

The impacts of blended corpus-based instruction on enhancing writing proficiency of Thai university students

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ABSTRACT

Collocational competence is gaining more attention in the field of second language acquisition as it indicates a higher level of target language proficiency. However, Thai university students have been reported as obtaining a low degree of collocational competence which affects productive second language writing (Boonyarattanasoonthorn et al., 2020). The current study aimed to examine the impacts of blended corpus-based instruction (BCBI) on enhancing Thai university students' writing proficiency and to examine the students' attitudes towards the implementation of BCBI. A mixed-methods one-group experimental study was conducted with 43 first-year English major students at an autonomous university in Thailand for 8 weeks. The data were gathered utilizing a pre-test, a post-test, an attitude questionnaire, and a semi-structured interview. The results revealed significant differences between the scores before and after the implementation of BCBI at 0.05. Despite there being no drastic change in their collocational competence, the students were highly positive towards the instruction, in particular the use of corpus-based data to assist their writing as well as the awareness of gaining collocational competence. To effectively integrate corpus-based instruction into a writing pedagogy, tasks should be manageable and achievable by the students.



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1. Introduction

Sentential writing is considered a prerequisite to other types of writing. Possessing strong mechanical and fundamental writing is advantageous to acquire more advanced levels of writing skills. In higher education, writing is manifested in a more academic fashion, and students are expected to demonstrate their ability to construct a variety of sentence structures, use a variety of word choices, and execute grammatical accuracy. However, a rudimentary writing skill negatively influences students' academic achievement accordingly.

In second language writing instruction, corpora have been widely integrated due to their ability to enhance vocabulary repertoire, sophisticated word choice, collocations, and awareness of writing errors (Yusu, 2014; Daskalovska, 2015; Mansour, 2017; Harb, 2018). This data-driven learning (DDL) regards students as language detectives who investigate the language resource and cultivate language learning individually while teachers provide guidance. DDL evokes inductive learning that allows students to identify input, generate patterns, and summarize their language learning (Phoocharoensil, 2012; Friginal & Hardy, 2014; Li, 2015). Hence, it shifts writing pedagogy from a teacher-centered approach to a learner-centered one. By utilizing corpora, students can rely on

sentence models when they perform their own writing (Ashouri, 2015; Li, 2015). Besides, effective writers need to acquire collocational competence to exhibit fluency in second language writing. They write more automatically and fluently as they recall words in chunks and are able to avoid unnatural combinations of words (Ördem & Paker, 2016; Dokchandra, 2018; Boers & Webb, 2018; Deissl-O'Meara & Tinkel, 2021). To this end, obtaining collocational ability is an important element to improve target language competence resulting in effective second language acquisition in Thai university students. Unfortunately, the teaching of collocations has been neglected in the Thai EFL contexts, and writing instruction has relied mainly on traditional writing materials and activities such as textbooks and a teacher's sentence models.

According to O'Keeffe et al. (2007), the language used in a textbook is frequently based on intuition. In addition, language models displayed in textbooks are often oversimplified (Khojasteh & Shokrpour, 2014), and thus are unrealistic for real-life communication. By contrast, a corpus is a systemic collection of authentic and naturally occurring language in different real-life communication settings. Numerous studies have remarked on the significance of using corpora (Cobb & Boulton, 2015; Boulton & Cobb, 2017) to inform material developers of second language teaching. In addition, a corpus is regularly updated and continually tracks ongoing changes in the English language whereas other types of language references such as printed dictionaries do not. Regarding mismatches in English language use, teachers may not be able to solely rely on textbooks and dictionaries. Rather they are obliged to develop and update instructional materials to teach effectively.

Chambers (2010) pointed out two ways of corpora application in a classroom: direct and indirect. The former involves situations where students have opportunities to directly access the selected corpus and make their own language learning discoveries. The latter entails students learning from the inputs that the teacher modifies or prepares in advance. To effectively implement corpus-based instruction, both applications should be adopted. Students' exposure to collocations should not be limited to the teacher-prepared materials. Students should be provided opportunities to discover more about language use resulting in the enhancement of inductive learning and self-discovery skills. Nonetheless, Yusu (2014) pointed out significant limitations in the direct application of the corpora with non-native students. For example, a search query may generate a huge number of entries that would require a great deal of time to analyze. Plus, some entries might be too difficult for students to comprehend if they possess lower levels of English proficiency. Therefore, to facilitate student learning, input modifications play significant roles. It is suggested that non-native students learn from modified input rather than from original pre-modified input (Ortega, 2009; Chambers, 2010; Gass & Mackey, 2015). Based on Krashen's Input Hypothesis, students learned better with comprehensible input which is slightly above their current proficiency level. When the students process the input for meaning, grammar learning naturally occurs. Hence, the essence of learning second language writing using corpus-based instruction is to customize the learning materials that correspond with students' proficiency to motivate them to learn.

