



The interplay between the Internet-based reading resources and learner-to-learner interactions in blended language learning

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ABSTRACT

This research examined English as a foreign language (EFL) learners' reading comprehension ability through the Internet-based reading resources in a blended language learning environment: the integration of online reading activities into conventional face-to-face reading instructions. Participants were Thai EFL undergraduates divided into a control group and an experimental group. The experimental group self-selected online articles concerning contents of interest to share, read, and discuss on a social network platform, which was particularly created to foster learner-to-learner interactions throughout a 16-week course focusing on reading comprehension. Data on learners' reading comprehension abilities were collected from both a pre- and post-test. Reading comprehension ability was determined via performance based on five reading comprehension strategies, namely (1) finding the main ideas, (2) scanning for specific details, (3) identifying the correct referent to a pronoun, (4) making inferences, and (5) figuring out the meaning of new vocabulary in context. The findings showed that learners in the experimental group performed significantly better than the control group. In addition, scanning for specific details as a reading comprehension strategy effected significant improvement among the other reading comprehension strategies. The findings suggested that a blended learning environment with the use of the Internet-based reading resources could serve to provide a dynamic learning environment to foster EFL learners' reading comprehension.

Keywords: blended learning, ELT instruction, hybrid learning, Internet-based resources, reading comprehension, learner interaction

INTRODUCTION

Recent years have seen numerous changes influenced by computer-assisted language learning (CALL) to facilitate language learning processes in language education, including English language teaching (ELT) (Jones & Sharma, 2021; Phoocharoensil, 2022; Sakulprasertsri et al., 2021; Tomlinson, 2019). Various forms of instruction involving the use of digital technology, especially the Internet technology, have been proposed and implemented with a view to creating new learning experiences for language learners, such as the flipped classroom (Johnson & Marsh, 2016), language massive open online courses (LMOOCs) (Bárcena & Martín-Monje, 2014; Jitpaisarnwattana et al., 2021), and blended or hybrid learning (Garrison & Vaughan, 2008; Graham, 2006; Jones & Sharma, 2021; Kenny & Newcombe, 2011; McCarthy, 2016; Napaporn et al., 2023; Stein & Graham, 2020). These new forms of teacher-led rather than technology-led pedagogy with the use of technology in ELT instructions are believed not only to meet the needs of language learners but also to support individuals in achieving learning outcomes while preparing them to become continued, lifelong learners, which is vital to language learning in the digital era.

ELT practitioners oftentimes find that face-to-face instructions in classroom settings alone might not adequately support the learning of a new language such as English. That is, such a learning environment with

teachers mostly controlling the time for classroom-based activities often leads to students' reliance on their teachers amid learning processes as recently reported in various ELT contexts (e.g., Chanthap & Wasanasomsithi, 2019; Yang, 2012). In this regard, with technology becoming more accessible, learning a new language is no longer restricted merely to traditional face-to-face classroom instructions where exposure to language, especially authentic, relevant language input and interactions, may be comparatively limited.

With reference to McCarthy (2016), blended learning is particularly useful for language teaching and learning, especially in its exploitation of "... technology to create new types of materials, new types of interaction and new types of learning experience" (p. 3). Accordingly, blended learning, which integrates online learning components into traditional face-to-face classroom instructions in predetermined proportions, has been widely adopted in various academic contexts including ELT (e.g., Banyen et al., 2016; Chanthap & Wasanasomsithi, 2019; Vu & Bui, 2020; Yang et al., 2013, among others). In addition, it has been lauded for providing learners with plenty of opportunity to learn and use language more extensively outside the classroom while being guided in certain areas teachers aim to emphasize in traditional face-to-face classroom settings. A growing body of recent research has shown that the implementation of blended learning into ELT courses could help learners improve their academic performance (He, 2020) and has yielded positive effects on improving learners' English language ability, including listening, speaking (Pinphet & Wasanasomsithi, 2022; Yang et al., 2013), writing (Tananuraksakul, 2014; Visser & Sukavatee, 2020; Vu & Bui, 2020), reading (Chanthap & Wasanasomsithi, 2019; Djiwandono, 2018; Karkour, 2014; Yang, 2012), and vocabulary learning (Alipour, 2020).

In particular to the present study, it is known that reading ability is crucial to academic success and that improving reading comprehension ability often requires extended periods of time to practice and master the necessary reading strategies and skills. Reading comprehension in one's native language is challenging enough for some native speakers, and it could be even more so when it comes to reading in another language. Notwithstanding, Macaruso et al. (2020) reported that reading proficiency in one's native language can be increased through blended learning. In the same vein, reading in a second or foreign language, especially English, is inevitable in this digital era in which exchange of information is becoming more rapid. For this reason, ELT teachers have taken advantage of more widely available technologies, online resources, technology-mediated learning tools, and tailored environments to improve students' reading comprehension capabilities (e.g., Yang, 2012).

