

ENHANCING BUSINESS ENGLISH MAJOR STUDENTS' VOCABULARY KNOWLEDGE
THROUGH PROJECT-BASED LEARNING: A CASE STUDY OF THE 4TH YEAR
STUDENTS STUDYING ENGLISH FOR TOURISM

การเพิ่มพูนคำศัพท์ให้กับนักศึกษาภาษาอังกฤษธุรกิจโดยการเรียนรู้แบบใช้โครงงาน
เป็นฐาน : กรณีศึกษาของนักศึกษาชั้นปีที่ 4 วิชาภาษาอังกฤษเพื่อการท่องเที่ยว

Piyachat Nutalak^{*}

ปิยฉัตร นุตลักษณ์

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Abstract

This study aimed; to 1) investigate the effectiveness of project-based learning on students' level of vocabulary knowledge, and 2) find out the students' attitudes towards project-based learning. The participants included 16 fourth-year students enrolling in the academic year 2019 at the Faculty of Liberal Arts, Southeast Bangkok College. There were four males and twelve females, aged 21-22. A quantitative analysis of the participants' written essays, using Cobb's Lextutor Vocabulary Profiler, explored if there were any differences in the level of vocabulary knowledge between pre-project and post-project essays. The findings revealed that the students' level of vocabulary knowledge improved significantly and the students had positive attitudes towards project-based learning. The results showed that the participants significantly used less K1 words in their post-project essays which reflected their better level of vocabulary. In addition, the students showed their improvement of vocabulary knowledge by using more K1 families and K1 types in their post-project essays. Moreover, the students significantly used higher number of AWL words in their post-project essays. According to the results, it can be concluded that classroom activities such as searching information for creating an end product throughout project-based learning such as the exploration of data for creating

^{*} อาจารย์สาขาภาษาอังกฤษธุรกิจ คณะศิลปศาสตร์ วิทยาลัยเซาธ์อีสท์บางกอก

Instructor of Business English, Faculty of Liberal Arts, Southeast Bangkok College.

email : jippiy.nn@gmail.com

tourism advertisement, tourism itinerary, and tourism marketing helped students acquire more academic words.

Keywords : Project-Based learning, Vocabulary knowledge, Lextutor vocabulary profiler

บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อ 1) ศึกษาประสิทธิผลของการเรียนรู้แบบใช้โครงงานเป็นฐานที่มีต่อระดับความรู้ด้านคำศัพท์ของนักศึกษา และ 2) เพื่อศึกษาทัศนคติของนักศึกษาที่มีต่อการเรียนรู้แบบใช้โครงงานเป็นฐาน ผู้เข้าร่วมในการวิจัยครั้งนี้เป็นนักศึกษาวิชาเอกภาษาอังกฤษธุรกิจชั้นปีที่ 4 คณะศิลปศาสตร์ วิทยาลัยเซาธ์อีสท์บางกอก ปีการศึกษา 2562 จำนวน 16 คน นักศึกษาได้เขียนเรียงความเพื่อวัดความสามารถด้านการใช้คำศัพท์ภาษาอังกฤษในสัปดาห์แรก และสัปดาห์สุดท้ายของการทดลอง เครื่องมือที่ใช้ในการวัดว่า การเรียนรู้โดยใช้โครงงานเป็นฐานช่วยให้นักศึกษามีความสามารถด้านคำศัพท์ดีขึ้นหรือไม่คือ โปรแกรมวัดความสามารถด้านคำศัพท์ (Lextutor Vocabulary Profiler) ของ Cobb ผลการวิจัยพบว่า ระดับความรู้ด้านคำศัพท์ของนักศึกษาเพิ่มขึ้นอย่างมีนัยสำคัญ นอกจากนั้นยังพบว่ากลุ่มตัวอย่างมีทัศนคติที่ดีต่อการเรียนรู้แบบใช้โครงงานเป็นฐาน ผลการวิจัยพบว่า นักศึกษาใช้คำศัพท์พื้นฐาน (K1 words) น้อยลงในการเขียนเรียงความหลังการทดลองซึ่งสะท้อนให้เห็นถึงระดับคำศัพท์ที่ดีขึ้น นอกจากนี้ นักศึกษายังแสดงให้เห็นถึงการพัฒนาระดับความรู้ด้านคำศัพท์โดยใช้คำศัพท์ K1 families และ K1 types มากขึ้นในการเขียนเรียงความหลังการทดลอง และงานวิจัยนี้ยังพบว่า นักศึกษาใช้คำศัพท์วิชาการ (AWL) จำนวนมากขึ้นอย่างมากในการเขียนเรียงความหลังการทดลอง จากผลการวิจัยสรุปได้ว่าการเรียนรู้แบบใช้โครงงานเป็นฐานที่ให้นักศึกษาได้ทำกิจกรรมในชั้นเรียน เช่น การค้นหาข้อมูลเพื่อสร้างงานโฆษณาการท่องเที่ยว การจัดทำรายการการท่องเที่ยว รวมทั้งการนำเสนอเพื่อขายการท่องเที่ยว ช่วยให้นักศึกษาได้เรียนรู้คำศัพท์ทางวิชาการเพิ่มขึ้นอย่างมาก

