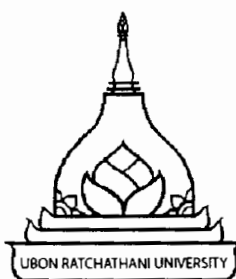UBON RATCHATHANI UNIVERSITY

# DESIGN OF BLENDED LEARNING PROGRAM TO IMPROVE READING SKILLS OF GRADE SIX STUDENTS

## RATTANABHORN NORKAEW

## AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS MAJOR IN TEACHING ENGLISH AS A FOREIGN LANGUAGE FACULTY OF LIBERAL ARTS UBON RATCHATHANI UNIVERSITY ACADEMIC YEAR 2019 COPYRIGHT OF UBON RATCHATHANI UNIVERSITY

**UBON RATCHATHANI UNIVERSITY**

**INDEPENDENT STUDY APPROVAL**

**MASTER OF ARTS**

**IN TEACHING ENGLISH AS A FOREIGN LANGUAGE**

**FACULTY OF LIBERAL ARTS**

**TITLE** DESIGN OF BLENDED LEARNING PROGRAM TO IMPROVE
READING SKILLS OF GRADE 6 STUDENTS

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งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาประสิทธิผลของโปรแกรมการเรียนรู้แบบผสมผสานเพื่อพัฒนาทักษะการอ่านของนักเรียนชั้นประถมศึกษาปีที่ 6 และสำรวจทัศนคติของนักเรียนที่มีต่อโปรแกรมการเรียนรู้แบบผสมผสาน โปรแกรมการเรียนรู้แบบผสมผสานถูกออกแบบโดยมีความสัมพันธ์กับข้อสอบวัดมาตรฐานทางภาษา หรือ ชุดข้อสอบโอเน็ต ซึ่งในการเรียนจะประกอบไปด้วยสามส่วนหลัก คือ การเรียนออนไลน์ การเรียนในห้องเรียน และ การสนับสนุนทางอารมณ์และสังคม งานวิจัยชิ้นนี้ใช้เครื่องมือวิจัยแบบผสมผสานในการทำการเก็บข้อมูลและวิเคราะห์ผลวิจัย ข้อมูลเชิงปริมาณมาจากคะแนนการสอบการอ่านก่อนเรียนและหลังเรียนและแบบสอบถาม ข้อมูลเชิงคุณภาพมาจากสมุดบันทึกการเรียนของนักเรียน สมุดบันทึกการสอนของครู และเอกสารที่เกี่ยวข้อง ในการวิเคราะห์ข้อมูล ผู้วิจัยใช้การบรรยายทางสถิติ ในการวิเคราะห์ข้อมูลเชิงสถิติ และการวิเคราะห์แก่นสาระเพื่อวิเคราะห์ข้อมูลเชิงคุณภาพ ผลการวิจัยพบว่านักเรียนมีพัฒนาด้านการอ่านเพิ่มขึ้น นอกจากนั้นยังพบว่านักเรียนส่วนใหญ่มีทัศนคติที่ดีต่อโปรแกรมการเรียนรู้แบบผสมผสาน ผลการวิจัยครั้งนี้เสนอแนวทางการสอนภาษาอังกฤษเพื่อพัฒนาทักษะการอ่านโดยใช้การเรียนรู้แบบผสมผสาน

# ABSTRACT

TITLE      : DESIGN OF BLENDED LEARNING PROGRAM TO IMPROVE READING SKILLS OF GRADE SIX STUDENTS

AUTHOR    : RATTANABHORN NORKAEW

DEGREE    : MASTER OF ART

MAJOR     : TEACHING ENGLISH AS A FOREIGN LANGUAGE

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KEYWORDS : ENGLSIH LANGUAGE TEACHING, BLENDED LEARNING, READING SKILLS

The main objectives of this research study are to firstly investigate the efficacy of the designed blended learning program to enhance the reading skills of Grade 6 students, and to secondly explore the students' attitudes towards the designed program. The blended learning program was primarily designed in relation to the O-NET reading tests and is composed of three main components: Online learning; face-to-face learning; and social and emotional support. This study applied mixed research methods for data collection and analysis. The quantitative data included the students' test scores and a Likert scale questionnaire, while qualitative data was collected from the students' logs, a teacher's log, and other related documents. The data was quantitatively analyzed comparing the students' pre- and post-test scores using descriptive statistics and t-test analysis. The qualitative data collected was grouped and categorized into different themes. The study results suggest that the participants' reading skills improved after participating in the designed program. Moreover, they had a positive attitude toward the blended learning program. The findings also suggest an alternative approach to teach English reading to primary school students by using blended learning.