Several existing studies have revealed the effective implementation of corpus-based activities in various EFL contexts (Yoon, 2008; Vyatkina, 2016; Harb, 2018; Du, et al., 2022), while corpus-based instruction to enhance the writing proficiency of Thai university students with regards to sentential writing and collocational competence has been underexplored. To elevate students' writing proficiency and prepare them for academic achievement, teachers should integrate corpus-based instruction into EFL writing pedagogy. The instruction shifts a student's role from language learners to language researchers who investigate language input and draw conclusions about the language. Hence, the present study has highlighted the impacts of blended corpus-based instruction on enhancing the writing proficiency of Thai university students as well as the impacts on students' attitudes towards the instruction. The study aimed to answer the following research questions:

Is there a significant difference between the research test scores before and after the implementation of blended corpus-based instruction?

What are the students' attitudes towards the implementation of blended corpus-based instruction?

This study contributes to an understanding of challenges in EFL writing and suggests a new method in teaching English writing. The suggested instruction could directly benefit EFL teachers who are new to designing and implementing corpus-based instruction in their teaching practices.

2. Method

This study was conducted after being granted approval by the Mae Fah Luang University Ethics Committee on Human Research (no. EC 20111-10). The study was designed based on a mixed-methods experimental design using one-group pre-test and post-test. The population of the study was first-year English majors in the School of Liberal Arts at the University of Phayao, Thailand. The sample group was an intact group of 43 first-year English majors who enrolled in the 'English Sentences' course in the second semester of the Academic Year 2021. The participants were homogeneous in terms of language proficiency and number of English courses taken in the previous semester. They voluntarily consented to take part in the study.

2.1 Research instruments

To assess students' writing proficiency, the pre-test and the post-test were utilized before and after the blended corpus-based instruction with respect to collocation knowledge and sentential writing. The tests consisted of 20 items and covered five writing aspects including verb tenses, subject-verb agreements, types of sentences, word choice, and collocations. The tests were designed on Google Forms in both multiple-choice format (17 items) and short written answers (3 items).

To investigate the students' attitudes towards the implementation of the BCBI, the attitude questionnaire was designed on Google Forms using a four-point Likert scale, and the scores descend from 4 (strongly agree), 3 (agree), 2 (disagree), and 1 (strongly disagree). Moreover, the semi-structured interview was conducted to obtain qualitative data on the students' perspectives towards the instruction. The interview form consisted of a set of seven open-ended questions. To avoid any bias imposed by the researcher, this study utilized a third person who was not involved in the instruction of the course to conduct the interviews. This interviewer was a Thai lecturer from the Department of English, School of Liberal Arts, University of Phayao with more than five years of English teaching.

2.2 Data collection procedures

The blended corpus-based instruction (henceforth, BCBI) was implemented with the sample group for eight weeks. This instruction consisted of 40% face-to-face teaching (three hours per week) and 60% online learning (five hours per week). Since the data of this study was collected during the COVID-19 pandemic, the face-to-face instruction occurred via Microsoft Teams.

At the beginning of the course, an orientation and a training session were conducted to familiarize students with the course, computer programs, and related learning materials. The teacher employed different tools to present the information; for example, PowerPoint presentations and real-time demonstrations. The students learned and completed assignments using their personal learning devices, such as mobile phones, computers, laptops, or tablets. Following the initial orientation, students took a 30-minute pre-test.

For the face-to-face instruction, this study maintained the use of an assigned writing textbook in the classroom, with the Corpus of Contemporary American English (COCA) selected as supplementary material. The COCA was intended to facilitate students' learning by avoiding confusion about word choice and spelling because the assigned textbook of the target writing course portrayed American English as one of the Standard English varieties. Another reason for utilizing the COCA was its user-friendliness, which enabled students to use it easily with adequate training. Thus, the first lesson of the course began with a demonstration of how to use the COCA to retrieve collocations and sample sentences from concordance lines. The students then completed different in-class writing tasks and acquired essential writing skills with the teacher's guidance. At this stage, the students initially learned using the teacher-modified corpus inputs before being required to access the corpus directly. Two techniques were used to make the corpus-based data more comprehensible for the students: input simplification and text enhancement. For example, the teacher simplified the input by cutting sample sentences from concordance lines and rearranging them so that the students could recognize the language patterns more easily. In addition, colored tags were used to enhance words with different lexical properties to help the students understand word forms and word choices.

During the online learning mode, the students primarily managed online writing exercises which were delivered through Google Sites. They reviewed the contents that they had acquired previously in the classroom and completed online individual writing tasks each week. The online activities

focused on enhancing the students' mastery of writing, so they resembled the in-class activities. These hands-on activities aimed to enhance the students' understanding of essential writing aspects, raise their awareness of using collocations, and stimulate active learning. After these individual writing exercises, the students were engaged in collaborative writing activities on Google Docs. In the final week of the course, students took the post-test to evaluate their proficiency after the mediated use of the instructional intervention. Lastly, the attitude questionnaire was administered on Google Forms, and the semi-structured interviews were conducted with 10 students who were randomly selected.

