unfamiliar words into manageable parts: prefixes, base words or roots and suffixes. The word part strategy also facilitates learning unknown words by building words from word parts. Word analysis builds upon the learners' understanding of known parts, which account for more than 50% of the polysyllabic words in academic texts (Kuhn & Nagy, 1991). In addition to creating new words, suffixes are essential as they enable learners to understand and interpret the texts (Nagy, 2010, Sukying, 2018). Previous research has shown the positive effects of word parts strategy instruction on vocabulary acquisition (Harraqi, 2019; Karliova, 2009; Liu, 2011; Sukying, 2020).

To date, it is widely accepted that vocabulary teaching should be part of the syllabus and taught on a well-planned and regular basis. Various techniques and materials have been designed and developed for effective vocabulary teaching. According to the previous reviews, most studies had been conducted at the tertiary level of education. However, using word parts remains one of the least under-researched techniques for teaching vocabulary, especially in Thai EFL primary small school context. Moreover, few studies have ever been developed based on word parts accounts to the best of the researcher's knowledge. Hence, the current study investigates the effect of word-part strategy instruction on Thai EFL primary school students' vocabulary learning. It further explores primary school students' attitudes about the word parts strategy instruction on their vocabulary knowledge acquisition. Understanding the nature of vocabulary growth may help practitioners develop teaching techniques for their classroom practice. In addition, understanding the roles of word parts will shed some light on the development of receptive and productive vocabulary knowledge among young EFL learners.

2. Literature Review

This section reviewed previous literature conducted by many researchers on vocabulary learning strategies to enhance students' vocabulary knowledge and explored conclusions from their study. The earlier studies in word knowledge using word part strategy, including studies in foreign and Thai contexts, will also be presented.

2.1 Definition of Vocabulary Learning Strategies (VLSs)

Vocabulary learning strategies (VLSs) are a part of the general learning strategy. Several scholars define the term 'VLS' in a different meaning. For instance, Cameron (2001, p. 92) described VLSs as "the activities learners perform to help themselves acquire and recall vocabulary items". Additionally, Catal (2003) explains the definition of VLSs as "knowledge about the mechanisms (processes and strategies) used in order to learn vocabulary as well as steps or actions taken by students to (a) find out the meaning of unknown words, (b) to retain them in long-term memory, (c) to recall them at will, and (d) to use them in oral or written mode" (p. 56).

Griffiths (2008) also stated that VLSs are a subset of language learning methods that have gotten much attention since the late 1970s. In the Thai context, Intaraprasert (2004) described VLSs as "any set of techniques or learning behaviors, which language learners reported using to discover the meaning of a new word, to retain the knowledge of newly-learned words, and to expand their knowledge of vocabulary" (p. 9). Likewise, Sukying (2021) also described learning strategies as conscious behaviours and thought processes selected and used by learners to perform learning actions in a particular context. His definition aligns with Thiendathong and Sukying's (2021) study. In our research, VLSs, focusing on word part strategies, are conceptualized as the purposeful steps, actions, or mental processes that the learners employ consciously to facilitate vocabulary learning. These processes lead to the intervention that enhances vocabulary skills in the language classroom.

2.2 Word Part Strategies

Word parts, referred to as affix knowledge (Sukying, 2017, 2018b), are lexical components that are used to form a morphologically complex word by adding affixes, including prefixes and suffixes (Hayshi & Murphy, 2011; Nation, 2013; Sasao & Webb, 2017). Affixes can be divided into two types: inflectional and derivational. All the inflectional affixes are suffixes. In addition, derivational affixes consist of prefixes and suffixes. The difference between inflectional and derivational is that inflectional does not change the part of words after they are added. Some of the inflectional affixes are *-s* (plural), *-er* (comparative), *-ed*, *-ing*, *-est* (superlative). However, derivational affixes include prefixes and suffixes. A prefix is a word part attached to the beginning of a word or

base word, while a suffix is a word part attached to the end of a word. In vocabulary learning, some prefixes and most suffixes can change the part of speech after adding them. For example, prefix; *able* (verb)/ *unable* (adjective), while suffix; *happy* (adjective)/ *happily* (adverb), *kind* (adjective)/ *kindly* (adverb). Besides, some affixes, especially prefixes, can change the word's meaning after adding them, such as *happy/unhappy, fear/fearless*, and *kill/killer*. Moreover, word parts are essential for vocabulary learning because they can help learners relate meaning with another word to know a new word (Nation, 2013; Sukying, 2017, 2022).