Much research has stressed the benefits of incorporating technology in language education as well as attempting to evaluate the efficiency of the blended learning environment in recent years; nevertheless, previous findings have indicated both positives and negatives in the adoption of blended learning environments (e.g., Banyen et al., 2016; Johnson & Marsh, 2014; Krasnova & Vanushin, 2016; Poon, 2013; Regmi & Jones, 2020; Stracke, 2007; Trinder, 2016). Although numerous past studies have shown advantages of incorporating technology-mediated elements into face-to-face teaching elements, there is not a single best blended learning model that can serve all learning purposes, particularly in ELT. To better understand the effects of blended learning with the Internet-based resources and activities and how such learning experiences can support EFL learners to enhance their reading comprehension ability, it was crucial that a detailed study with a particular blended learning model be conducted.

To date, despite numerous research studies on blending learning in language education, little is known whether such a learning environment can foster EFL learners' ability to use and improve their reading strategies, particularly in the learning environment where learner-to-learner interaction is facilitated. This study, therefore, sought to explore the effects of the blended learning environment with the Internet-based reading resources on Thai EFL undergraduate students' ability to read for comprehension, focusing mainly on their reading comprehension ability to

- (1) find the main ideas,
- (2) scan for specific details,
- (3) identify the correct referent to a pronoun,
- (4) make inferences, and
- (5) figure out the meaning of new vocabulary in context.

The findings from the present investigation are expected to shed light on ELT pedagogy in tertiary education with the implementation of a blended learning environment in an English language course concentrating on reading comprehension.

Research Questions

The present research study is guided by and attempts to answer the following questions.

1. Are there any differences between the blended learning environment with the Internet-based reading resources and traditional face-to-face classroom instructions in Thai EFL learners' reading comprehension ability?
2. To what extent can Thai EFL learners enhance their reading comprehension ability when taught in the blended learning environment along with the Internet-based reading resources?

LITERATURE REVIEW

According to Oliver and Trigwell (2005), blended learning, also known as hybrid learning, can be seen as the "integrated combination of traditional learning with web-based online approaches" (p. 17). Blended learning exploits face-to-face classroom instructions coupled with technology-mediated instructions to support learners to achieve their learning goals. It is thus considered as one of the most essential recent advances in education in that it is flexible and generates efficient learning outcomes (Graham, 2006; Jones & Sharma, 2021; McGee & Reis, 2012; Stein & Graham, 2020; Thorne, 2003). In the ELT context, this concerns effectively integrating technology into the process of teaching and learning in traditional face-to-face learning sessions. In this regard, blended learning is expected to enhance students' learning experiences and performance while enabling teachers to efficiently manage their courses and pedagogical plans.

Empirical research to date has sufficiently provided convincing evidence that implementations of blended learning could yield favorable learning outcomes in terms of reading ability in the EFL settings. Yang (2012) revealed that Taiwanese EFL undergraduates with reading difficulties were able to improve their reading proficiency in blended learning. In particular, extensive reading practice, students' self-monitoring of strategy uses in their online learning elements, and interactions during group discussion on reading difficulties were three key contributing factors in their learning improvements. Pertaining to reading comprehension efficiency, Ghazizadeh and Fatemipour (2017) reported that intermediate Iranian EFL learners presented a positive effect with regards to their reading proficiency in a blended learning environment. It was suggested that blended learning was beneficial, especially for reading skill improvement. Furthermore, with reading activities in blended learning, EFL learners tended to master new vocabulary more effectively (Djiwandono, 2018). This is in line with Alipour (2020), demonstrating that blended learning increased vocabulary achievement among intermediate Iranian EFL learners. The learners found online elements engaging as they extended their vocabulary practice in the online learning sessions. In addition, Chanthap and Wasanasomsithi (2019) found that Thai EFL undergraduates' ability to manage their own reading and learning tended to increase when integrating a blended learning environment into extensive reading instructions. More specifically, the results showed that the students' learner autonomy with respect to planning, monitoring, and evaluating their own reading improved significantly post intervention, thus suggesting that blended learning with extensive reading instructions is appropriate for promoting EFL students' learner autonomy in EFL reading courses.