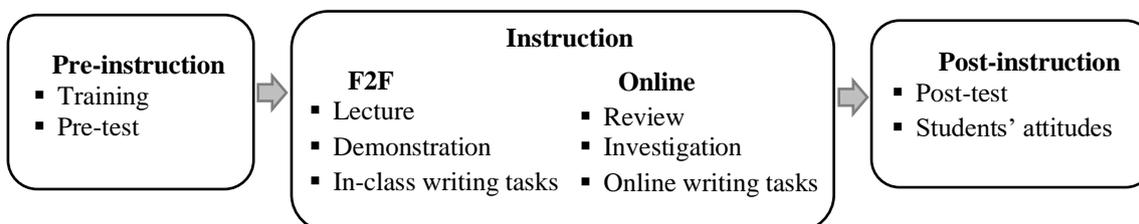


Fig. 1. Instructional procedures

2.3 Data Analysis

The scores of the pre- and post-tests were analyzed using mean, standard deviation, and paired t-test. The writing portion of the tests was examined by two raters who shared the same rubric covering the accuracy of sentence formations, tenses, word choices, and collocations. The scores were calculated for the inter-rater reliability using the intraclass correlation coefficient (ICC).

The data from the attitude questionnaire were analyzed using mean and standard deviation, and each range of the values was interpreted as follows: 3.76-4.00 (very positive), 2.76-3.75 (positive), 1.76-2.75 (negative), and 1.00-1.75 (very negative).

The interviews were analyzed for thematic analysis, and the percentage was calculated from the frequencies of the tokens based on the responses that the interviewees revealed.

3. Findings and Discussion

3.1 The impacts of BCBI on students' writing proficiency

The present study found that BCBI can significantly improve students' writing proficiency. As shown in Table 1, out of 20 scores, the mean score of the post-test ($\bar{X}=15.02$, S.D.=2.39) was greater than that of the pre-test ($\bar{X}=10.14$, S.D.=2.81). The difference between the two mean scores was statistically significant at <0.05 . Hence, the research findings answered the research question that 'there was a significant difference between writing proficiency scores before and after the implementation of BCBI'.

Table 1. Comparison between pre-test and post-test scores

Tests	N	\bar{X}	S.D.	T	Sig.
Pre-test	43	10.14	2.81	12.01	0.000*
Post-test	43	15.02	2.39		

^a. * $p < 0.05$

The tests contained 20 questions divided into two parts: 17 multiple-choice questions and 3 writing questions. Table 2 presents a comparison of the mean scores of the pre-test and post-test with regard to each writing aspect: verb tense, sentence structure, subject-verb agreement, word choices, and collocations.

It can be seen from Table 2 that the students' scores for each writing aspect improved after studying via BCBI intervention, except in the case of collocations. There were significant differences between the mean scores of the pre-test and post-test on verb tense ($t=6.479$, $p=0.000$), sentence structure ($t=10.928$, $p=0.000$), subject-verb agreement ($t=3.263$, $p=0.002$), word choice ($t=3.774$, $p=0.000$), and the total score ($t=12.97$, $p=0.000$). However, the difference between the means of the pre-test and post-test on collocations ($t=.819$, $p=0.418$) was not statistically significant at 0.05.

Table 2. Comparison between pre-test and post-test scores: multiple-choice section

Writing aspects	Tests	n	\bar{X}	S.D.	t	p
Verb tense (5)	Pre-test	43	2.55	1.07	6.479	0.000*
	Post-test		3.74	1.09		
Sentence structure (5)	Pre-test	43	2.20	1.20	10.928	0.000*
	Post-test		4.27	0.70		
Subject-verb agreement (2)	Pre-test	43	0.97	0.80	3.263	0.002*
	Post-test		1.44	0.58		
Word choices (3)	Pre-test	43	1.27	0.82	3.774	0.000*
	Post-test		1.93	0.79		
Collocations (2)	Pre-test	43	1.41	0.69	0.819	0.418
	Post-test		1.30	0.67		
Total (17)	Pre-test	43	8.40	2.32	12.97	0.000*
	Post-test		12.68	2.20		

b. *p < 0.05

For the writing section of the tests, the students were required to write a sentence to describe pictures. There were three questions, and the test items were examined by the two raters who shared the same rubric focusing on sentence accuracy regarding the five writing aspects. The average mean score of the pre-test was 1.71 (S.D.=0.99) and that of the post-test was 2.31 (S.D.=0.76). The inter-rater reliability was calculated, and the ICC result was 0.97 indicating excellent consistency between the two raters.

Although the sample group was considered homogeneous in terms of language proficiency, the findings from the test scores and the writing outputs could differentiate the students' levels of writing performance. In other words, active students outperformed their counterparts because they produced longer sentences with the greater variety of word choice and sentence structure. These students tried to use more compound sentences and added complex sentences to their writing. Moreover, they used more accurate verb tense and subject-verb agreement. On the contrary, those students who tended to rely on a simple sentence structure exhibited more errors in tense and collocations. However, the qualitative findings revealed that even the students with lower proficiency tended to demonstrate considerable improvements in their writing performance after receiving BCBI intervention. The findings lend support to Rana (2020) in the sense that active learners might outperform their peers in the inductive learning process that requires self-discovery.