คำสำคัญ : การเรียนรู้แบบใช้โครงงานเป็นฐาน ความรู้ด้านคำศัพท์ โปรแกรมการวัดความสามารถด้านคำศัพท์

Introduction

No one can deny that vocabulary is an important part of a language. In spite of knowing how a language works, one may not definitely be able to communicate in the language. In contrast, it is usually more possible to communicate

if a person knows particular vocabulary for each situation of communication in the language. Nation (2011) pointed that vocabulary was a pivotal part of a speaker's language capability because it presented input for other language skills such as speaking and writing. Without vocabulary, speakers of a language cannot express their thought and communicate effectively. Language educators and researchers consider vocabulary expertise as an important component of second language acquisition (Al-Darayseh, 2014; Cobb, 2007; Hulstijn & Laufer, 2001; Nation, 2011; Yang & Dai, 2011). Vocabulary knowledge not only helps a second language learner (SLL) to convey meaningful words, but also helps improve writing, listening and most importantly helps improve reading comprehension. As a result, the knowledge of vocabulary will improve effectiveness of the second language learning skills. As a teacher of English for some time, I notice that many Thai students cannot communicate in English appropriately although they have studied English for many years, due to one of the most common problems, namely their insufficient vocabulary. With these obstacles, it is difficult for students to further improve themselves in English competency. I also found that they were sometimes reluctant to speak English because the lack of some limited vocabulary in communication. Then, it is a challenge for an instructor to find ways to enable students to acquire vocabulary efficiently. Accordingly, I would like to create learning atmosphere which is friendly to my students, by arranging project-based learning for them in *English for Tourism* class. In PBL, the instructor acts as the motivator who draws the students' attention to their own activities and allows the students to learn on their own. The students' knowledge will eventually be gained from and increased according to their own practice. They can also learn through group work processes which then lead to their learning. In the end, the students will get sustainable knowledge as the learning outcome. Shafaei and Rahim (2015) confirmed that learners who were taught using the PBL approach had a significant improvement in their vocabulary recall and retention rate. Kimsesiz, Dolgunsöz, and Konca (2017) found that students who learned with PBL instruction could gain more EFL vocabulary than when they learned with the conventional methods.

In addition to the application of project-based learning, another effective component which could help improve instructional management in this context was

the content of tourism. Castañeda (2014) found that students remained motivated to learn English when addressing issues related to their context and they hold in their mind the vocabulary when they associate it with pedagogical activities in which they are actively involved.

Although there have been some studies about the effectiveness of project-based learning on learners' competency, there has been very little evidence to support acquiring vocabulary and using Powtoon to produce the end products. For this reason, this research aims to study whether PBL had effects on the students' level of vocabulary knowledge. The present study might also be beneficial for educators who are willing to attempt using Lextutor Vocabulary Profiler in their writing classes.

Research Methodology

The study aimed to answer the following research questions relating to enhancing students' ability in vocabulary through project-based learning.

RQ1: Does project-based learning have effects on the students' vocabulary?

RQ2: What are the students' attitudes towards project-based learning?

