

The Effect of a Collocation Teaching Innovation on Students' Use of Collocations

Poonyapat Boonyarattanasoontorn

Sirawich Tampanich

Chomploen Pimphakorn

Srinakharinwirot University, Bangkok, Thailand

Corresponding author's email: Poonyapat@g.swu.ac.th

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Abstract

The present study investigates the problems of lexical collocation usage found in Thai EFL learners' writing. The collocation teaching lessons in the present study were developed adopting Lewis's (1993) Observe-Hypothesis-Experiment (OHE) lexical approach and Presentation-Practice-Production (PPP) approach (Gollin, 1998). The aims were to solve lexical collocation error problems as well as to improve the students' recognition of lexical collocations. Thirty-six Thai undergraduate students majoring in English studying in Thailand were the participants of the study. The corpus was retrieved from 262 pieces of writings of the participants, and the research instruments included AntConc version 3.4.4, the Leeds Collections of Internet Corpora, and the Oxford Collocations Dictionary in order to facilitate the identification of the collocation errors in the participants' writing, while the pre- and the post-tests were employed in order to test the learners' recognition. The data analysis utilized descriptive statistics and Dependent-samples t-test in order to determine if the gained scores were significantly different due to the collocation lessons. The results revealed that the participants made *verb + noun* lexical collocation

errors the most and that they benefited from the series of explicit collocation teaching lessons. Additionally, the major sources of collocation errors were interlingual and intralingual.

Keywords: collocation, corpus-based approach, EFL writing, language transfer, PPP, OHE

Introduction

In second language learning, a lack of knowledge concerning the appropriate usage of collocations creates a number of problems in various areas of second language acquisition, especially regarding productive skills competence. In fact, the characteristics of a discourse rely heavily on words and their frequently co-occurring counterparts. Thus, second language (L2) learners utilizing words in isolation in language production have a chance to mis-collocate those words with the ones that are not their frequent pair words.

Experienced teachers teaching English as a foreign language (EFL) in Thailand often find in second language production that a number of collocation errors have been made by Thai EFL learners. This issue is also in line with several research studies (Lay, 1982; Uzawa & Cumming, 1989) that have reported that EFL/ESL students commit collocation errors for various reasons: the interference of their L1 (depending on their mother tongue; thinking about organizing ideas and literally translating into the target language), or insufficient collocation concepts and knowledge. In addition, collocational behavior is an aspect that is missing in traditional grammar books and is neglected in the Thai EFL vocabulary teaching context (Boonyasaquan, 2006). The traditional English teaching method teaches students, when producing a sentence, to follow the prescribed grammar rules based merely on the textbook and this causes a disconnection between input and output, where the students are expected to achieve acquisition,

and this disconnection could possibly be an underlying reason explaining the whole picture of why L2 learners frequently make unacceptable collocations (Bahns & Eldaw, 1993; Farghal & Obiedat, 1995). As a result, many L2 learners that only acquire individual words do not progress in their L2 proficiency (Higuchi, 1999), or worse, they may not be able to achieve even near native-like competence in their L2 learning (Bahardoust & Moeini, 2012). As evident in L2 learners' production, they tend to employ vague expressions, poor coherence, and unnatural-sounding language.

Accordingly, assisting students with producing language output effectively is a crucial task for EFL teachers, which can be primarily done by raising learners' awareness in recognizing and using such formulaic expressions as collocations in their L2 production. Assisting students should be carried out since it might improve their use of appropriate collocations and this might result in the overall improvement of their second language performance, particularly in terms of writing. It is for this reason that the present study was undertaken in order to scrutinize the collocation problems that Thai EFL learners face and to develop an informed method to bridge those gaps.

The researchers have the hope that the results of this study may point out the importance of explicit collocation teaching lessons that might contribute to enhancing the knowledge of collocations, improve correct recognition, and the appropriate use of collocations. Additionally, it might be a solution to the problems that need a new solution in order to improve Thai students' overall writing performance.

Literature Review

Collocations

According to Nation (2005), there are no hard and fast rules for the term “collocation” because of the variety of ways in which words are combined. Nevertheless, there are a number of ways to

define collocation. The term is defined as a predictable group of words that belong together, either because they commonly co-occur, e.g. *take a chance*, or because the meaning of the collocation does not convey the meaning of each word combined, e.g. *by the way* (McCarten, 2007; Nation, 2005; Stubb, 2002). A collocation typically includes two key elements: a pivot word and its collocate. The former is the central word in the collocation, and the latter is the word associated with the pivot word (Shin & Nation, 2008). There are two main collocation types: lexical collocations and grammatical collocations (Bahns, 1993; Carter, 1998).