3.2 Students' attitudes towards the implementation of BCBI

To investigate the students' attitudes towards the implementation of BCBI, the attitude questionnaire was administered at the end of the course via a Google Form link. The students were asked to rate their attitudes in two categories: attitudes towards BCBI overall and attitudes towards the BCBI instructional process. After that, the semi-structured interview was conducted to more deeply explore the students' attitudes in a descriptive manner.

Findings from the attitude questionnaire

Table 3 shows the results from the attitude questionnaire that indicated that the students had very positive attitudes towards the implementation of BCBI, with the overall mean score of \bar{X} =3.81 (S.D.=0.37). The results of the questionnaire are presented in the following section.

Table 3. Results of the students' attitude questionnaire

Items	I. Attitudes towards BCBI	\bar{X}	S.D.	Meaning
1-2	Writing improvement	3.87	0.33	Very positive
3-5	Self-regulation	3.77	0.42	Very positive
6-7	Blended learning	3.71	0.39	Positive
8-11	Content and design	3.83	0.39	Very positive
12-14	Technology-assisted learning programs	3.82	0.38	Very positive
		3.80	0.38	Very positive
Items	II. Attitudes towards the instructional process	\bar{X}	S.D.	Meaning
15-17	Scaffolding	3.83	0.30	Very positive
18-20	Collaborative writing	3.83	0.35	Very positive
		3.83	0.33	Very positive
	Overall	3.81	0.37	Very positive

Considering individual aspects of students' attitudes towards BCBI, it was found that the highest mean score was attributed to writing improvement ($\bar{X}=3.87$, S.D. 0.33). The contents and design of the BCBI intervention ($\bar{X}=3.83$, S.D. 0.39) received mean scores relatively similar to the use of technology-assisted learning programs ($\bar{X}=3.82$, S.D. 0.39), while self-regulation ($\bar{X}=3.71$, S.D. 0.42) scored slightly lower. The lowest mean score in this category was on blended learning ($\bar{X}=3.71$, S.D. 0.39). Regarding students' attitudes towards the instructional process, the mean score on scaffolding was $\bar{X}=3.83$ (S.D. 0.30), and collaborative writing scored $\bar{X}=3.83$ (S.D. 0.35) which indicated a highly positive perception.

Findings from the semi-structured interviews

The overall results of the semi-structured interviews showed that students had positive perceptions towards the instruction under the BCBI model. The results were reported in six themes that emerged from the interviews concerning the students' perceptions towards the BCBI course, blended learning, the use of BCBI, the BCBI evaluation, writing improvements, and factors influencing students' learning of English writing.

1) Perceptions towards the BCBI course

Most of the students considered this course to be appropriate to their proficiency levels. 70% of the students had a positive perception of the course, with reasons given below. Student responses have been edited for clarity of expression.

"There was a consistency between online and in-class tasks, so I only reviewed the lesson and worked on the activities. Sometimes, I went straight to the activities without reviewing the lesson." (Student 12)

"This course started with easy content and progressed to more difficult content. If I understood the first lesson, I could do other lessons too." (Student 20)

"I could relate what I had learned in class with online lessons. In the class, I focused on the content, took notes, and did some activities. For online learning, I reviewed the content very quickly, and worked on exercises and assignments." (Student 36)

By contrast, the remaining 30% of the students perceived that the course was difficult for them. They found certain topics challenging, specifically verb forms of the past simple tense, collocations, and complex sentences.

From the responses, students indicated four major benefits of the course: language learning, collaborative learning, self-regulation, and critical thinking.

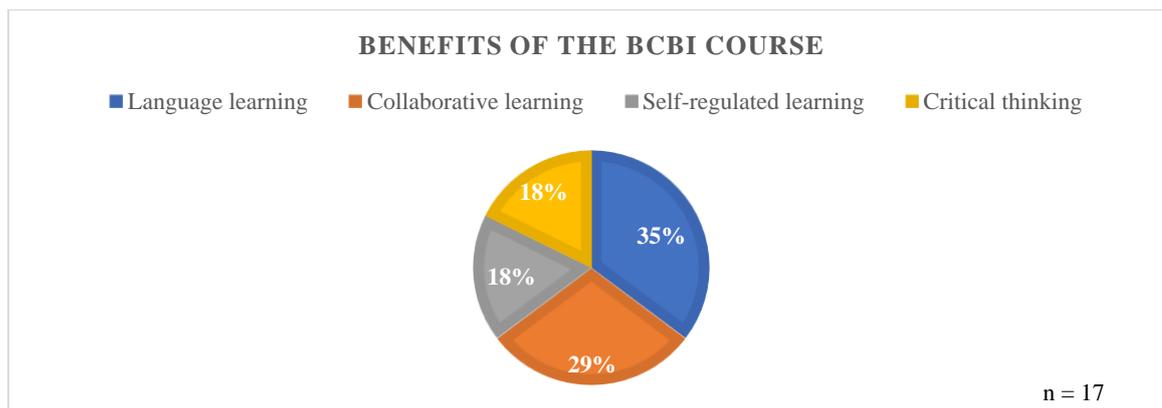


Fig. 2. Benefits of the BCBI course

From Fig. 2, the majority of the students (35%) benefited from learning different English language aspects including basic sentence structure, verb tense, collocations, and word choice. They also developed writing skills and lexical knowledge, although some of them might have been unable to evaluate their own writing objectively.