Participants

The participants in the research were 16 fourth-year students of 21-22 years old, who took Business English major and enrolling *English for Tourism* in the first semester of the 2019 Academic Year. To answer the first research question, the pre-project essays were collected in week 1, and the post project essays were collected in week 12. Each student was assigned to write an essay of 100-150 words by hand, on the topic of "My Dream Journey". The students were given the period of 30 minutes for these writing assignments. To investigate whether the project-based learning had effects on students' vocabulary, pre-project and post-project essays were analyzed using Lextutor Vocabulary Profiler. The data produced by Lextutor were printed in an Excel worksheet for quantitative comparison between pre-project and post-project essays. The data from the Excel worksheet were analyzed using Minitab to determine whether the essay results before the project and after the project reflected a significant difference in percentages. The value used to determine significance in this study is 5%. The statistics for K1, K2, academic word list (AWL),

Anglo-Saxon words, along with word families, word types and token per type ratios were used to specify the students' vocabulary knowledge. K1 Words are the first most frequent 1000 English words (West, 1953). K2 Words are the second most frequent 1000 English words (West, 1953). Academic Word List (AWL) is the group of words most frequently encountered in academic texts (Coxhead, 2000). Anglo-Saxon words are words pertaining to Old English which are essential because they are considered core literacy vocabulary (Algeo & Pyles, 2010). Word families include the stem and all the affixes that are semantically linked lemmas (Kennedy, 2003). Word types are all the words in a passage, except the repeated words (Kennedy, 2003). Token per type ratios are all the words found in a particular text divided by the types, which are the number of unrepeated words in the text (Nasser, 2015).

Teaching Methods

In the *English for Tourism* class, I encouraged my students who work in groups to set up a tour company, jointly arrange an itinerary for a package holiday, search information for airline booking and accommodation, arrange transportation by air, sea and on land, and do advertising campaign together. Then the students experienced pitching the seven day-package tour to their classmates. In addition, the students also had an opportunity to take a study visit in Japan. After the journey, they created a video to convey what they saw and were interested in, according to the particular perspective in each group. As part of their course requirements, students were expected to work on a 12-week project. The title of the project they were assigned to do was "Creating an Advertisement and Pitching a Seven-day Package Tour in Thailand". During the whole semester, participants worked in groups and selected the topics of their interest. The students created the advertisement for their package tour using Powtoon. In addition, they were asked to make a video clip presenting "Japan in my View" after a study visit in Japan. The students planned for their own activities to seek knowledge. Then, they summarized what they learned from doing activities and presented their final products as learning outcomes.

Questionnaire

To examine the students' attitudes towards project-based learning, a Five Likert Scale questionnaire was developed adapting from Nasser's (Nasser, 2015). The

rating from the questionnaire was calculated by using descriptive statistics to determine the Mean (M) and Standard Deviation (SD).

Results

Quantitative Results of the Study

To investigate whether project-based learning had effects on students' vocabulary, the data gained from the pre-and post-essays were analysed, Minitab was used for paired t-test, which calculated the difference between the two means for each of vocabulary profiler categories before and after the project

The first category that showed significant difference between the pre-project and post-project essays was the K1 total percentages. The results of this category are shown in Table 1 as followed.

Table1 Paired t-test for Pre K1 Total percentages and Post K1 Total percentages

	N	Mean	sd.
Pre-K1 Total %	16	82.51	6.29
Post- K1 Total %	16	72.35	8.23
Difference	16	10.17	4.96

T-Test of mean difference = 0 (vs \neq 0): T-Value = 8.20 P-Value = 0.000

The second category produced that showed significant difference between the pre-project and post-project essays is the K1 word families. The results of this category are shown in Table 2 below.

Table 2 Paired t-test for Pre K1 word families and Post K1 word families

	N	Mean	sd.
Pre-K1 word families	16	83.53	3.83
Post- K1 word families	16	86.22	4.24
Difference	16	-2.683	1.289

T-Test of mean difference = 0 (vs \neq 0): T-Value = -8.33 P-Value = 0.000

The third Lextutor VP category that showed significant difference between the pre-project and post-project essays is the K1 word types. The results of this category are shown in Table 3 below.

Table 3 Paired t-test for Pre K1 word types and Post K1 word types

	N	Mean	sd.
Pre-K1 word types	16	84.166	3.744
Post- K1 word types	16	86.617	3.844
Difference	16	-2.451	1.038

T-Test of mean difference = 0 (vs \neq 0): T-Value = -9.45 P-Value = 0.000

The fourth Lextutor VP category that showed significant difference between the pre-project and post-project essays is the K1+K2 total percentages. The results of this category are shown in Table 4 below.

Table 4 Paired t-test for Pre K1+K2 total percentages and Post K1+K2 total percentages

	N	Mean	sd.
Pre- K1+K2 total %	16	89.24	4.12
Post- K1+K2 total %	16	84.44	5.90
Difference	16	4.80	5.08

T-Test of mean difference = 0 (vs \neq 0): T-Value = 3.78 P-Value = 0.002

The fifth category that showed significant difference between the pre-project and post-project essays is the AWL word families. The results of this category are shown in Table 5 below.