Lexical collocations do not contain grammatical elements but involve content words consisting of combinations of *nouns*, *adjectives*, *verbs*, and *adverbs*. Lexical collocations can further be categorized into six types, i.e. *verb + noun*, *adjective + noun*, *noun + noun*, *noun + verb*, *adverb + adjective*, and *verb + adverb*, such as *strong tea* or *hopelessly addicted* (Bahns, 1993). On the other hand, grammatical collocations are groups of content words containing a dominant word (nouns, adjectives, or verbs) combined with a grammatical word such as a preposition or certain grammatical structural pattern such as an infinitive or a clause, e.g. *turn on the radio* or *have someone do something* and *have something done* (Bahns, 1993; Benson, Benson, & llson, 1986; Carter, 1998).

Nonetheless, in a recent study, the operational definition of collocation used was the following: “A collocation is considered as a group of words that often go together to produce natural sounding language.” This focuses only on a group of lexical collocations, including all of its types (Lewis, 1993), as shown in Table 1.

Table 1*Lewis's (1993) Taxonomy of Lexical Items*

Definitions	Collocations types	Examples
“The way words habitually co-occur ranging from free to entirely fixed ones, (habitually used to not allow any variations)”	Free collocations	<i>a red car, a nice house, a dark night, a good chance</i>
	Fixed collocations	<i>vested interest, auburn hair, to foot the bill</i>
	Other collocations	<i>strong tea, golden age, drug addict</i>

Collocation Errors

Collocation is usually semantically transparent because the words are constructed from frequently co-occurring individual words, which might contribute to the difficulties in collocation usage. Gass and Selinker (2008) classified collocation errors into two main categories: interlingual errors and intralingual errors.

Interlingual Errors. Interlingual errors occur as a consequence of cross-linguistic influence or L1 negative transfer from the learners' mother tongue to L2 (Odlin, 1989), which is the major source of L2 learners' collocation errors (Nesselhauf, 2005). When learners cannot find L1 congruent collocations, they are likely to rely on the knowledge of their mother tongue to produce L2 collocation, which causes learners to transfer their L1 equivalent collocations to the target language. Unfortunately, there is not always consistency between two language systems; that is, the L1 may often include at least one word different from the L2. As Ellis (1994) suggested, “there are two types of language transfer in language learning and acquisition, comprising positive and negative ones. The positive transfer takes place when the target

language pattern is identical to that of the native language. As such, the target language could be learned and mastered more easily. On the other hand, the negative transfer arises when the two languages are different, which inevitably causes a greater difficulty in language learning and higher tendency in making unintended errors" (p. 300). For instance, Phoocharoensil (2011) has reported that learners form collocations possibly originating from L1 interference based on the literal translation from Thai, such as **play Internet* and **play computer*.

Intralingual Errors. Intralingual errors occur as a result of learners' difficulties during their learning process in the target language itself with two strategies.

First, the synonymy strategy, according to several studies of L2 English collocation acquisition, has been reported as a common learning strategy (Farghal & Obiedat, 1995; Howarth, 1998; Phoocharoensil, 2011; Yumanee & Phoocharoensil, 2013). This analogy strategy is often used since the learners' knowledge about the target language is quite limited. Thus, they rely on the open-choice principle for their language learning strategies such as substituting a collocation word with its synonym without being aware of the nonequivalent collocation pair (Phoocharoensil, 2011). In this case, collocation errors are generated from learners' confusion by assuming a semantic similarity of the words and using one of the collocation pairs. As Nation (2001) suggested, a number of synonyms in English are not very likely to occur in the same grammatical pattern. For instance, learners form **authentically believe* instead of *truly believe* because they think that both words (*authentically* and *truly*) can be used interchangeably. In actuality, the words *truly* and *authentically* are synonymous, but they are used in different grammatical patterns, especially in English collocations.

Apart from the aforementioned sources of errors, studies have reported abundant erroneous collocations on the part of advanced

learners (Phoocharoensil, 2011; Sanguannam, 2016). That is, low-proficiency learners are likely to adopt an avoidance strategy while high-proficiency learners tend to risk using collocations to a greater extent. Sanguannam's (2016) study reported that in free-writing production tasks, both intermediate and advanced learners' writing appeared to be error-free in terms of collocations, assuming that they seemed to encounter no difficulty in using collocations. However, when the researcher looked closer at her study's results, it was found that the learners tended to employ an avoidance strategy by using simple lexical collocations, such as a verb (*do, make, take, get, give, have*) and a noun, e.g. *do + homework, make + decision, and get + work*, in each sentence. A study of Higuchi (1999) confirmed the explanation that their participants did not compose advanced enough English that would have them either use or encounter problems with collocations. This is due to the fact that most of the time, "collocation problems arose when learners tried to write creatively by using direct translation of Japanese words" (as cited in Sanguannam, 2016, p. 70).