When the utilization of digital technology, especially the Internet-technology, is involved, it is possible to incorporate the Internet-based authentic reading materials to facilitate reading practice outside the classroom. Authentic materials can be seen as one of the most effective ELT elements fostering learners' English proficiency development. To get learners experienced with such learning materials, the Internet-based information tends to offer more dynamic resources as compared to general commercial ELT textbooks. Language learners can benefit from using the Internet by having access to authentic language resources to improve language learning skills (Whyte, 2011). In other words, the available resources on the Internet include multimedia and interactive materials, which can support and motivate learners in learning a new language appropriately (McCarthy, 2016). It is therefore important to expose learners to the use of the Internet-based reading materials amid their outside classroom reading to improve their reading ability. Such a learning

experience should be beneficial, and it is hoped that it will foster students' interest in reading in English, as those materials are part of their everyday life and social dialogs.

According to Dai (2023), in communicative teaching of a second language, the learners' ability to handle commonly encountered communicative events is deemed essential. This process requires tasks that foster and permit students to demonstrate their ability to utilize the newly learned and background content knowledge through interactions with their peers. In the view of constructivism, learners of a second language produce, construct, and build on their knowledge through their interactions with the environment (Su et al., 2005).

Making meaning in an attempt to understand the world is thus important in cultivating learners' ability to utilize their knowledge in real-world tasks to their utmost potential. In this regard, social interactions alongside exchanges of views on the topics of shared knowledge and experiences are considered crucial learning elements for success in learning a second language. With regard to the present study, it is thus necessary to consider the importance of interpersonal interaction among the students as well as their interaction with the learning materials, as both aspects are crucial for learning (Jonassen et al., 1995; Plengkham & Wasanasomsithi, 2023).

One essential element to consider when adopting blended learning is the learning management systems. It is crucial that the e-learning platform be selected appropriately to facilitate the teaching and learning processes (Regmi & Jones, 2020; Songsangyos et al., 2016; Tomlinson, 2019; Watanapokakul, 2022). Suthiwartnarueput and Wasanasomsithi (2012) reported that Thai EFL undergraduate students showed positive attitudes towards using Facebook as a medium for discussions in their learning of English. The students learned more effectively as they engaged in discussions with their teacher and peers at their own pace. This social networking platform is usually preferred and adopted in ELT mainly thanks to its convenience since most students can have access to and tend to use it on a day-to-day basis (Tananuraksakul, 2016; Tomlinson, 2019). Therefore, Facebook and its attractive features have a potential to engage learners during the online elements of blended learning with learner-to-learner interactions.

Nevertheless, the employment of a blended learning environment in language learning and teaching is not without limitations. It is, therefore, important to consider factors acting as enablers and barriers, particularly those concerning the online learning elements (Regmi & Jones, 2020). Stracke (2007) suggested that three potential drawbacks of blended language learning. Some students perceived lack of support between the face-to-face component and computer-assisted component, and others were concerned about a lack of use of the paper medium when they performed reading and writing tasks. In addition, some students seemed to reject the use of the computer as a language learning medium. Considering the learners' perception towards blended learning as an important factor, Krasnova and Vanushin (2016) supported Stracke (2007) in that the students' satisfaction was mainly affected by convenience, clarity of the course design, and the ease of use of blended learning.

It is worth noting that adaptations throughout the learning and teaching processes should be considered. As Tomlinson (2013, 2019) pointed out, while face-to-face encounters allow students to become familiar with their peers and the necessary elements teachers find most effective in face-to-face learning sessions, the online elements are also important in providing students with opportunities to experience greater exposure to English and work on individualized tasks. Moreover, they can obtain and work on feedback at their own pace, and also interact and collaborate with peers in their shared online community—which they are accustomed to—for instance, Facebook and other social network platforms.

The above review demonstrates that the implementation of blended learning has yielded positive results in ELT provided that both online and onsite instructions are managed appropriately to suit the learning goals and students' needs (Thornbury, 2016). Thus, in the determination of adopting blended learning in the course design, ELT instructors ought to consider both the advantages and limitations in utilizing a blended learning environment. On these grounds, the research methodology of the current investigation was carefully designed and planned to optimally facilitate the teaching and learning processes through a blended learning course as described in the following sections.