To make use of the word part strategy in vocabulary learning, for receptive use, learners need to recognize a complex word such as *unhappiness* is made up of *un-*, *happy*, and *-ness*. These lexical items can relate to other words such as *kindness*, *sadness*, *unknown*, and *unkind*. Additionally, learners need to see the meaning of affixes and stems when combined, e.g., *unhappy* is made up of *un-* and *happy*, which *un-* means not; therefore, the sense of this word is not pleased. Finally, learners need to be concerned about the change of form when affixes are added for productive use. These changes can affect the pronunciation and the written form. To summarize, word parts consisted of base words or roots and affixes (prefix and suffix). A base word comes with a prefix or a suffix to create a new form of a word. Therefore, it is beneficial for learners to know how to use their understanding of prefixes, suffixes, and root/base words to unlock the meaning of words.

Vocabulary research has shown that word part strategies are essential in language acquisition and positively affect vocabulary learning (Nation, 2013; Sukying, 2017, 2020, 2022; Liu, 2011). For example, Karliova (2009) examined teaching English vocabulary using the Latinate word parts technique. The samples were undergraduate students learning English as a foreign language. This study used a pre-test, a lecture on Latinate word parts, and a post-test (same test as post-test) to assess their knowledge of Latinate English words. The study showed a statistically significant difference between the post-test scores of the treatment and the first-year control group students, suggesting that Latinate word-part instruction has a positive effect on English vocabulary acquisition. In another study, Liu Xinjie (2011) studied using a word part strategy to help learners understand words and facilitate vocabulary acquisition in ten teacher trainee students from a university in Sweden using two vocabulary tests and a questionnaire. The results revealed that the word part strategy benefits understanding words and facilitates vocabulary acquisition.

In the Thai context, Kaewsawas and Suksawas (2020) investigated the prefix knowledge focus on '*in-* and *im-*' and the ability of 65 third-year students to distinguish the meaning of words. The tests were used to measure the student's knowledge after the instruction on prefixes was given. The results showed that most students could apply the prefix knowledge that they had learned in class and distinguish the meaning of the same prefixes with different meanings. Similarly, Sukying (2020) examined the effects of affix instruction on acquiring morphologically complex words in Thai EFL university students and found a positive effect of affix instruction in the English language classroom. These findings raise the questions about the impact of affix knowledge in English on vocabulary acquisition and development and suggest pedagogical implications for language classrooms. However, using word part strategies to promote vocabulary learning in the Thai EFL context is still under-researched. Therefore, being aware of using word part strategies is worthwhile, especially for young learners in provincial government schools.

3. Method

3.1 Research Design

This study was a quasi-experimental research design focusing on numeric data analysis. The underlying rationale was to determine whether word part strategy instruction improved the quality of vocabulary learning among primary school students. The researcher used convenience sampling to choose two groups, one as a control group and another as an experimental group, as shown in Table 1.

Table 1. Research design

Group	Vocabulary Tests	Treatment	Vocabulary tests	Attitude Questionnaire
Experimental Group (N = 27)	✓	16 hours of word part strategy instruction	✓	✓
Control Group (N = 25)	✓	No teaching on word part instruction	✓	×

3.2 Sample of the Research

The participants included 52 Thai students in the sixth grade of primary school. Participants were selected from

two schools where students have a basic level of English. The classroom size of each school is relatively small. Still, the two schools have similar contexts, including teachers who graduated from English majors, as well as similar textbooks, hours of English teaching per week, and grade point averages for English. One classroom from the first school was selected as the experimental group. This classroom included 27 students (10 males and 17 females). The classroom from the second school was selected as the control group. There were 25 students in this classroom, including 13 males and 12 females.

3.3 Instruments for Data Collection

3.3.1 The Three Vocabulary Tests

The three vocabulary tests were the word segmentation test (WST), the L1 translation test (L1TT), and the word parts test of use (WPT). According to the theoretical framework of Nation (2001), vocabulary knowledge comprises three aspects: form, meaning, and use. Thus, the word segmentation test was designed to measure the aspect of 'form', the L1 translation test measures 'form-meaning', and the word part test assesses 'use'. There were 20 items for each test. Participants were given 40 minutes for each test. Examples from each test and scoring are shown in Tables 2–4.