Learning and Teaching Collocations

Recently, much research has been conducted on the area emphasizing the need for teaching collocations (Lewis, 1993, 2008; Nation, 2001). It has also pointed out the benefits of teaching and learning collocations in the field of L2 teaching and learning. Furthermore, learning collocations can be beneficial in terms of learners' language competence, including communicative competence and native-like proficiency (Richard, 1971).

Brown (1974) pointed out the importance of collocational teaching in the field of the EFL classroom, emphasizing that learning collocations may reinforce learners' knowledge of collocations. More importantly, it can also improve other areas of students' language competencies, such as oral fluency or listening and reading comprehension. In addition, learning collocations creates a chance for

learners to experience natural-sounding language in both the spoken and written language and allows learners to conceptualize ready-made words to use in their own language production. According to Nattinger (1980), “language production was shaped through linguistic units to serve particular purposes in certain circumstances. Within particular situations, the capability for anticipating the language patterns to be delivered plays a significant role in grasping the expressions” (p. 341). Emphasis has been made on the reason for teaching collocations, which affirmed Brown’s (1974) statement, which indicated that collocation learning contributes to fluency in speaking and writing because the learners’ focus shifts from the process of acquiring words individually to memorizing the patterns of words that usually occur together.

During the past decades, a number of studies have investigated three tracks related to collocations (Abdellah, 2015): (a) studies focusing on analyzing collocation errors committed by EFL learners; (b) studies using the analysis of corpora in order to identify the collocations used by native speakers in comparison with non-natives; and (c) studies attempting to develop students’ collocations usage or studies aiming to use a program for collocation training to improve other language skills.

Fan (2005) conducted a study on comparing different approaches of teaching students to use collocations. She generated four approaches for teaching collocation: semantic processes, memorization for recall, rule given, and rule given plus negative evidence. The results showed that explicit collocation teaching was the most powerful approach, while the semantic approach was the least efficient. Another research by Fahim and Vaezi (2011) focused on the effectiveness of teaching collocation with visual or textual input-based enhancement on *verb-noun* collocation acquisition. The results indicated that the experimental group that received the collocation teaching aid outperformed the conventional collocation teaching control

group. In a similar track, Amer (2010) conducted research on the relationship between excessive uses of a collocation application program and the students' score on a collocation quiz. The findings revealed that the more learners used the program, the higher was the score that they received. This is in the same vein as the study by Seesink (2007) on the effectiveness of an explicit collocation teaching program via blended learning, which could impact the EFL students' writing development. The findings showed the positive benefits of explicit collocation teaching, which reflected the students' rich usage of collocation in their writing. The aforementioned research illuminates the importance of the explicit collocation teaching approach as well as the teaching aid that can influence students' effective use of collocations.

However, when it comes to English teaching in the Thai context, the predominance has been given to the role of grammar rather than teaching co-occurring vocabulary (Boonyasaquan, 2006). Although students' collocation errors are frequently observed, Thai teachers appreciate very little concerning the significance of collocations, and very little research has been undertaken on this issue (Boonyasaquan, 2006; Varaporn, 2013). Due to the EFL teaching context in Thailand, there are very limited chances for students to be exposed to the target language; therefore, the students need to be aware of such aspects and be introduced to appropriate productive vocabulary knowledge, which will result in the collocational competence of the learners. Otherwise, they are unlikely to achieve fluency and progress toward native-like proficiency in the interlanguage process.

The Lexical Approach

Lewis' (1993) Observe-Hypothesis-Experiment (OHE)

Lexical Approach. Lewis (1993) introduced a lexical approach, a way of teaching language, and pointed out the importance of collocation teaching, which is the heart of vocabulary acquisition and probably

the most crucial language learning process. In his later work, Lewis (1997) also reaffirmed that the key to fluency in language production is to utilize the essential elements in the language which is occupying vocabulary as multi-word prefabricated chunks, i.e. collocations. He proposed the lexical approach, suggesting the OHE paradigm where the focus is on learning language through conscious awareness by using extensive comprehensible input together with practicing using language items. These stages of the lexical approach are first the observe stage; this stage employs the inductive approach in which a high volume of language input is presented along with guidance from the teacher where learners have to draw conclusions about the language patterns from the language data. Regarding the hypothesis stage, the learners are required to form the rules that regulate the observed linguistic features. In the last stage, learners are asked to experiment with the hypothesized rules through communicative activities. However, if any limitations regarding their hypothesis occur, the learners need to adapt their existing knowledge. All in all, based on Lewis' lexical approach, the appropriate way of vocabulary acquisition is the learners' memorization of words in fixed and semi-fixed prefabricated items through the communication of meaning.