METHODOLOGY

Research Design

To observe the effects of the current model of blended language learning with the Internet-based reading resources on Thai EFL learners' reading comprehension ability, participants were divided into two groups. The control group was taught via a traditional face-to-face instructional design with a comprehension-questions approach to teaching EFL reading, focusing on reading skills and strategies. The experimental group was instructed in a blended language learning environment. Both groups were given the same sets of explicit instructions concerning reading comprehension strategies in the face-to-face classroom environment. The experimental group's reading practice was conducted mainly amid the online elements with the Internet-based reading resources in an online discussion group on a community-building social networking platform (Facebook). A pre-/post-test design was employed to allow the researcher to observe the effects of the intervention and draw conclusions by comparing the two groups' performance on their ability to read for comprehension. Accordingly, the two groups were randomly assigned to participate in the two scenarios: blended language learning environment and face-to-face classroom instructions.

The Blend

As Jones and Sharma (2021) states, "blended learning is not the mere sum of its separate and distinct parts, but a seamless integration of reinforcing elements" (p. 44). In this regard, the proportions of the learning modes should not be viewed as a determining factor in blended learning. What is more important is the infusion of technology into pedagogy to create improved learning outcomes in a seamless manner. As shown in **Table 1**, the research participants and instructor spent 60% of the course time meeting face-to-face in classroom settings, and the remaining 40% of time was devoted to collaborative reading activities at participants' own pace of learning online.

Table 1. The allocation of learning modes in the blended learning model

	Modes in the blended learning model	
	Face-to-face mode	Online mode
Location	Classroom	Personal computers/mobile devices
Percentage	60%	40%
Time (hour)	30	18 or more

It should be noted here that it was almost impossible to maintain traceability of the amount of time participants spent on Facebook group discussions; nevertheless, this can be ensured by students' participation in the discussion sessions. Furthermore, a classroom face-to-face discussion accompanied by a reading exercise on reading comprehension in the following face-to-face learning session was employed so as to give feedback on reading comprehension activities from the online learning mode. These face-to-face activities also allowed participants to engage further in the reading and learning processes while enabling them to recycle the language they encounter during prior online learning sessions (Lynch & Maclean, 2000).

The Implementation of Blended Language Learning

The current blended language learning model consists of four stages in the learning cycle, as described below.

Stage 1: Group assignment

After having been trained with each set of face-to-face classroom-based explicit instructions on reading comprehension strategies, five groups of four students were formed. The participants worked collaboratively through each of the following steps and were given the responsibility of leading the discussion on reading articles in the online element of blended language learning.

Stage 2: Selection of the Internet-based reading materials

The participants worked in groups to research their topics of interests. Once they had decided on which articles to read and share with their peers, they were asked to write a short paragraph providing their

justification for selecting the articles and why they thought the articles would interest their peers. This preparation step was completed one week prior to the collaborative discussion started to ensure that the reading materials were appropriate for the discussion. It is worth noting that both the control group and the experimental group were trained to use the same target reading strategies, which were the focal concern of this study, while the reading contents may vary.

Stage 3: Online discussion on the reading contents

This step was designed to increase learner-to-learner interactions outside of the classroom. The participants discussed and shared their opinions on the reading contents in the online chat group. This group discussion activity could ensure that the participants took part in the online reading activities prior to the face-to-face discussion taking place in the following in-class session. Meanwhile, the instructor acted as a facilitator in the chat group and occasionally participated in discussions but refrained from correcting the students' language use so as to avoid demotivating the learners whose proficiency appeared to be low.

Stage 4: Face-to-face discussion and instruction

Following the online discussion activities, face-to-face classroom discussion was carried out. The purpose of this was for their peers and instructor to provide feedback and clarify any points the students may have had from the online elements. Each week, a reading exercise or quiz on reading comprehension in relation to the Internet-based reading materials read was given. New reading comprehension strategies are introduced face-to-face, namely,

- (1) finding the main ideas,
- (2) scanning for specific details,
- (3) identifying the correct referent to a pronoun,
- (4) making inferences, and
- (5) figuring out the meaning of new vocabulary in context.

This four-stage blended learning cycle was repeated throughout the 16-week course. Participants were subsequently asked to sit the post-test to observe any improvements in their reading ability as determined by their performance on reading comprehension strategies. The pre-/post-test scores were then compared with those of the control group, who had received classroom-based instruction using a comprehension-questions approach to teaching EFL reading, focusing on the five reading strategies in classroom-based settings.

Participants

A total of 40 Thai EFL undergraduate students (age range 19-21, mean age 20), majoring in accounting, voluntarily participated in the study. The students were enrolled in an elective course that focused on English reading comprehension. One of the four campuses of the university, where the research was conducted was randomly chosen, and the samples were two intact groups of students drawn from classes enrolled in the same semester. Their English proficiency appeared to be at the beginner and intermediate levels. Generally speaking, Thai learners of English tend to lack or have little exposure to the use of English outside the classroom since English is usually considered a foreign language, and Thai is the only official language in the country (Chomchuen & Rattanasak, 2018). As a result, they were rarely exposed to English and seemed to lack opportunities to engage in face-to-face interactions with English speakers on a day-to-day basis. Their English learning took place primarily in classroom settings. In this study, the students were divided into a control group (one male, 19 females) and experimental group (two males, 18 females); each consisted of 20 participants.