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# CHAPTER 1

# INTRODUCTION

## 1.1 Introduction

One aspect of second language acquisition relies on developing L2 learners' reading skills so that the learners can achieve satisfactory reading competence (Carrell, 1988; Baier, 2005). To become a fluent reader, learners must be trained and taught reading skills through an effective reading approach to help them understand academic texts; otherwise, they may face reading difficulties when they continue studying in higher education (Anderson, 1999; Baier, 2005; Lornark and Muangsama, 2016). Due to its importance, reading skills are taught worldwide in foreign language teaching to learners of all ages (Mangieri, Bader, and Walker, 1990; Anderson, 1999; Richard, 2006).

Previous studies indicate that young learners with reading skills issues are likely to fail to access education and have reduced life outcomes (Moore, 2013; Hulmel and Snowing, 2015). Reading is therefore a fundamental skill for learners to achieve educational success and experience continued career growth. In contrast, L2 learners with poor reading skills struggle in both school and real-life situations. Preventing illiteracy among learners, which can cause various future problems, is highly important and learners should be trained to read effectively and successfully (Elder and Paul, 2004; Baier, 2011).

In the Thai context, primary and secondary students often encounter reading difficulties and achieve low-reading performance scores in a standardized reading test, for example, an O-NET test (Wiriyachitra, 2002). According to the 2018 Ordinary National Educational Test, Grade 6 students throughout the country scored lower than average mean score (39.24%) in the four main language aspects tested in the O-Net test. The O-Net test results indicate that reading skills was the most common issue faced by Thai primary students, with this component seeing the worst overall performance (Chawwang, 2008; Intathep, 2013). Reading instruction should therefore be developed to improve the reading ability of all students (NIETS, 2019).

The research for the present study was collected from Grade 6 students at a small private primary school in Ubon Ratchathani, Thailand. Similar to the national level, the students failed to perform well in the reading section. The students' average scores were higher than the vast majority of Grade 6 students in the country (49.1 in 2016, 51.02 in 2017, and 56.75 in 2018), but their performance in the reading sections was the worst in the O-Net test (35.65%). This implies a clear need for reading instructions that are able to improve the reading skills of Grade 6 students.

The students were interviewed about their experiences taking the O-Net test in February 2018. The majority of interviewees indicated that they had difficulty in understanding the meaning of the vocabulary and reading the test questions. Moreover, their responses suggested that the lack of reading practice opportunities was a factor for their poor performance. From the literature, Macaruso et al. (2019) emphasized that blended learning can enhance students' reading performance during standardized testing, and it also helps make reading activities more interesting and attractive to capture students' interest.

From the interview data and literature review, blended learning was selected as an appropriate framework to design reading instructions in order to improve students' reading skills and performance in the O-Net test. This teaching approach was selected as a framework in the present study since it is likely to successfully promote reading enhancement. The literature on blended learning shows that this approach supports reading skills development and that it is applicable for various learning and teaching contexts (Sukavatee, 2007; Macaruso et al., 2018; Schechter et al., 2019). The use of blended learning may make it possible for young learners to increase their scores in standardized reading tests after participation in a blended learning program.

Blended learning may be an appropriate approach to promote the students' reading comprehension in the research context for a number of reasons. First, the school provides adequate technology and facilities to accumulate technological education. Second, previous studies indicate that blended learning can work well when students are familiar with technology and have positive learning attitudes. Third, blended learning is likely to promote learning flexibility and provide sufficient reading resources for learning practices. It is assumed that the integration of technology instructions and traditional classroom instructions in a blended learning program may

support the students' reading development and language learning, which may in turn result in improved reading skills and comprehension, as well as increased O-NET test scores.

This study aims to: 1) develop students' reading skills using a blended learning program designed to be relevant to the O-Net test; and 2) to investigate the effects of the designed blended learning program on students' reading development and their attitudes toward the program. It is hoped that the designed blended learning program will offer an alternative reading instruction and teaching approach for Grade 6 students. Additionally, the research results add to the TEFL literature and the literature related to teaching young learners through the integration of technology and learning instructions.

## 1.2 Outline of this research study

### 1.2.1 Research purpose

This empirical study aims to improve the reading skills of Grade 6 students by adapting a blended learning approach and explore the students' attitudes toward the designed program.

### 1.2.2 Research questions

The following research questions guided the study:

1. Does the designed blended learning program help improve the reading skills of Grade 6 students?

2. How does the designed program help improve the reading skills of Grade 6 students?

3. What are students' attitudes toward the designed program?

### 1.2.3 Definition of key terms

**Blended learning:** Combination of online technology and face-to-face learning to improve the reading skills of Grade 6 students. The blended learning program is composed of three main components: online learning; face-to-face learning; and social and emotional support.