Presentation-Practice-Production (PPP) Approach. The traditional notion of the PPP approach as pointed out by Gollin (1998) can be considered as a rule-driven approach; some theories place the PPP approach in a deductive and grammar translation category. Gabrielatos (1994) explained the typical PPP teaching method in terms of the three following stages. The first stage is the presentation stage; the language points are explicitly proposed to the students followed by a focus on form and meaning. Next, the practice stage is the one where the students are required to extensively practice the form-focus activities in order to work with the learned language; the practice activities can begin with more controlled practice and move to freer

practice so that the students are precise in their use of the forms and later store the language knowledge in their minds. The final stage is the production stage; this stage allows students to focus on meaning and to be exposed to the newly learned language items in a freer practice, such as role-play or written assignment activities in order to contextualize the language item, and the students can memorize the newly learned vocabulary better. To emphasize, the PPP approach allows the students to consciously become involved in the learning process where all three PPP stages provide them with an understanding of forms to meaning through applying knowledge to practice and language production. Moreover, another view of the PPP suggested by Ellis (1992) is that the PPP can employ either a deductive or an inductive approach during the presentation stage where the learners might receive an explicit explanation of rules but also link those rules to numerous examples.

More recently, it has been seen that the PPP and OHE approaches can work in tandem. The presentation process can possibly adopt the observation technique in which explicit explanations are used together with analyzing examples, where the students will receive a degree of guidance in working out the rules (Gollin, 1998).

Research Questions

1. What are the lexical collocation errors found in Thai EFL learners' writing?
2. What are sources of collocation errors produced by Thai EFL learners?
3. To what extent do collocation lessons have an effect on improving Thai EFL learners' recognition of collocation?

Research Methodology

Participants

The participants of the study were 36 Thai freshmen majoring in English. The researchers used the convenience sampling technique to recruit the participants from the freshmen students studying a basic writing course with the researchers. When the group passed to the second year of their studies, the researchers were assigned to teach them again in the Composition I course. Additionally, all first-year students at the university have to take the SWU-SET (the standardized English test), which is aligned with the CEFR level. Accordingly, the overall English proficiency of the participants was relatively at the same level, which was B1.

Instruments

A corpus analysis software, AntConc version 3.4.4 (Anthony, 2016), was used to facilitate the identification of collocation problems.

In terms of the evaluation tools in facilitating the evaluation of the collocation problems, the Leeds Collections of Internet Corpora (LCIC), the British National Corpus (BNC), and the Oxford Collocations Dictionary (OCD) were employed to evaluate the collocations.

A collocation pre-test and post-test were employed to measure the students' ability to recognize lexical collocations in order to determine whether the students had made progress during the lessons due to the treatment. The test consisted of 30 items of the choose-the-right-answer question type, with 10 items corresponding to each of the three collocation types (*verb-noun*, *adjective-noun*, and *noun-noun*), which corresponded to the needs of the learners. The test construction

was adopted from Abdellah (2015) and was modified to match the research context, which had a high alpha coefficient rate of .885.

The collocation lessons were designed to develop the students' skill in recognizing and using collocations following the guidance of the PPP paradigm (Gollin, 1998) and the OHE paradigm (Lewis, 1993). An integration of the two approaches give more benefits to the learners because each approach has its own advantage. The lessons included three main stages: (i) Presentation and Observe (P&O); (ii) Practice and Hypothesis (P&H) to have the students practice using collocations for different purposes; and (iii) Production and Experiment (P&E) in order to activate the input that the learners had learned through meaningful tasks, which advanced from controlled to freer communicative tasks, and to offer the learners an opportunity to reflect on what they had studied. The details are further explained in Figure 1.

Figure 1*Collocation Lessons Adapted Using the PPP Paradigm (Gollin, 1998) and the OHE Paradigm (Lewis, 1993)*