Research Instruments

To elicit the quantitative data on the efficiency of blended language learning with the Internet-based reading resources, a pre- and post-test were adopted as the main research instruments. The reading comprehension test consists of 40 multiple-choice test items to measure Thai EFL learners' reading comprehension ability as determined by their ability to utilize reading comprehension strategies, namely

finding the main ideas, scanning for specific details, identifying the correct referent to a pronoun, making inferences, and figuring out the meaning of new vocabulary in context. Each type of the reading comprehension questions was illustrated in [Appendix A](#). These five reading constructs were equally distributed across four passages in the test. The reading comprehension constructs were purposely selected since they well served the course objectives and the purpose of the present investigation. In addition, they frequently appeared to be concentrated in explicit reading comprehension strategy instructions in ELT textbooks, such as *Reading Explorer Foundations* (Chase et al., 2015) and *Read the World* (Rattanasak et al., 2017), which have been employed for the course in order to enhance students' reading comprehension ability. Based on the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2020), *Reading Explorer Foundations (CEFR: A2)* and *Read the World (CEFR: A2-B1)* are appropriate for the explicit teaching of reading comprehension strategies with learners at both the beginner and intermediate levels. As regards a proper level of readability of the passages, the test involved four reading passages drawn from the full edition of the textbook, *Reading Explorer Foundations* (Chase et al., 2015). To ensure the validity of the test, the 40 test items were validated by three experienced ELT professors.

Data Collection Procedure

Each participant read and signed a consent form prior to participation. They were then instructed to complete a questionnaire in order to provide their demographic data. To answer research questions 1 and 2, a pre-/post-test design was employed to observe the effects of blended language learning with the Internet-based reading resources on Thai EFL learners' reading comprehension ability. The pre- and post-test were administered to both groups in the same weeks, i.e., the first week and 16th week of the course. The students were instructed to complete the 40 multiple-choice reading comprehension questions within 120 minutes.

Data Analysis

Data from the questionnaire were analyzed quantitatively using mean (*M*) and standard deviation (*SD*). An independent-samples *t*-test was performed in R (version 3.4.0; R Core Team, 2017) in order to observe the effects of the current blended learning model between the experimental and control groups based on their ability to use reading comprehension strategies in the pre- and post-test.

FINDINGS

This section deals with the findings from the pre-/post-test results in response to the two research questions in turn.

Research Question 1: Are there any differences between the blended learning environment with the Internet-based reading resources and traditional face-to-face classroom instructions in Thai EFL learners' reading comprehension ability?

To answer research question 1, [Figure 1](#) presents the comparison of the pre- and post-test mean scores based on participants' reading comprehension ability between the control group ($n=20$) and experimental group ($n=20$). The results from an independent-samples *t*-test indicated that both the control group ($M=20.95$, $SD=3.44$) and the experimental group ($M=22.05$, $SD=3.90$) did not show any significant differences between them in their reading comprehension abilities in the pre-test ($t(38)=-.946$, $p=.35$). Therefore, it could be presumed that the control group's reading comprehension ability background prior to intervention was comparable to that of the experimental group, thus appropriate for the present investigation. Succeeding the implementation of the current blended learning model with the Internet-based reading resources, a post-test was administered. Both groups demonstrated increases in their mean scores ($M=25.25$, $SD=3.32$) and ($M=28.15$, $SD=3.25$), respectively. The independent-samples *t*-test results, however, demonstrated that the experimental group's reading comprehension ability mean scores were significantly higher than those of the control group in the post-test ($t(38)=-2.791$, $p=.008$). This finding suggested that the experimental group improved significantly in their reading comprehension ability post intervention.