“I could develop longer sentences and use different words in my writing.” (Student 20)
“In my opinion, I knew more words to use in my writing. However, I was not sure if my writing was good or not.” (Student 39)

In terms of collaborative learning, 29% of the students revealed that they worked better in groups. They developed idea-generating skills and learned from more proficient peers. For example:

“We were assigned to work with a friend and write sentences to describe a picture of our choice. As we studied online, my friend and I decided that each of us choose one picture from the Internet and share the pictures on Google Docs. Then, we started to think about what to write about for each picture. After that, we chose pictures with more ideas, so we could write more sentences about them. On the document, we wrote separately using the ideas we generated previously and then we compared the sentences and edited them. At this time, I could learn from my friend’s sentences.” (Student 20)

Moreover, students employed strategies to achieve collaborative writing tasks on Google Docs such as using different text colors to distinguish their writing contributions. Additionally, they used the ‘spelling and grammar check’ service on Google Docs to help check and improve their writing.

“There were five of us working together, and we talked about the strategies that we could use to identify the sentences of each student. We decided to use different colors when we wrote our sentences, so we knew which students had already done the group writing.” (Student 20)

The students gave equal weight (18%) to both self-regulated learning and critical thinking skills being improved by BCBI. For example, Student 12, Student 38, and Student 41 mentioned that they managed their learning pace based on the number of activities and the deadline.

Regarding critical thinking skills, the students responded that using the corpus was difficult, so they needed to be more careful when they chose examples from the corpus:

“I had to be more careful when I chose examples from the corpus.” (Student 17)
“My friend and I talked a lot when we visited the COCA. There was a lot of information on the corpus when we searched for writing examples, so we had to be careful. However, we did not have problems searching for words such as adjectives and adverbs. We could select words with high frequencies to make collocations.” (Student 32)

These responses indicate that students became more coordinated when they worked with other students. Collaborative writing is perceived as an active and interactive learning tool among students that helps them develop academic literacy skills (Suwantarathip & Wichadee, 2014; Talib & Cheung, 2017). Nonetheless, this finding was inconsistent with Coffin’s work (2020) which revealed students’ complaints about unequal work contribution during collaborative writing tasks. Another key benefit of this activity was that the students gained support and help from more proficient students when they worked together. This result was compatible with Fong’s study (2012) showing that students with greater writing proficiency were able to assist their peers. Other studies (Widodo, 2013; Deveci, 2018) have argued that some students might either avoid working with others or rely too much on other students, so that they never improve. Furthermore, students with lower proficiency may be overpowered by more highly proficient students.

2) Perceptions towards blended learning

Overall, the students described positive perceptions of the implementation of blended learning. For example, Student 4 stated that online learning offered flexibility because she could work at her convenience. This was aligned with Chen’s study (2022), students considered blended learning effective in enhancing learner autonomy, learning responsibility, and learning independence.

However, it was found in this study that a few students preferred learning in a normal classroom to blended learning because of the learning environment and social engagement. As commented by Student 27, ‘learning in a normal classroom was livelier.’ In connection with the finding of the questionnaire, the students rated their perceptions towards blended learning with the lowest mean score (\bar{X} =3.71, S.D. 0.39). It might be inferred that blended learning was less appropriate for EFL

writing instruction in the context under study than that of face-to-face learning one. Vo et al., (2017) and Müller and Mildenerger's (2021) mentioned that in comparison to traditional classroom instruction, blended learning is neither consistently more nor less successful.

Besides, students expressed that they needed more engagement in discussion and answering questions, but some friends dominated the discussion sessions.

“Actually, I wanted to talk but I did not have a chance. There were 2-3 students who always answered the questions fast, but I needed more time to think.” (Student 4)

Taking this into consideration, the teacher facilitator should provide tasks that stimulate sharing and comparing ideas among group members as well as be sensitive to offering more engagement opportunities for every student.

3) Perceptions towards the use of BCBI

Fig. 3 shows the percentage of students' attitudes towards the use of BCBI. The data were coded for thematic analysis, with four themes regarding the students' positive impressions of instructional techniques and the teacher's personality, ease of use of Google Docs, ease of use of Google Sites, and consistency between face-to-face and online lessons.