Table 2. An example from the word segmentation test

Examples		Scoring
safety = safe + ty	(ความปลอดภัย)	2
safety = saf + ty	(ความปลอดภัย)	1

Table 3. An example from the L1 translation test

Word	Answer	Correct Answer	Scoring
1. นักเขียน	***W**riting*	**W**riter	0.5
2. อย่างมีความสุข	***H**apply*	**H**appily	0.5
3. คุณครู	***T**eacher*	**T**eacher	1

Table 4. An example from the test of word part use

No.	Sentence	Part of speech				Scoring
		n.	v.	Adv.	Adj.	
E.g.	She *is calling* her friends. *(call)*		✓			*2*
E.g.	This is *a ruler*. *(rule)*	✓				*2*
E.g.	An ……..*interview*…… (*interview*) is in the office.	✓				*1*
1.	An ……..*interview*…… (*interview*) is in the office.		✓			*0*

3.3.2 The Attitude Questionaire

The attitude questionnaire was designed to measure students' attitudes toward word part strategy instruction. The experimental group was given 10 minutes to complete the questionnaire. The questionnaire was adapted from Yamashita (2013) and included 15 items. Participants in the experimental group were asked to respond to the questionnaire items using a 5-point Likert scale (Likert, 1982), ranging from strongly disagree (1) to strongly agree (5). The questionnaire was translated into Thai by a certified English-Thai translator. The Thai questionnaire version was given to all participants to avoid language barriers.

3.4 Data Collection Process

The period of data collection was approximately two months and occurred during class. The three vocabulary knowledge tests were conducted on different days. Given that form knowledge can be transferred to other aspects (Webb, 2005; Laufer & Goldstein, 2004) and that 'use' knowledge is the last aspect that learners acquire (González Fernández & Schmitt, 2019; Nontasee & Sukying, 2021), the Word Segmentation Test was given first, followed by the L1 Translation test and, finally, the test of Word Part Use. Students were given all three tests and then received their instruction, which differed for the experimental and control groups. The word part strategy instruction lasted for 16 hours, over eight weeks. All participants received an average of 4 hours of English instruction per week, including 2 hours of word part strategy instruction (experimental group) or general instruction (control group) per week. The day after the final lesson, all students were again given the three vocabulary tests. Then, students from the experimental group were requested to complete a questionnaire. Before

the tests were administered, the instructions and a few illustrations of the tasks were provided to participants in their native Thai language. Participants were not allowed to use dictionaries during the tests.

3.5 Data Analysis

To analyze the scores on the Word Segmentation test, L1 Translation Test, and test of Word Part Use, SPSS software was used to conduct paired samples t-tests and independent-samples t-tests. The t-tests assessed the students' learning vocabulary ability before and after word part instruction or regular class instruction. Specifically, two means of the same group of participants were compared before and after a treatment condition using a paired-samples t-test (Field, 2009).

In addition, the scores from the questionnaire items rated on the 5-point Likert scale were analyzed using descriptive statistics (SPSS software). This provided the average, median, and standard deviation of a given item's ratings to assess students' attitudes towards word part instruction and its impact on their vocabulary knowledge acquisition.

4. Results

4.1 Results of the Three Vocabulary Knowledge Tests

The quantitative data were collected from the tests, including the Word Segmentation Test (WST), the L1 translation test (L1TT), and the Test of Word Part use (TWP). Independent samples *t*-tests were used to compare scores between groups, while a dependent-samples *t*-test revealed the difference between pre and post-test performance for the same group.

Table 5 summarises the students' performance on the Word Segmentation Test. The experimental group students achieved an average performance of 49.87% (SD = 2.90) for the pretest and 72.70% (SD = 2.10) for the posttest. Control group participants scored an average of 49.02% (SD = 2.16) on the pretest of the WST and 55.81% (SD = 2.52) on the posttest. The analysis also indicated that the pretest and posttest performance significantly differed in both experimental and control groups. These findings suggest that Thai primary school students improved their knowledge of word parts over time.

An independent-samples *t*-test revealed no significant differences in the pre-test performance ($t = 0.51$, $p = 0.61$) but the posttest performance differed between the experimental and control participants ($t = 11.31$, $p = 0.00$). This result indicates the positive effect of word part strategies on the development of vocabulary knowledge among Thai primary school students.