Table 5 Paired t-test for Pre- AWL word families and Post- AWL word families

	N	Mean	sd.
Pre- AWL word families	16	5.750	1.844
Post- AWL word families	16	3.562	1.750
Difference	16	2.188	0.655

T-Test of mean difference = 0 (vs \neq 0): T-Value = 13.36 P-Value = 0.000

The sixth Lextutor VP category that showed significant difference between the pre-project and post-project essays is the AWL word types. The results of this category are shown in Table 6 below.

Table 6 Paired t-test for Pre- AWL word types and Post- AWL word types

	N	Mean	sd.
Pre- AWL word types	16	4.313	1.195
Post- AWL word types	16	2.313	1.014
Difference	16	2.000	0.516

T-Test of mean difference = 0 (vs \neq 0): T-Value = 15.49 P-Value = 0.000

The seventh category that showed significant difference between the pre-project and post-project essays is the token per type ratio. The results of this category are shown in Table 7 below.

Table 7 Paired t-test for Pre- token per type ratio and Post- token per type ratio

	N	Mean	sd.
Pre- token per type ratio	16	1.959	0.271
Post- token per type ratio	16	1.710	0.223
Difference	16	0.249	0.189

T-Test of mean difference = 0 (vs \neq 0): T-Value = 5.27 P-Value = 0.000

The eighth Lextutor VP category that showed significant difference between the pre-project and post-project essays is the number of words in text. The results of this category are shown in Table 8 below.

Table 8 Paired t-test for Pre- words in text and Post- words in text

	N	Mean	sd.
Pre- words in text	16	124.50	9.17
Post- words in text	16	142.62	6.59
Difference	16	-18.12	8.31

T-Test of mean difference = 0 (vs \neq 0): T-Value = -2.18 P-Value = 0.045

The Students' Attitudes towards Project-Based Learning

To investigate participants' attitudes towards PBL, the questionnaire with the Likert's five-scale questions was distributed. A mean score derived from their perceptions was interpreted by the following range: Very high = 4.50-5.00, High = 3.50-4.49, Moderate = 2.50-3.49, Low = 1.50-2.49, Very low = 1.00-1.49. The results

showed the mean scores of different issues of perceptions toward the learning strategy with the project-based learning, as presented in Table 9.

Table 9 The Mean, and the Level of Students' Attitudes towards the Project

No.	Items	Level of Attitudes	
		\bar{x}	Level
1	I was satisfied with the project.	4.07	High
2	I enjoyed using Powtoon for this project.	4.14	High
3	I enjoyed working in group during the project.	3.95	High
4	The project was a good use of class time.	4.35	High
5	I stayed motivated throughout the project.	3.78	High
6	Searching for information on the Internet helped me learn new vocabulary.	4.35	High
7	I had opportunity to think and solve problems by myself.	4.14	High
8	The project encouraged me to take responsibility.	4.20	High
9	Group discussion helped me improve my English communication.	4.00	High
10	Working on the project enhanced my interest in the course.	3.82	High
Total		4.08	High

Items 1, 2, 3, and 4 in the survey checked the participants' satisfaction of doing the project. The result revealed that the students perceived the project at high level, at the average values of 4.07, 4.14, 3.95 and 4.35, respectively. Items 6 and 9 investigated students' attitudes toward their improvement in English. The participants believed that the project helped them improve their English at high level, at the average values of 4.35 and 4.00, respectively. Items 5 and 10 checked the students' motivation which was considered to be at a high level, at the average values of 3.78 and 3.82, respectively. Items 7 and 8 were designed to elicit students' perceptions in terms of soft skills. The results from these items showed that students agreed that the project encouraged them to take responsibility and develop their problem solving skills.

As the result in Table 9, the total mean score of students' attitudes towards the project-based learning, as gained from this study, was 4.08. It revealed that the students had positive attitudes towards the project at high level.

Discussion

The Improvement in the Students' Level of Vocabulary Knowledge

To answer the research question, the discussion is presented as follows. The discussion begins with the first one thousand most common words (K1). The results indicated that the total percentage of K1 words was notably less in the post-project essays than in the pre-project essays. This finding reflected that the participants had a better level of vocabulary knowledge since it revealed the fact that students used more difficult words or other types of words instead of K1 words in their post essays. Moreover, the total percentage of K1+K2 in the pre-project essays was significantly higher than the total percentage of K1+K2 in the post-project essays. It appeared that the students replaced K1+K2 frequently used words with the higher level or less frequently used words in the post-project essays, which is a sign of improvement of the vocabulary level.