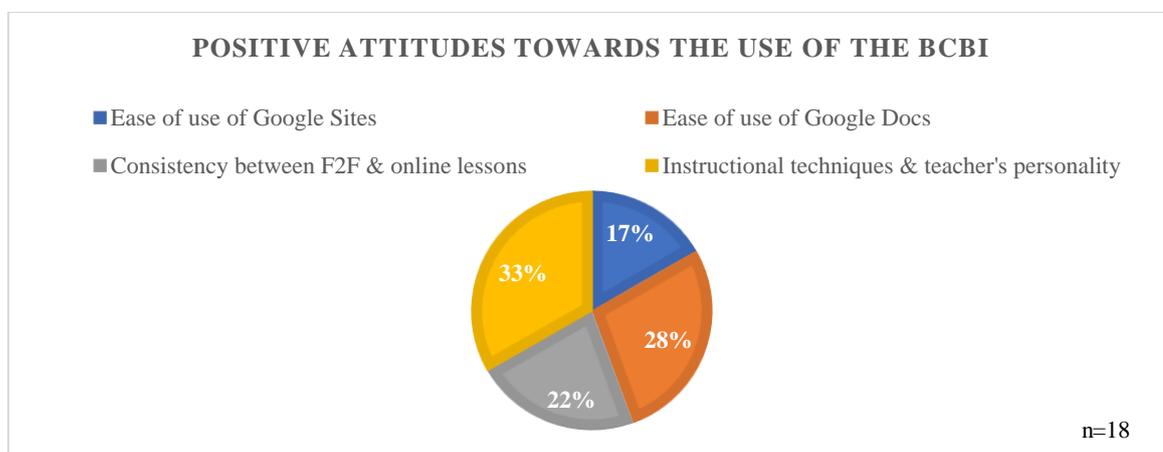


Fig. 3. Positive attitudes towards the use of BCBI

Overall, 33% percent indicated their impressions of the instructional techniques and the teacher's personality. These factors included using easy language and clear explanations, interesting and attractive visual aids, friendliness, creating an active learning atmosphere, and quick responses to problems.

28% indicated the ease of use of Google Docs because this program was user-friendly and convenient to use. This finding was in line with previous studies of Google Docs as a promising tool for dynamic, productive, and collaborative writing (Yang, 2010; Suwantarathip & Wichadee, 2014; Woodrich & Yan, 2017).

The consistency between face-to-face and online lessons was scored at 22%. Because the online lessons resembled what the students had learned in the class, students could quickly review before proceeding through the online activities and assignments. Some comments were as follows:

“I could write faster on Google Docs compared to the time I worked on writing exercises in the textbook. The program helped me notice errors such as spelling, use of articles, and punctuation.” (Student 27)

“I knew from the beginning of the course that the exercises in the classroom and the online exercises were similar. When I went to online lessons, I did not have to read the explanation about the content. I just did the exercises.” (Student 32)

The remaining 17% focused on the ease of use of Google Sites because the students could use their psychomotor skills, such as clicking buttons and links between interfaces, typing to complete exercises, and scrubbing videos to watch and rewatch specific information. As a result, students became more engaged when they interacted with the learning materials.

“I could click links from one page to others when I did exercises on Google Sites. Also, I could watch videos that were posted.” (Student 32)

“I typed the answers on the pages and sent them to the teacher. It was convenient because I did not have to write on paper.” (Student 39)

The findings investigated from this section were in line with the result from the attitude questionnaire that the students were very positive towards the use of the technology-assisted learning tools (\bar{X} =3.82, S.D. 0.39).

Some negative attitudes were also revealed in the interviews, as shown in Fig. 4.

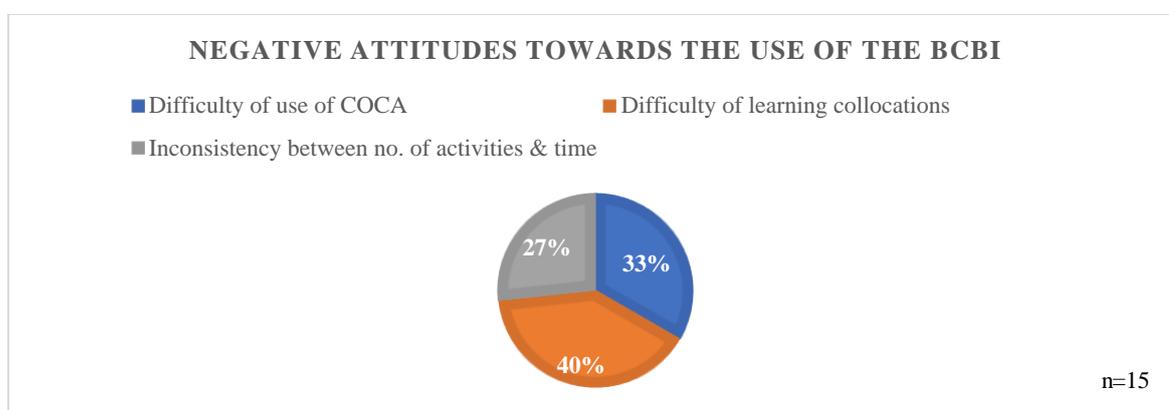


Fig. 4. Negative attitudes towards the use of BCBI

It can be seen that 40% of the negative impressions regarded the difficulty of learning collocations in the textbook. The students reported that they could not remember and use collocations correctly. The main reason they stated was that they were unsure if they made the correct combination of words. Several scholars have suggested that remembering words in chunks can speed up language acquisition (Ördem & Paker, 2016; Dokchandra, 2018; Boers & Webb, 2018; Deissl-O’Meara & Tinkel, 2021). However, Dervić and Bećirović (2020) argued that this is not always the case because of the quality of arbitrariness of language. Hence, it is recommended that Thai university students learn collocations in context rather than remember them in patterns.