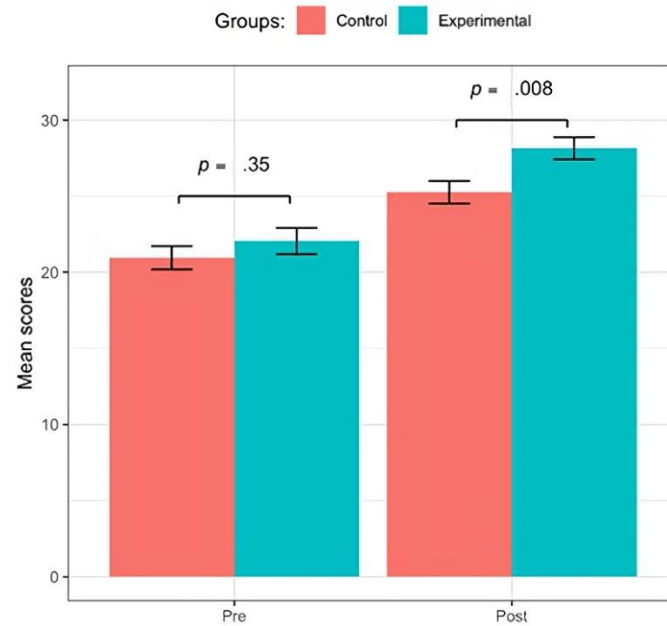


Figure 1. Comparison of pre- & post-test mean scores between the control group & experimental group (Source: Author)

Research Question 2: To what extent can Thai EFL learners enhance their reading comprehension ability when taught in the blended learning environment along with the Internet-based reading resources?

Table 2 exhibits the comparison of the pre- and post-test scores based on the two groups of participants' performance in implementing the reading comprehension strategies to find the main ideas, scan for specific details, identify the correct referent to a pronoun, make inferences, and figure out the meaning of new vocabulary in context. In the pre-test, the results indicated that there were no significant differences in terms of the two groups' reading comprehension abilities based on the reading comprehension strategies.

Table 2. Comparison of the pre- & post-test mean scores of reading comprehension strategies

Reading comprehension strategy	Control		Experimental		t-test	Sig.
	M	SD	M	SD		
Pre-test Finding the main ideas	4.50	1.24	4.70	1.08	-.545	.589
Pre-test Scanning for specific details	4.25	1.45	4.20	1.64	.102	.919
Pre-test Pronoun reference	5.50	1.40	6.05	1.23	-1.320	.195
Pre-test Making inferences	2.35	1.14	2.40	1.39	-.124	.902
Pre-test Vocabulary in context	4.35	1.23	4.70	1.63	-.769	.447
Post-test Finding the main ideas	5.80	1.32	6.35	.99	-1.490	.144
Post-test Scanning for specific details	5.55	1.28	6.95	.83	-4.119	.000***
Post-test Pronoun reference	6.45	1.23	6.75	1.02	-.838	.407
Post-test Making inferences	2.90	1.21	2.90	1.45	.000	1.000
Post-test Vocabulary in context	4.55	1.32	5.20	1.51	-1.452	.155

Note. *** $p < .001$; $n = 20$ in the control group; & $n = 20$ in the experimental group

The post-test results overall saw increases in the mean scores across all five reading comprehension strategies when comparing the pre-test scores of both control and experimental groups. More specifically, as the independent-samples *t*-test results showed, reading comprehension ability as measured by the ability to use each reading comprehension strategy between the two groups was not significantly different, except for their ability to scan for specific details. That is, the experimental group ($M = 6.95$, $SD = .83$) performed significantly better than the control group ($M = 5.55$, $SD = 1.28$). Hence, the findings suggested that the implementation of a blended learning environment with the Internet-based reading resources was proven effective, particularly in improving learners' ability to scan for specific details $t(38) = -4.119$, $p < .001$ in their reading comprehension.

DISCUSSION

The primary objective of this study was to investigate the effects of blended learning with the Internet-based reading resources on Thai EFL learners' reading comprehension ability. In response to research question 1, the findings thus far have shown that the blended language learning environment with the Internet-based reading resources has yielded positive effects in terms of enhancing Thai EFL learners' reading comprehension ability. The learners who were taught in the traditional face-to-face instructional design exhibited some improvements in their reading comprehension ability; however, those in the experimental group studying in the blended learning environment with the Internet-based reading materials appeared to outperform their counterparts overall. This was evident in their performance based on their ability to employ their reading strategies amid reading comprehension in English.

In response to research question 2, this study investigated further which reading comprehension strategies Thai EFL learners could especially improve upon the completion of the blended language learning course with the Internet-based reading resources and online discussion activities adopted in the online elements. In comparison, when examining gains from the post-test scores for reading comprehension, both the control group and experimental group did not perform differently in finding the main ideas, identifying the correct referent to a pronoun, making inferences, and figuring out the meaning of new vocabulary in context, as the independent-samples *t*-test showed no statistical differences (Table 2). The learners in the experimental group, however, performed significantly better in terms of their ability to scan for specific details, which is one of the reading strategies essential for successful mastery of reading for comprehension.