Table 5. A summary of students' performance on the word segmentation test

Group	**Pretest**			**Posttest**			***t*-value**	***p*-value**
	Mean	**%**	**S.D.**	**Mean**	**%**	**S.D.**		
Experimental (N = 27)	21.44	49.87	2.90	31.26	72.70	2.10	17.77	0.00*
Control (N = 25)	21.08	49.02	2.16	24.00	55.81	2.52	6.70	0.00*
***t*-value**	0.51			11.31				
***p*-value**	0.61			0.00*				

Note. *Significant at the 0.05 level ($p < 0.05$).

Table 6 shows the results from the L1 Translation Test. The experimental group students achieved an average score of 39.44% (SD = 1.22) for the pretest and 62.04% (SD = 1.39) for the posttest. The control group scored an average of 40.00% (SD = 1.68) on the pretest and 40.40% (SD = 1.50) on the posttest. The analysis indicated a statistically significant difference between the pretest and posttest performance in both experimental and control groups, indicating that Thai primary school students' understanding of word parts improved with time.

An independent-samples *t*-test revealed that there were no significant differences between the groups in the pre-test performance ($t = 0.27$, $p = 0.78$) however, the posttest performance did differ between the experimental and control participants ($t = 10.79$, $p = 0.00$). This finding indicates the beneficial effect of word part strategies on the development of vocabulary knowledge among Thai primary school students.

Table 6. A summary of students' overall performance on the L1 translation test

Group	Pretest			Posttest			*t*-value	*p*-value
	Mean	%	S.D.	Mean	%	S.D.		
Experimental (N = 27)	7.89	39.44	1.22	12.41	62.04	1.39	16.80	0.00*
Control (N = 25)	8.00	40.00	1.68	8.08	40.40	1.50	0.26	0.795
***t*-value**	0.27			10.79				
***p*-value**	0.78			0.00*				

Note. *Significant at the 0.05 level ($p < 0.05$).

Table 7 shows the results from the Test of Word Part use. The experimental group students achieved an average performance of 25.74% (S.D. = 1.71) on the pretest and 50.19% (SD = 2.63) on the posttest. Control group participants scored an average of 25.60% (SD = 1.81) on the pretest and 29.40% (SD = 1.94) on the posttest. The analysis also revealed a statistically significant difference between the pretest and posttest performance in both experimental and control groups. These findings suggest that Thai primary school students' knowledge of word parts increased over time.

An independent-samples *t*-test also revealed that there were no significant differences in the pre-test performance ($t = 0.11$, $p = 0.90$). Still, there was a significant difference in the posttest performance between the experimental and control participants ($t = 12.88$, $p = 0.00$). This result indicates that word part strategies improved vocabulary knowledge among Thai primary school students.

Table 7. A summary of students' performance on the test of word part use

Group	Pretest			Posttest			*t*-value	*p*-value
	Mean	%	S.D.	Mean	%	S.D.		
Experimental (N = 27)	10.30	25.74	1.71	20.07	50.19	2.63	16.42	0.00*
Control (N = 25)	10.24	25.60	1.81	11.76	29.40	1.94	4.65	0.00*
***t*-value**	0.11			12.88				
***p*-value**	0.90			0.00*				

Note. *Significant at the 0.05 level ($p < 0.05$).

Table 8 shows the performance of the three measures of vocabulary knowledge. Thai primary school students achieved the highest scores on the word segmentation test, followed by the L1 translation test and the test of word part use. These findings indicate that Thai primary school students tend to acquire different aspects of vocabulary knowledge at different times. The overall results of the study are also summarized in Figure 1.