“There were a lot of [collocations] in the textbook, but only some of them were selected for the tests. I could not remember all the collocations.” (Student 12)

“In my opinion, learning collocations was fundamental knowledge. If I understood the contents, I could write sentences more correctly. However, learning about collocations was very new for me and I did not remember them.” (Student 39)

These findings reinforce the suggestion that teachers use corpus-informed data such as frequency information to make decisions about students’ learning, as posited by Conrad (2000). A vast amount of vocabulary and collocations presented in the textbook might hinder students’ learning and language retention. Similarly, Lewis (2002) has pointed out that although a large number of diverse inputs is desirable and assists second language acquisition, not all inputs are equally useful to individual learners. As a result, the quantity of inputs might not necessarily be equal to the intake. It is also recommended that the teachers utilize corpus-informed data such as frequency information to determine salient language features, provide the appropriate amount of input, and avoid presenting too many unfamiliar and difficult words.

In this study, however, Students 4 and 27 appeared to acknowledge the significance of collocations. Moreover, Student 27 added that he/she was able to analyze the patterns of collocations if the teacher provided sample sentences.

“I learned a lot of collocations from the textbook and the online lessons. If I could use them correctly, my English would be better.” (Students 4)

“Collocations can help my writing look better, but I still think they are difficult to use. If the teacher provided me sample sentences, I could tell what adjective can go with a certain noun.” (Student 27)

Besides these two specific cases, 33% of students indicated that the corpus was relatively difficult for them especially because the amount of information presented in each search query was burdensome, and as a result, they were unsure of choosing the correct information to accomplish the writing tasks. Concerning the difficulty of using the corpus, students commented as follows:

“I thought using a corpus was very difficult. There was a lot of information, and I did not know what to choose.” (Student 4)

“The corpus was new, and I was not familiar with it. At the beginning, I did not know how to search, but I think I could do better now.” (Student 27)

Even though the results from the questionnaire showed that the students had positive attitudes towards the balance between the activities and the time allocation (\bar{X} = 3.72, S.D.= 0.50), and they could finish the assignments by the deadlines (\bar{X} = 3.81, S.D.= 0.45), some students suggested that the number of individual writings should be consistent with the time allocation so that they could meet the deadline more easily. This was calculated as 27% of the overall impressions.

“It would be good if I had fewer assignments to write. I did my own writing and I also did one more writing assignment with my friend. It was very hard for me.” (Student 4)

4) Perceptions towards the evaluation

Overall, the students were considerably satisfied with the evaluation. Even though they felt confused about the use of a peer-editing worksheet at the beginning, they improved after receiving the teacher’s guidance. Plus, the peer editing enabled the students to get comments from peers and helped them correct their own writing accordingly.

“I did not know how to evaluate friends’ writing at first, but I could do it later after looking at the examples from the teacher.” (Student 17)

“Peer-editing was suitable because we could read comments from friends and improve our writing. Sometimes, I did not know how to correct my own writing.” (Student 32)

It was found that students gained a higher ability to retain lexical information after they processed feedback collaboratively compared to working individually. Moreover, Srichanyachon’s study (2011) found that students expressed positive perceptions of peer feedback in terms of motivation, although they found their teacher’s comments more effective for language acquisition. On the contrary, Lund (2008) found that students felt reluctant to have others read their unfinished writing products. Plus, some of them experienced pressure to edit other students’ work because they were inexperienced in editing.

5) Perceptions towards writing improvements

After learning under the BCBI model, the students in this study perceived improvements in their writing proficiency in terms of fluency, lexical variety, and accuracy. They reported that they could write faster and better when they were able to generate more ideas.

“After learning how to write step-by-step, I could think faster and write faster.” (Student 4)

“I write and share more ideas with friends. We thought about the topic that we liked and wrote everything we knew first. After that, we chose only the ideas that were related to the topic. I thought we worked faster this way.” (Student 39)

Moreover, students used more variety of words to create better sentences. Student 38 added that a frequency information list generated on the corpus was beneficial. In terms of accuracy, the students studied sentence models retrieved from the corpus and imitated the models.

“When I search for a list of frequency information, I know which words are frequently used by indicating numbers of frequency and percentage. Therefore, I had more vocabulary to use in my writing.” (Student 38)

“I looked at examples in the corpus, and I could write similar sentences. My writing seemed better than it once was.” (Student 27)

It was revealed that the students utilized corpus-based consultation in various ways, for example, to find more word choices from the frequency list and to look at sample writing models. The studies of Ashouri (2015) and Li (2015) pointed out that students could benefit from studying the sentences presented on corpora. These findings were congruent with Yusu (2014) and Harb (2018) that EFL students were able to find accurate collocations and improve their writing performance in terms of writing scores and lexical accuracy. This was also in line with the quantitative result of the questionnaire that the students were very positive towards their writing improvement ($\bar{X}=3.87$, S.D. 0.33). Importantly, students gained perceptions about lexicogrammar and language awareness (Yoon, 2008; Mansour, 2017).