Presentation and Observe Stage (P&O)	
(i) Introduction to collocations (P)	<ul style="list-style-type: none"> -T introduced 3 types of collocations (see the results section) because they were problematic for the participants, and the <i>adjective-noun</i> type was the most frequent in language production. -T explained the importance of collocations in the writing production.
(ii) Identifying and de-contextualizing collocations in the student's writing (O)	<ul style="list-style-type: none"> -T analyzed the students' piece of writing with the whole class. -T raised students' awareness of the importance of the correct collocation usage. - T gave examples of the crucial roles of collocations in language production.
(iii) Graded collocation lists	<ul style="list-style-type: none"> - Ss received a graded collocation list (crimes, languages, subjects of study, business, illnesses, meetings) as a reference when the students worked on their own to emphasize the importance of comprehensible input and this was presented in non-linear recording formats.
Practice and Hypothesis (P&H)	
(iv) Control practice activities (P)	<ul style="list-style-type: none"> - Ss practiced recognizing and using collocations through controlled and less-controlled activities focusing on forms and meaning, e.g. gap-fill, matching, and choosing-the-right-answer exercises corresponding to topics that the students were likely to experience in an argumentative essay.
(v) Exploring and analyzing collocations(H)	<ul style="list-style-type: none"> - Ss categorized the types of language items through an argumentative essay, identified the collocations, and analyzed their types to expose students to the nature of collocations in real discourse and to have them create hypotheses on the use of language in focus.
Production and Experiment (P&E)	
(vi) Corpus work (P)	<ul style="list-style-type: none"> - Ss paired a given word with its collocation counterpart and created a sentence with the help of the corpora software results. - Ss produced collocations at a sentence level to familiarize the students with the collocations in a freer activity.
(vii) Post-writing assignment (E)	<ul style="list-style-type: none"> - Ss wrote an argumentative essay on the given topic to expose the students to extensive writing and to write in a real communicative context because this reinforces the language acquisition process.

T means teacher, *Ss* means students

Corpus Design and Analysis

The researchers collected the corpora from 262 pieces of writing from the in-class writing assignments of the 36 participants. The writings were 252 individual assignments with 10 group assignments. The topics of the writing were *someone who made a difference, a memorable experience in my life, my favorite hobby, shopping habits, how to be a successful students, social issues, and school system*. In terms of the writing assignments, the participants were allowed to write freely without a time frame and were to hand in their work the following week. As for the size of the corpora, it was composed of 40,864 running words.

After collecting 262 pieces of paragraph writing as the database in order to evaluate the collocation errors and identify certain areas of need, the researchers converted the Word files into the text file format. Then AntConc version 3.4.4 (Anthony, 2016) was used to generate a wordlist corpus. Next, only the content words were selected and grouped by their word families because the present study focuses only on lexical collocations. The researchers ordered the top-five high-frequency content word families in order to further analyze the collocation errors.

The researchers classified content word families into six lexical collocation types relying on LCIC, BNC, and OCD. After the evaluation, the researchers selected meaningful lexical collocations manually to judge whether the lexical collocations were acceptable. Then the collocation error types most made by the learners were identified, and the errors found were then analyzed in order to determine the sources of the collocation errors according to the interlingual and intralingual errors suggested by Gass and Selinker (2008). Lastly, the lexical collocation problems found were further calculated using descriptive statistics (frequency and percentage). After evaluating the students' paragraph writing, the error types found were included in the collocation lessons.

Experiment

Pre-test. A pre-test was administered to support the results from the corpus analysis. Before taking the pre-test, the researchers explained all of the important steps of the test, including the instructions, the score, and the time allocated. Moreover, the participants were strictly told that they were not permitted to copy their friends' answers or accept any help. The test was held during the 12th week of the course.

Collocation Lessons. The collocation lessons included seven steps divided into two class times, and each lesson took three hours. Steps one to four were implemented during the first week, while the rest were implemented the following week. In addition, the participants were asked to do follow-up homework to practice the collocations used in the essay writing assignment (the final essay), which was considered the production and experiment stage, which required the usage of the newly-learned language items in a real context. The essay was given 20 marks so that the participants felt committed to writing them. The essay was required to be handed in the following week.

Post-test. The post-test was administered to the participants during the final week (the 16th week) because the researchers attempted to prevent the participants from forgetting the lessons, which can be a threat to the validity of the results. Furthermore, the researchers intended to measure the participants' actual abilities in using the collocations, so the participants were not informed in advance that there would be a post-test. The researchers explained to the participants that the post-test was implemented to measure whether the lessons on the collocations provided to the participants were effective. All of the important steps for test taking were explained to the participants. They were strictly told not copy their friends' answers or to accept their friends' offers of help.

Scope of the Collocation Lesson

Due to the convenience sampling stated above, the experimental method of the present research employed a one-group, pre-test post-test design where there was no comparison between the results of the control and the experimental group. Even though the lack of a control group affected the generalizability of the results, and the ability to reduce the effects of some confounding variable was limited, the students were not aware in advance that there would be a post-test with the same instrument at the end of the lessons. The choice could reduce the likelihood that their performance would be affected by variables other than the collocation lessons. As a consequence, the researchers could claim that the results might have been influenced by the treatment lessons to a certain degree.

Data Analysis

The data were analyzed using the following methods, as explained in Table 2.