Table 8. Summary of the overall pre-and post-test scores

Group		WST		L1TT		TWP	
		Pre	Post	Pre	Post	Pre	Post
Experimental (n = 27)	Mean	21.44	31.26	7.89	12.41	10.30	20.07
	%	49.87	72.70	39.44	62.04	25.74	50.19
	S.D.	2.90	2.10	1.22	1.68	1.71	2.63
Control (n = 25)	Mean	21.08	24.00	8.00	8.08	10.24	11.76
	%	49.02	55.81	40.00	40.40	25.60	29.40
	S.D.	2.16	2.52	1.68	1.50	1.81	1.94

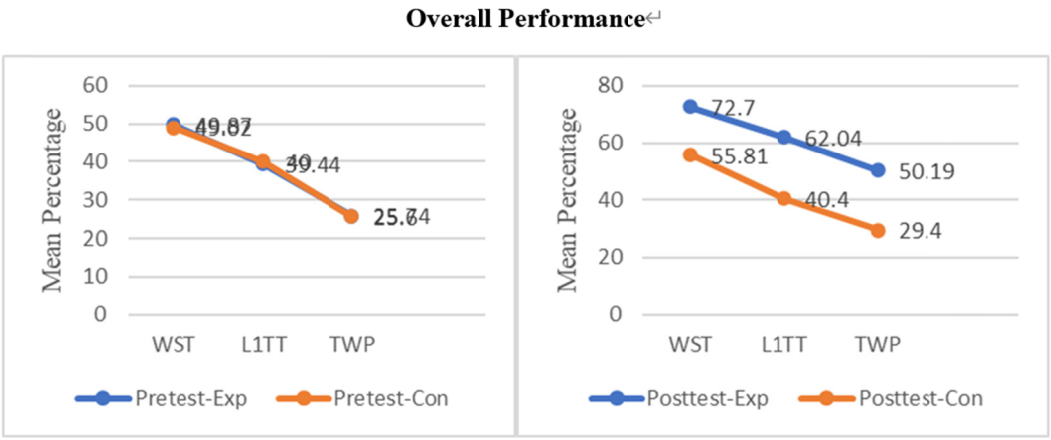

Figure 1. Summary of the overall pre- and post-test scores

This study reveals the positive effect of word-parts strategy instruction on vocabulary knowledge among Thai primary school students. The findings also illustrated the developmental continuum of vocabulary learning and showed that Thai primary school participants acquired different vocabulary knowledge aspects at different times. More precisely, the results showed that Thai primary school participants tended to develop word forms before word meaning.

Overall, word part knowledge helps students interpret unfamiliar words by analyzing words into smaller morphemes and connecting words to known roots or known word part components. Students learn to break the unknown word into parts and to relate the meaning of the word part to the meaning of the word. In addition, knowledge of word part can be used to verify that an unfamiliar word has been guessed from context, and students also learn to specify the part of speech. These findings support previous results which found that affix knowledge improved learners' vocabulary knowledge (Carlisle & Katz, 2006; Nagy et al., 2014; Nation, 2008; Schmitt & Meara, 1998; Sukying, 2018; Zimmerman, 2009; Liu Xinjie, 2011; Mounir Harraqi, 2019).

In conclusion, the results show that students significantly improved their vocabulary knowledge, especially in the experimental group in which the word part strategy was employed. Thus, word part strategy instruction is beneficial for EFL primary school learners. Indeed, the word part strategy instruction and the classroom activities led to vocabulary gains; that is, students became familiar with the target words, analyzed and combined words, and identified the part of speech that helped them to infer the meanings of the word and to use the word in context.

4.2 Results of Students' Attitude toward Word Part Strategy Instruction

Overall, Table 9 showed that students had a high level of agreement, indicating that students were satisfied with the word part strategy. Students also became more motivated to learn new words through word part strategies. The positive motivation and attitudes may be related to the strategies increasing the learners' awareness that many words can be broken down into smaller parts. This awareness could generate considerable information about the meaning of the formed words rather than learning the individual items. These results are consistent with previous literature that the application of word part strategy training facilitates students learning vocabulary and growth (Nation, 2013; Sukying, 2018, 2020).