To support this intriguing finding, the explanation for this phenomenon in the current blended learning model is twofold. The first explanation for this finding would be the considerable opportunities the learners were provided with in order to expose themselves to authentic materials from multiple resources made available on the Internet in a meaningful way (McCarthy, 2016; Tomlinson, 2013; Whyte, 2011). Since the reading materials included both local and international articles with factual descriptions, they may well support learners in their usage of this reading comprehension strategy to comprehend texts. In the current blended learning processes, participants are allowed amid group work to self-select their own reading materials they think are relevant and interesting to themselves and their peers. It is compulsory that they read and evaluate the materials during the selection processes, which increases their exposure to the language input (Graham, 2006; Keawchaum & Pongpairoj, 2017; Renandya & Jacobs, 2016; Rott, 1999). Incorporating the Internet-based authentic reading materials not only permits learner-to-learner interaction but also learner-content interaction for Thai EFL learners to enhance their reading comprehension ability. It has been observed that these materials could efficiently provide dynamic resources for group discussions that are relevant to the learners' learning contexts, promoting interpersonal interaction in the learning processes (Plengkham & Wasanasomsithi, 2023). To keep the social dialogs active in the online group discussion, the learners were required to use the reading strategies practiced in the face-to-face learning environment to deal with the real-world task of reading and responding to their peers in a meaningful way. This process is believed to foster their interest in reading as well as motivate them to learn further from the Internet-based materials outside the classroom, highlighting the importance of learner-content interaction through the Internet-based reading resources. In this regard, social interactions and exchanges of views based on their shared prior knowledge and experiences that the learners bring to the reading tasks under discussion are considered crucial elements for success in learning to read in a second language.

In addition, the present findings showed that learner-to-learner interactions during the discussions in the shared online community may largely contribute to the improvement in Thai EFL learners' ability to comprehend the reading contents by scanning for specific details. That is, as the online discussion activities progressed, questions relevant to the reading from peers may prompt the group responsible for the reading materials to read for specific information in order to provide responses and keep the discussion going. Such a dynamic reading activity tended to maximize learner-to-learner interactions not only in the face-to-face mode but also in the online components of blended learning to create the facilitative learning experience in ELT classes (Johnson & Marsh 2016; King, 2016; Tomlinson, 2019; Yang, 2012). In addition to the benefits of blended learning, which could facilitate the teaching of EFL reading reported in previous studies (Alipour, 2020; Chanthap & Wasanasomsithi, 2019; Djiwandono, 2018; Ghazizadeh & Fatemipour 2017; Karkour, 2014;

Yang, 2012), the present findings add to this line of research by demonstrating that the use of the Internet-based reading materials in online discussion activities within a blended learning environment can enrich the learner-to-learner interaction and enhance the learning processes involved in EFL reading. This highlights the importance of establishing and increasing learner-to-learner interaction in the reading process (Su et al., 2005).

Since the present investigation employed a Facebook group as a pedagogical tool to facilitate the learning processes, it is worth discussing its advantages in a blended learning course. Firstly, the Facebook group features allow students to create their shared community where learner-to-learner interactions resemble their outside classroom real-world tasks, for instance, reading and discussing the Internet-based contents on social networking platforms. Secondly, as Regmi and Jones (2020) pointed out, online education should utilize technology, which is easy to use. The Facebook group feature is considered user-friendly since it is the social networking platform that students have been using for their day-to-day communication. For instance, students can share reading articles or videos they sourced online with their peers by simply providing the link in the discussion group. Moreover, discussion with their peers can swiftly take place. Another important benefit of using the Facebook group as a platform for blended learning in the current study is that it allows for independence and collaboration amid learning (Tomlinson, 2013, 2019). That is, while students work at their own pace to comprehend the reading materials, discussion with peers in the online community allows for the expression of opinions and feedback from their peers when they are ready. Previous research has also found support for using Facebook—which has the potential to be an effective virtual learning environment in blended learning, particularly in ELT (Suthiwartnarueput & Wasanasomsithi, 2012; Tananuraksakul, 2014, 2016).

The findings in this research indicated some feasibility of reading comprehension enhancement among Thai EFL learners in a blended language learning environment. While humanistic face-to-face learning sessions are important, a completely online course could pose certain obstacles to learning English among learners. Therefore, it is recommended that a good balance of the relative proportions of face-to-face and online instruction in the blended language learning environment be adopted to strengthen the processes of learning with dynamic resources available online.