Table 2

Summary of the Data Analysis

Research Questions	Research Tools	Data Analysis
RQ1: Lexical collocation errors in Thai EFL learners' writing	Corpus Analysis	AntConc Version 3.4.4 (Anthony, 2016) LCIC, BNC, and OCD
RQ2: Sources of collocation errors produced by Thai EFL learners	Corpus Analysis	Gass and Selinker (2008)'s interlingual and intralingual errors
RQ3: Improvement of Thai EFL learners' collocation recognition	Pre-test and post-test	Descriptive statistics (frequencies, means, and standard deviations) Inferential statistics (Dependent samples t-test)

In order to analyze the lexical collocation errors, the researchers made use of three collocation data sources: namely, LCIC, BNC, and OCD. After deviant collocations were found, each type of error was examined and discussed based on Gass and Selinker's (2008) interlingual and intralingual theory, which the participants seemed to apply. Moreover, in order to measure the performance improvement in the Thai EFL learners' ability to recognize collocations, the pre- and post-test scores were calculated using descriptive statistics, including frequency, means, and standard deviations. Finally, an inferential statistic, the dependent samples t-test, determined if the gained score was significantly different due to the collocation lesson.

Results

In order to answer research question one, the results of this study reported the problems in using the lexical collocations found in the students' writing as follows:

The top-five content word families found in the students' writing were all nouns, as shown in Table 3, such as the word *school* (25.80%), *student* (24.44%), *people* (18.52%), *time* (15.80%), and *shopping* (15.43%).

Table 3

Top-five Content Word Families Found in the Students' Paragraph Writing

Content Word Families	Frequency (words)	Percentage (%)
school	418	25.80
student	396	24.44
people	300	18.52
time	256	15.80
shopping	250	15.43
Total	1,620	~99.99

When the content word families were analyzed in order to find their collocations, it was found that there were four sub-types of lexical collocations: *Adjective + Noun*, *Verb + Noun*, *Noun + Noun*, and *Noun + Verb*. Examples of the collocations are presented in Table 4.

Table 4

Examples of Lexical Collocations for Each Content Word Family

Content word families	Examples of collocation	
school	<i>international school</i>	<i>school gate</i>
	<i>left school</i>	<i>school uniform</i>
student	<i>successful student</i>	<i>student support</i>
	<i>school student</i>	<i>stimulate student</i>
people	<i>poor people</i>	
	<i>help people</i>	
time	<i>free time</i>	<i>time files</i>
	<i>spend time</i>	<i>time schedule</i>
shopping	<i>love shopping</i>	
	<i>online shopping</i>	
	<i>shopping hours</i>	

However, according to four sub-types of the collocations, it was found that three collocation error types made by the Thai EFL learners were *verb + noun*, *adjective + noun*, and *noun + noun*. Moreover, the most problematic lexical collocation features in the participants' writing were *verb + noun*. Examples are shown in Table 5.

Table 5

Examples of the Mis-collocation of the Verb + Noun Collocations

Mis-collocation	Appropriated collocation
separate student	to divide student
service people	to serve people
secure people	to prevent people from

Table 6 illustrates the differences between the pre-test and post-test scores; mean and standard deviation of the pretest were 15.33 and 3.321, respectively. While in the post-test, the mean and standard deviation were 17.97 and 3.342, respectively. The results show that the students received higher scores on the post-test, where the maximum score was 29, and the minimum score was 12.

Table 6

A Comparison of the Means and Standard Deviations for the Pre-test and Post-test Scores (N=36)

Descriptive Statistics

Total score	Total	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	30	36	10	26	15.33	3.321
Post-test	30	36	12	29	17.97	3.342
Valid N	30	36				

Table 7 illustrates the differences between the pre-test and post-test scores for the *adjective + noun*, *verb + noun*, *noun + noun* collocations. The means and standard deviations for the pre-test were 5.61 and 1.420, 4.97 and 1.612, and 4.75 and 1.628, respectively, while in the post-test, the means and standard deviations were 6.11 and 1.489, 5.86 and 1.624, and 6.00 and 2.042, respectively. The results indicated that the students received higher scores on the post-test for all three collocation sub-types.

Table 7

A Comparison of the Pre-test and Post-test Means and Standard Deviations of Three Collocation Sub-types

Paired Samples Statistics

		Total	Mean	N	Std. Deviation	Std. Error Mean
adjective + noun	Pre-test	10	5.61	36	1.420	.237
	Post-test	10	6.11	36	1.489	.248
verb + noun	Pre-test	10	4.97	36	1.612	.269
	Post-test	10	5.86	36	1.624	.271
noun + noun	Pre-test	10	4.75	36	1.628	.271
	Post-test	10	6.00	36	2.042	.340

According to Table 8, the Dependent-samples t-Test showed there was a statistically significant difference between the pre-test and the post-test scores, where *Sig. (2 tailed)* = .000, which was lower than .05. It can be interpreted that after the students received a series of collocation teaching lessons, overall the students' post-test scores were significantly higher than their pre-test scores.