In terms of word families, more word families were used in the post-project essays than in the pre-project essays. These figures showed that the participants increased their level of vocabulary knowledge. This is because using different words belonging to the same family when writing or speaking was a sign of improvement in vocabulary use (Nasser, 2015).

For K1 word types, it was interesting to find that students used more K1 word types in their post-project essays than in the pre-project. This showed a sign of improvement in vocabulary knowledge. Repetition is the sign of weakness in lexical use (Nation, 2011). Generally, the beginners of a foreign language use the same words many times because these repeated words are what they can remember when writing. The fact that the participants using more word types in the post-project essays than in the pre-project essays indicated that they might receive new word categories and use the same words less often (Nasser, 2015).

The category that showed significant difference between the pre-project and the post-project essays was the AWL word families. The students used more AWL

word families in the pre essays than in the post. Also, the average percentage of AWL word types in the students' pre-project essays was markedly higher than in their post-project essays. However, the students' essays before the project significantly contained less AWL total percentages than in the post-project essays.

These findings showed that the students used more academic words in the post-project essays. However, the percentages of academic word types and word family usage were fewer in the post-project essays. Smaller percentages of the AWL word types and families indicated that the students had better skills to use AWL word families by adding affixes. Therefore, they created AWL in the same family, which led to a significantly higher total percentage of AWL words in the post-project essays than in the pre-project ones (Nasser, 2015). The significant increase in the number of AWL words in the post-project essays was a clear indication that the students had received more academic vocabulary which is a sign of improvement in their vocabulary usage. Nation (2011) stated that AWL words are used extensively by teachers at higher education and one of the strengths of AWL is its ability to be used in a wide variety of academic areas. Therefore, improving students' academic vocabulary has a huge impact on the ability to understand academic messages that are in high demand in different disciplines.

The study then discussed the results of the token per type ratio. The results indicated that the mean of token per type ratio in the pre-project essays was significantly higher than the mean in the post-project ones. Kunze (2009) claimed that the lower token per type ratio in the post-project essays indicated lower repetition levels and higher level of linguistic diversity. Moreover, the average number of words in text in the post-project essays was significantly higher than the average number of words in text in the pre-project essays. Together these two findings reflected the improvement of the students' level of vocabulary knowledge.

The Students' Attitudes towards Project-Based Learning

The following discussion was presented to investigate the students' attitudes towards the project. The findings from the students' attitudes questionnaire showed that the students had positive attitudes towards the project. The level of attitudes towards all items was high. Students preferred PBL because it helped them learn new vocabulary when searching for information on the Internet,

improve their English communication, have opportunity to think and solve problems by themselves, and encourage them to take responsibility. Moreover, the students enjoyed using Powtoon and working in group during the project. In addition, students accepted that the project was a good use of class time and enhance their interest in the course. They also stayed motivated throughout the project. All in all, students were happy with project-based learning.

Conclusion

The project described in this study aimed to make learning more realistic by giving participants the opportunity to commit to learning with real life skills and at the same time facilitate language development. The study revealed that the students' level of vocabulary knowledge improved significantly and the students had positive attitudes towards project-based learning. The results showed that the participants significantly used less K1 words in their post-project essays. On the contrary, the students showed their improvement of level of vocabulary knowledge by using more K1 families and K1 types in their post-project essays. Moreover, the students significantly used higher number of AWL words in their post-project essays. According to the results, it can be concluded that classroom activities such as searching information for creating an end product throughout project-based learning have helped students acquire more academic words.

Limitations of the Study

The first limitation of this study, there were only 16 participants. Since this is a small number, it is not possible to summarize the overview to other classrooms where the project is being used. Another limitation is the project duration. During the duration of 12 weeks, the students had only one hour per week in class for searching for information. As a result, some groups of students could not find sufficient data in some weeks. Other students thought one course for the project process was not enough for them, so they needed to have more opportunities to participate in the similar activities.

Recommendations for Further Studies

1. Teachers need to prepare interesting and meaningful activities to increase motivation level of students. Then, the motivation level of students should be investigated after learning.
2. Vocabulary knowledge can be improved through a variety of activities when using project-based learning, so there should be a study to compare their effectiveness.
3. Further studies on project-based learning can be done to improve students' soft skills needed in the 21st century.

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