Based on the current findings, three pedagogical implications were emphasized; firstly, teachers can adopt a blended language learning environment to promote good English reading habits more extensively online among EFL students. This can be beneficial especially for EFL courses with low or mixed English proficiency levels. This approach can also help increase students' on-task time in terms of reading with less pressure as some students who lack background knowledge pertaining to the topics discussed can spend more time reading at their own pace of learning. Secondly, with the addition of the Internet technology and social networking services, teachers can manage time more effectively while increasing learners' engagement in the process of learning to improve their reading comprehension ability. Finally, interactive online activities during group discussion can serve well to promote collaborative learning where online learner-to-learner interactions provide greater opportunities for students to engage with the learning materials and online elements in blended learning in an authentic manner (McCarthy, 2016).

The present research findings summarized so far suggest that the blended language learning environment with the Internet-based reading resources could be considered a more dynamic learning environment, whereby enlightening the way ELT lessons concerning EFL learners' reading comprehension ability can be delivered.

CONCLUSION, LIMITATIONS, AND RECOMMENDATIONS

This research has attempted to examine the reading ability of Thai EFL learners using the Internet-based reading resources to increase learner-to-learner interactions during online discussion in a blended language learning environment. The overall results showed that the incorporation of students' self-selected, authentic the Internet-based reading articles helped establish rich learner-to-learner interaction through reading and discussion activities in the online mode of the proposed blended learning model. Based on the present findings, online discussion provided students with venues and opportunities not only to utilize their reading strategies learned from the face-to-face mode more frequently but also to learn to read more effectively as

they made the utmost effort to respond to their peers' questions and comments. This is where the interplay between the Internet-based reading resources and learner-to-learner plays a crucial role in enhancing learners' reading ability in a second language. The implementation of blended language learning with the Internet-based reading materials and activities could enhance Thai EFL learners' reading comprehension ability, especially in scanning for specific details. Hence, integrating the Internet-based resources and online reading and discussion activities into the online elements of this blended learning course enabled Thai EFL learners to engage with the reading materials and interact more with their peers and teacher by using English as a medium in their discussions. The present findings demonstrate that the increased amount of exposure and interactions could be considered contributing factors to the learners' successful mastery of reading comprehension strategies.

Some research limitations, which future research may take into consideration have been acknowledged. Firstly, the participants were from one single study discipline recruited from one institution, and the sample size was relatively small. Consequently, generalizability of the results to other contexts may be limited. In addition, factors concerning individual differences in terms of English proficiency levels, attitude towards, and motivation in learning English may be considered to provide stronger evidence to confirm the efficiency of blended learning in EFL reading in future research. While this research specifically focused on learner-learner and learner-content interactions, it would be useful for future research to incorporate and examine the role of learner-technology interaction in blended learning within the context of learning to read in second language education (Su et al., 2005). Furthermore, ELT practitioners may want to take into consideration, e.g., different approaches to EFL reading, types of selected technology, and e-learning platforms, for greater generalizability—which warrants further investigation in various ELT contexts. Considering these factors could better strengthen the process of teaching and learning in a blended learning environment.

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APPENDIX A

A Sample of Readings and Comprehension Questions

Below sample reading comprehension questions used in the pretest/posttest are based on a reading passage titled "The Meaning of Dreams" of a textbook called "Reading Explorer Foundations" by Chase et al. (2015).

1. *Finding the main ideas:* What is the first paragraph mainly about?
 - a. Dreams are usually with sound.
 - b. People's dreams can be in different forms.
 - c. Dreams usually last from 10 to 40 minutes.
 - d. There are many reasons why people dream.

2. *Scanning for specific details:* Which of the following statements is true?
 - a. If you dream you had an accident, you are probably not ready for work.
 - b. If you dream you're flying, this is probably a difficult time in your life.
 - c. If you dream you didn't study for a test, you're probably not getting enough sleep at night.
 - d. If you dream you're wearing no clothes, something embarrassing probably happened to you.

3. *Identifying the correct referent to a pronoun:* Who does 'he' in line 13 refer to?
 - a. A person
 - b. Alan Siegel
 - c. A scientist
 - d. Robert Stickgold

4. *Making inferences:* Which statement would the author probably agree with?
 - a. Most people can remember their dreams.
 - b. Dreams happen only when people feel worried.
 - c. People who are quite happy dream about money.
 - d. Dreams are the result of different events in people's lives.

5. *Figuring out the meaning of new vocabulary in context:* In line 25, the word 'period' is closest in meaning to _____.
 - a. memory
 - b. time
 - c. problem
 - d. purpose