Table 8*Dependent-samples t-Test Results of Pre-test and Post-test scores*

Paired Samples t-Test

	Paired Differences						t	df	Sig. (2-tailed)			
	Mean	Std. Deviation	Std. Error Mean	95% Confidence								
				Interval of the Difference								
				Lower	Upper							
Pre-test Total score - Post-test	-2.639	3.432	.572	-3.800	-1.478	-4.613	35	.000				
Total score												

(p ≤ .05)

Table 9 shows the result of the Dependent-samples t-Test for the three collocation sub-types. For the *noun + noun* sub-type, there was a statistically significant difference between the pre-test and the post-test scores, *Sig. (2 tailed)* = .001, which was lower than .05. While for the *verb + noun* sub-type, there was a statistically significant difference between the pre-test and the post-test scores, *Sig. (2 tailed)* = .005, which was lower than .05. However, there was not a significant difference in the scores for *adjective + noun* sub-type, *Sig. (2 tailed)* = .098, which was higher than .05. The results from the three collocation sub-types suggest that the students benefited from the collocation lessons.

Table 9*Dependent-samples t-Test Scores of Three Collocation Sub-types*

Paired Samples t-Test

	Paired Differences							Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df		
				Lower	Upper				
Pre-test and Post-test of adjective + noun	-.500	1.765	.294	-1.097	.097	-1.700	35	.098	
Pre-test and Post-test of verb + noun	-.889	1.769	.295	-1.488	-.290	-3.015	35	.005	
Pre-test and the Post-test of noun + noun	-1.250	2.170	.362	-1.984	-.516	-3.457	35	.001	

(p ≤ .05)

Discussion

The present study investigated the problems of Thai EFL learners in using lexical collocations in their writing and found that the collocation errors that the students made the most were *verb + noun* collocations. Furthermore, the collocation lessons were able to improve the learners' recognition of collocations. The following discusses the findings according to the three research questions.

In order to answer research question one, the results from the present study were seen to correspond with the findings of other studies on collocation usage (Laufer & Waldman, 2011; Nesselhauf, 2005; Wang, & Shaw, 2008); that is, L2 learners produce deviant collocation errors even among advanced learners (Laufer & Waldman, 2011). It is worth mentioning that due to the rather small-size corpus, when the corpus was analyzed in its entirety, the results revealed a number of lexical collocation errors that were quite limited. It is worth considering

the reason why the results from the present study reported a relatively low number of collocation errors. Aside from the small-size corpus, another plausible explanation is that the learners were likely to have applied an avoidance strategy. Other studies have supported this theory—that learners seemed to avoid using collocations or consider not using them at all. The findings, therefore, were in line with the other research (Higuchi, 1999; Phoocharoensil, 2011; Sanguannam, 2016); that is, learners do not take risks using collocations in order to avoid producing collocation errors.

In order to answer research question two, the researchers were able to examine these error types for possible sources. The findings; thus, support the work of Yumanee and Phoocharoensil (2013), where the Thai EFL learners produced collocation errors because they were under the influence of direct translation from their L1 Thai and the application of a synonymy strategy, resulting in inappropriate selections of proper lexical collocations, which is discussed as follows.

Interlingual

In terms of further investigation regarding the sources of the collocation errors, the findings from the present study revealed that the errors produced by the Thai EFL learners were caused by direct translation from L1 to L2, resulting in incorrect usage of collocation pairs. With regard to the *verb + noun* collocation in (1), the participants produced the error **service people* in place of choosing *serve people*. Seemingly, the error was influenced by the L1 transfer caused by the learners' literal translation from their L1 pattern to the target language: /bor-ri-gaan/ 'service' + /bprà-chaa chon/ 'people'

*(1) “He was improve the police office such as toilet and office because he wanted to **service people** when they came.”

- Thai collocation: /bor-ri-gaan/ ‘service’ + /bprà-chaa chon/ ‘people’
- Thai equivalent: ***service people**
- Target English collocation: **serve people**

Likewise, regarding the *verb + noun* collocation in (2), the participants selected **secure** to combine with **people**, resulting in an incorrect collocation. Presumably, the participants literally transferred the structure of the Thai collocation /tam hâi bplòt pai / ‘secure’ + /bprà-chaa chon/ ‘people’ into ***secure people**, rather than the target collocation *protect people (from)* in English.

*(2) “Thus, all of these will reduce the side effect of the drugs and **secure people** from the deadly diseases.”