Table 9. Students' attitudes toward word part strategy instruction

No.	Statement	Min	Max	Mean	%	S.D.	Meaning
1	Learning by word part strategy helped me to improve my vocabulary knowledge.	3	5	4.63	92.59	0.56	Very high
2	Learning by word part strategy enhanced my vocabulary knowledge.	3	5	4.33	86.67	0.62	High
3	I feel that learning vocabulary by word parts strategy would help me recognize words faster and more easily.	2	5	4.26	85.19	0.81	High
4	Word part strategy instruction is appropriate for learning vocabulary at my level.	2	5	4.22	84.44	0.85	High
5	I enjoy learning vocabulary by word parts strategy.	2	5	4.19	83.70	0.74	High
6	I feel comfortable when I learn by word part strategy.	3	5	4.19	83.70	0.79	High
7	I think the fun activity enables me to recognize the words.	3	5	4.15	82.96	0.86	High
8	I think word part strategy instruction assists me in specifying the part of speech.	2	5	4.11	82.22	0.89	High
9	Word part activities help me build confidence and reduce stress in the classroom.	3	5	4.07	81.48	0.73	High
10	I think word part strategy instruction helps me become familiar with new words.	3	5	4.04	80.74	0.81	High
11	I feel much better when I learn vocabulary by word parts strategy.	3	5	4.00	80.00	0.83	High
12	Learning by word part strategy allows me to learn new vocabulary.	2	5	3.93	78.52	0.87	High
13	Learning by word part strategy encourages me to learn more vocabulary.	2	5	3.89	77.78	0.93	High
14	I feel motivated when I learn vocabulary by word parts strategy.	2	5	3.85	77.04	0.99	High
15	I think using word part strategy instruction is a good way to learn vocabulary.	3	5	3.67	73.33	0.62	High
	Total			**4.10**		**0.79**	**High**

As shown in Table 9, 14 statements had a high mean score between 3.67–4.33 and one statement had a very high mean score (4.63), with an overall mean of 4.10 (S.D. = 0.79). All 15 statements had a maximum score of 5 (strongly agree), which shows that the participants strongly believe in the impact of the word part strategy instruction on their learning. The highest mean score is 4.63, obtained by statement 11 (*Learning by word part strategy helps me improve my vocabulary knowledge*). It shows that students agree that the word part strategy instruction helps them improve their vocabulary knowledge during the lecture. This highest score is followed by the score of statement 8 (*Learning by word part strategy enhances my vocabulary knowledge*) and statement 9 (*I feel that learning vocabulary by word parts strategy would help me recognize words faster and more easily*). These two results suggest that word part strategy instruction plays an important role in making students more interested in the lectures.

To conclude, the instruction allowed participants to gain knowledge of word parts, including adding prefixes, adding suffixes, and specifying parts of speech. Word part knowledge facilitates learning morphologically complex words and reinforces English language skills. Therefore, the word part strategy instruction enhances learners' word knowledge and reading, writing, and grammar skills. The questionnaire results also indicate that word part strategy instruction in English language classes is beneficial to vocabulary learning and teaching, at least in a Thai EFL primary school context. This is consistent with previous studies on the importance of word families for systematic vocabulary teaching and learning strategies (Bauer & Nation, 1993).

5. Discussion and Conclusion

The quantitative data were obtained from the three vocabulary knowledge tests administered before and after the experiment. The overall results indicate that the primary school students' vocabulary knowledge increased after using word part strategy instruction. Indeed, students in the experimental group performed better on the posttests than students in the control group. Thai EFL participants from both groups performed the best on the WST, followed by the L1TT and the weakest on the TWP. This phenomenon could be explained by the degree of learning in context (Henrikson, 1999) and L2 contexts and the developmental continuum of learning (Nation, 2013). The results conform to Sukying's (2018) study that students first gain receptive knowledge of form and meaning and then productive affix knowledge (Sukying, 2018).

The WST used in the present study measures a learner's ability to break down a word into smaller parts. The results indicated that the posttest average means in both groups were higher than the pretest, especially in the

experimental group. Thus, it suggests that students recognize the form of the target prefix and suffix. This is likely because word part knowledge helps students interpret unfamiliar words by analyzing words into smaller parts. For instance, the word '*restart = re + start*'. All students used the word part strategy when analyzing the questions in WST, and all of them could see the connections between the words and the word parts after the answers to the tests had been sent. For those students who performed well in the test, the word part strategy may have helped them break down words. The results are consistent with Nation's (2001) claim that the students need to acquire the ability to divide the words into parts and know the meaning of affixes (Nation, p. 278).

The second test administered was the L1 translation test (L1TT). The L1TT was designed to measure the learner's ability to relate the meaning of the word part to the meaning of the word. The results indicate that most students could recognize the meaning of a word and write English vocabulary after the instruction. To illustrate, students would break a more complex word into smaller parts and make use of the familiar lexical parts. More precisely, the students being trained in word part strategies would be able to break the unknown parts into parts in which learners require knowledge of recognizing prefixes and suffixes when they occur in words. For example, the word *unhappily* consists of three parts, i.e., *un-*, *happy*, and *-ly*. Before using this strategy, students must recognize the word parts. After breaking the word into parts, learners would then relate the meaning of the word parts to the meaning of the word. Therefore, word part knowledge helps students relate the meaning of a word part to the meaning of the word. The current findings are consistent with previous studies that word part strategies are effective for vocabulary learning and development (Harriqi, 2019; Nation, 2013; Nirattisai, 2014; Sukying, 2018, 2020).