6) Factors influencing the learning of English writing

Significant factors influenced the students' learning: workload, degree of interest in the contents, and level of content difficulty. The students felt pressured and lost learning motivation if their assigned workload was too high, as shown in the following student comments:

“I lost motivation if I had a lot of work to do. If I was required to work for a limited period of time, I did not want to do it.” (Student 4)

“The teacher should give a fair amount of work, so students do not feel pressured.” (Student 39)

Additionally, some students remarked that interesting content and attractive presentation could liven up their learning interest and attention.

“Sometimes, I looked at the content in each unit before attending class. If the content was interesting, I felt more active in learning.” (Student 27)

“I liked to have a copy of the teacher's presentation before the lecture, so I could take notes along with her explanation.” (Student 14)

4. Conclusion

This study investigated the impacts of implementing BCBI on Thai university students' writing proficiency and examined the students' attitudes towards the instruction. The findings revealed that BCBI was highly effective in enhancing the writing proficiency of Thai university students as shown by the post-test scores. The students accumulated more sentential writing ability concerning verb tense, sentence structure, subject-verb agreement, and word choice. Despite there being no marked change in the students' collocational competence, the qualitative findings revealed students' positive perceptions towards learning via BCBI, and they acknowledged their writing improvements. All in all, learning is meaningful when tasks are manageable and achievable by the students.

The research findings of this study have added insights into writing instruction with the integration of corpus-based data and blended learning. However, there is room for further study in this area. Suggestions are given as follows:

1. The current study was limited to the use of corpus-based data to improve five writing areas, and the instruction was implemented for eight weeks. A further study may use a similar research design and focus on a longitudinal study which allows more investigation of students' progression and improvements over a longer period of time.

2. The current study was conducted with one homogeneous sample group. To further validate the effectiveness of BCBI, a quasi-experimental study should be conducted with control and experimental groups.

3. The post-test scores and the students' writing performance indicated that more highly proficient students outperformed those of lower proficiency. Hence, further studies might focus on implementing BCBI with students of lower proficiency to investigate both the effectiveness of the instruction and the ways that these students handle the corpus-based activities in their learning process.

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APPENDIX

Results of the Attitudes Questionnaire

Items	Attitude Statements	\bar{X}	S.D.	Meaning
I. Attitudes towards the BCBI				
1	BCBI helps me improve my writing skill.	3.84	0.37	Very positive
2	BCBI allows me to have more opportunities to practice my writing.	3.91	0.29	Very positive
Writing improvement		3.88	0.33	Very positive
3	BCBI encourages me to regulate my own learning.	3.65	0.48	Positive
4	I usually finish the assignments by the deadlines.	3.81	0.45	Very positive
5	Self-reflection activity helps me reflect my learning progress, benefits, and problems I have in each lesson.	3.86	0.35	Very positive
Self-regulation		3.77	0.43	Very positive
6	Overall, I enjoy learning English writing through the use of the BCBI.	3.77	0.43	Very positive
7	Online learning is convenient for me to practice writing.	3.65	0.35	Positive
Blended learning		3.71	0.39	Positive
8	The content of the process writing is appropriate for my English proficiency.	3.91	0.29	Very positive
9	The proportion of the content and activities are well-balanced between face-to-face instruction and online learning.	3.81	0.45	Very positive
10	The proportion between the activities and the time allocation is appropriate.	3.72	0.50	Positive
11	The design of the BCBI (e.g. font size, colors, pictures, format, etc.) is appropriate.	3.88	0.32	Very positive
Contents and Design		3.83	0.39	Very positive
12	Google Sites is a useful platform to learn, work, and submit assignments.	3.93	0.26	Very positive
13	A corpus is useful for language learners to look for vocabulary and examples.	3.79	0.41	Very positive
14	The programs (e.g. COCA, Google Sites, and Google Docs) are convenient and easy to use when I get training.	3.74	0.49	Positive
Technological-assisted learning programs		3.82	0.39	Very positive
Items	Attitude Statements	\bar{X}	S.D.	Meaning
II. Attitudes towards the instructional process				
15	The teacher provides sufficient help and support throughout the course.	3.98	0.15	Very positive
16	I like to get feedbacks from the teacher all the time, so I can improve my writing.	3.95	0.21	Very positive
17	I can improve my writing when I receive comments from friends.	3.56	0.55	Positive
Scaffolding		3.83	0.30	Very positive
18	I enjoy learning collaboratively with peers.	3.65	0.48	Positive
19	I found that developing a piece of writing is easier when I am able to generate ideas.	3.93	0.26	Very positive
20	I feel enthusiastic when I have interactive communication with friends and the teacher in face-to-face instruction.	3.88	0.32	Very positive
Collaborative writing		3.83	0.35	Very positive
Overall		3.81	0.37	Very positive