- Thai collocation: /tam hâi bplòt pai / ‘secure’ + /bprà-chaa chon/ ‘people’
- Thai equivalent: ***secure people**
- Target English collocation: **protect people (from)**

With reference to the above-mentioned examples, the findings support previous research that indicated that major sources of collocation errors are interlingual or cross-linguistic influence—errors caused by negative L1 transfer (Nesselhauf, 2005; Odlin, 1989; Sanguannam, 2016; Wang & Shaw, 2008; Yumanee & Phoocharoensil, 2013). Seemingly, the participants produced incorrect lexical collocations relying on direct translation from their L1, Thai. In the process of L2 collocations production, learners usually look for an L1 congruent collocation based on the knowledge of their mother tongue to produce the L2 collocation. Unfortunately, in reality, there rarely

is a one-to-one identical match between L1 and L2 collocation pairs; this is how collocation errors usually arise.

The Strategy of Synonymy

In addition to mother tongue language transfer, there was an indication of deviations of collocations caused by intralingual errors or the target language. Regarding the mis-collocation of *verb + noun*, as indicated in (3), the students made the error ***separate students** instead of **divide students**. This type of error seemed to be caused by the application of the *synonymy* strategy. That is, some of the participants might have been confused about the synonyms **separate**, **split**, and **divide**; thus, they interchangeably substituted those words for one another while being unaware that **divide students (into)** is the acceptable co-occurrence in English.

*(3) “Next, examine how they **separate** students into group.”

- Target English collocation: *divide students (into)*.

In order to answer research question three, the results from the students' pre-test and post-test scores showed that they made gains in their scores after receiving the collocation lessons, as indicated by the higher mean for the post-test scores for all collocation sub-types. Additionally, the inferential statistical (dependent samples t-test) results also reaffirmed the abovementioned points, as indicated in the overall students' post-test scores being significantly higher than their pre-test scores. However, it should be pointed out that the participants made the lowest gain in their scores with the *adjective + noun* sub-type (0.5), and the inferential statistical results for the *adjective + noun* were not significantly different; that is, the collocation lessons had the lowest effect on the *adjective + noun* sub-type. On the other hand, the participants benefited the most from the *noun + noun* sub-type, as indicated in the highest gained score (1.25). The statistics suggested

that the collocation lessons had an effect on the collocation testing scores of the students because they highly benefited from the collocation lessons after having gone through a series of collocation learning activities. These findings are in line with previous research (Brown, 1974; Fahim & Vaezi, 2011; Fan, 2005) on the effectiveness of explicit collocation instruction, such as a rule-driven instruction on enhancing students' awareness of collocations and accurate collocation usage. Moreover, the results of the present study on the integrated instruction of explicit collocation lessons with other approaches in order to aid students in recognizing and improving their use of collocations correspond with previous research.

Pedagogical Implications

Thai EFL learners, like other leaners in the same EFL setting, tend to share universal common problems when it comes to the second language acquisition of English, particularly regarding collocations. The results from identifying the lexical collocation problems of Thai EFL learners within their written assignments revealed the value of developing a suitable teaching approach to tackle the serious problems facing Thai EFL learners. Especially, in teaching writing, making use of lexical collocations can help create natural-sounding language, which will contribute to the overall quality of students' writing. Hence, this present study points out the importance of explicit collocation lessons, which have an effect on enhancing the knowledge of collocations and improving the correct recognition and appropriate usage of collocations. Moreover, since L1 and L2 language systems are incompatible, which is a major source of collocation errors that learners encounter, EFL teachers should illustrate that the significant differences between the two often result in negative transfer from the students' mother tongue, which will cause numerous erroneous collocations when producing the target language. In addition, EFL teachers should focus on non-congruent collocations, which is a major

discrepancy between two language systems, so as to prevent learners from producing deviant usage by creating exercises emphasizing only potential problems. Moreover, teachers should help learners to acquire not only single words in isolation but also chunks of language or prefabricated patterns, which might reduce the number of mistakes in using incorrect collocation pairs. Teachers should also raise learners' awareness of the importance of collocation usage in production skills, especially in writing.

Limitations

In the present study, owing to the use of an intact group and the convenience sampling method, the present research applied a one-group, pre-test post-test design. Consequently, the researchers cannot claim for certain that the students made progress due to the results of the treatment. However, the students realized that they had neither the post-test nor the same set of questions as the pre-test; therefore, the results were influenced by the treatment at some levels. Nonetheless, in conducting further research, a true experimental research design consisting of both control and experimental groups should be adopted. The results of a strong experimental design would increase the validity of the results accordingly.

Due to time constraints, the researchers could not analyze the collocation errors produced by the students in their post-writing assignments after the treatment. Essay evaluation would allow researchers to delve more deeply into the students' progression in using collocations in real language production tasks. Thus, this is one of the areas that was lacking in the present study.

This study was also limited by a small sample size due to the fact that the researchers drew the participants of the study from a pool of English major students who were assigned to study in the researchers' classes. The findings may hence limit credence to any claim of generalizability to other English language learning contexts.

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