The measure of word part use assessed a learner's ability to use word part knowledge in the context. It involves completing the correct form, meaning, word part use and specifying the part of speech. The results indicate that the posttest scores were greater in both groups, especially in the experimental group. Students' vocabulary knowledge improved because word part strategy can raise a students' vocabulary knowledge that involves the use of word parts. For instance, take the sentence '*My brother is a ……(work)*.' Before the experiment, none of the students knew that adding a suffix *-er* after a verb can change the meaning and its part of speech, such as adding *-er* to the word '*work* (v.)' to create '*worker* (n.)'. All students reported that they did not know the meaning of *-er* even though some of them reported seeing this word before. By contrast, twenty students could identify its meaning and its part of speech after the word part strategy instruction. Therefore, in the sentence '*My brother is a ……(work).*' most students completed the word 'worker' and selected 'noun' as a part of speech. Thus, word part knowledge assists students in analyzing words, relating the meaning, and specifying the part of speech.

The paired *t*-test analysis also revealed a significantly substantial improvement pre-and after the treatment, indicating the positive effect of the word part strategy. This improvement could be because knowledge of word parts assisted students in extrapolating from a word class of new lexical components based on derivational affixes. Knowledge of word parts also mediates learners to create a new affixed form of the word. These findings reaffirm previous studies that knowledge of word part components facilitates students' vocabulary acquisition and development (Sukying, 2017, 2018a, 2018b, 2020; Nation, 2013).

Overall, word part knowledge helps students interpret unfamiliar words by analyzing words into smaller morphemes and connecting words to known roots or known word part components. Students learn to break the unknown word into parts and relate the meaning of the word part to the meaning of the word. In addition, the knowledge of word part can be used to verify that an unfamiliar word has been guessed from context, and students also learn to specify the part of speech. These findings support previous results on the effect of affixes, which found that affixes improved learners' vocabulary knowledge (Carlisle & Katz, 2006; Nagy et al., 2014; Nation, 2008; Schmitt & Meara, 1998; Sukying, 2018; Zimmerman, 2009; Liu Xinjie, 2011; Mounir Harraqi, 2019).

In addition, the data obtained from the five-point Likert Scale questionnaire were analyzed. The results showed that students had a high level of agreement, indicating that students were satisfied with the word part strategy. Students also became more motivated to learn new words through word part strategies. The positive motivation and attitudes could be that word part strategies may increase learners' awareness that many words can be broken down into smaller parts. This awareness could generate considerable information about the meaning of words formed rather than learning the individual items. These results align with previous literature that applying word part strategy training mediates students learning vocabulary and growth (Nation, 2013; Sukying, 2018, 2020).

To summarize, the analysis of the findings showed that all measures of word part knowledge positively affected students' better understanding of the form-meaning link of the unfamiliar words. The results indicated that word

part strategies could facilitate L2 vocabulary learning and growth. Moreover, the current study proved that the better word part knowledge students might have, the more effective learners are in mediating vocabulary acquisition. In this study, the students need more time to derive the meaning of word part components and to practice how to re-express the meaning of the new formulated words with the assistance of the word part strategy. Regarding attitudes towards the use of word part strategy instruction, the results suggested that students had a high level of a favourable attitude towards the use of word part strategies to enhance vocabulary learning and development. To sum up, the current study indicates the efficacy of word part strategies, providing evidence to support the existing literature that word part strategies are an effective teaching approach for vocabulary learning and growth.

6. Recommendations

The primary purpose of this experiment was to examine the impact of word part strategy instruction in a small primary school context. The researcher uses convenient sampling. Future research may randomly select the participants on a larger scale and expand the study's scope by increasing the number of morphological units taught, extending the instruction time, or lengthening the overall duration of the experiment to determine the effects of instruction over a more extended period. Besides, the interview is recommended to follow up with certain questionnaire respondents.

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