**Reading skills:** In this study, reading abilities refer to the ability to read and comprehend six different levels of learning difficulty and specificity as outlined in

Bloom's Taxonomy. The levels start at remembering, understanding, applying, analyzing, evaluating and creating (Krathwohl, 2002).

**O-Net Test (Ordinary National Educational Test):** A standardized language proficiency test for Grade 6, 9, and 12 students. The test was created in accordance with the Thai Core Curriculum (2009).

**Autonomous learning:** Learning process or activities completed by students outside the classroom with guidance from a teacher and parental support. The students take charge of their learning and complete online learning activities before attending class, and the students confirmed their willingness to record their learning in a log.

### 1.2.4 Study scope

This study primarily investigates the efficacy of the blended learning program, designed in accordance with the O-Net test. The designed program was piloted and delivered to a target group of 30 young learners at a private primary school in Ubon Ratchathani, Thailand. The participants were selected through purposive sampling. This empirical case study aims to avoid generalizing its research findings due to the small sample size and takes place in a particular school context.

### 1.2.5 Study significance

This study provides primary school teachers with an alternative option to apply a blended learning approach and improve the reading skills of Grade 6 students.

# CHAPTER 2
# LITERATURE REVIEW

This chapter comprises a review of literature on three main topics: Blended learning; teaching reading to EFL learners; and previous studies. The first section reviews literature related to blended learning, including its definitions, categories, elements, and its advantages and disadvantages. The second section then reviews literature related to teaching reading skills to young learners, including reading frameworks, theories, and reading instructions related to Bloom's Taxonomy. The final section discusses the previous studies related to blended learning and reading skills.

## 2.1 Blended learning
### 2.1.1 Definitions of blended learning

Various authors have defined blended learning differently. First, Graham (2006) suggested that it is difficult to pinpoint a clear definition of blended learning, since the benefit of this approach is that teachers have more choices available to them to select methods and deliver content to students to meet their learning preference. Online learning plays a major role since virtual classrooms offers both learning support and practice opportunities, while in-class instructions enables student interaction and discussion.

Friesen (2012: 12) referred to blended learning as "combining internet and digital media with existing classroom methods involving instructor and student physical co-presence". This definition shows that even though technology can be used to support learning, courses must combine technology with face-to-face interaction.

Garrison and Vaugh (2012) argued that blended learning should be primarily utilized in the high school context and should seek to apply teaching approaches to suit various learning styles through the use of technology. Blended learning embraces the potentials of traditional classroom instruction, in which students and teacher meet together in a classroom environment, while concurrently using online learning which

integrates blended learning support and learning flexibility to offer students control over their learning outside the classroom.

It can be concluded that blended learning is a teaching approach which combines traditional teacher-led and online learning instructions to provide richer learning opportunities and teaching and learning flexibility.

### 2.1.2 Categories of blended learning

Blended learning can be divided into three main categories: Enable Blends; Enhancing Blends; and Transforming Blends (Graham, 2006). Each category has distinguishing elements and is used to serve different purposes.

Enabling Blends refers to a category which aims to provide high accessibility and convenience (Bonk and Bonk et al., 2005). This category is used to provide supplementary resources and materials for learning practice outside the classroom. Learning can occur outside the classroom using technology to aid learning. Some studies have applied the Enabling Blends model (see for example, Sharma and Barrett, 2007; Visser, 2011; Betaineh and Mayyas, 2017).

Enhancing Blends aims to enhance teaching and learning quality by combining different modes of content delivery in the pursuit of flexible learning (Garner and Oke, 2014). This category allows intellectual activities that are otherwise impossible without the use of technology. Learning may occur either in the classroom with a teacher, or on an online web-based platform to allow learning practice with related materials and additional practice provided for students to complete outside the classroom. Mahfouz (2017) adapted this type of blended learning to develop a linguistic course.

Transforming Blends maximizes the use of technology as an instruction medium. All course content, materials, interactions, and assessments occur online, and this blended learning category could represent a new form of educational technology. The Khan Academy and E-Learning for Kids websites are examples of Transforming Blends.

In this study, Enhancing Blends was selected as the main category to inform the design of the blended learning model, since this category best fits the study objectives to create a program to provide different modes of delivery for reading practice. The target participants experienced reading activities inside and outside

classroom, the program content and reading resources were provided online, and classroom participation provided the space and time for live learning interaction between the teacher and students to enable active and engaging reading activities.

To conclude, three blended learning categories were presented: Enabling Blends; Enhancing Blends; and Transforming Blends. Enabling Blends provides course accessibility and convenience, while Enhancing Blends provides different ways for learners to access knowledge, and Transforming Blends changes how instructions are delivered, from face-to-face instruction to entirely online learning.

### 2.1.3 Elements of blended learning

Some researchers have proposed educators to use elements of blended learning as the main instruction. Picciano (2009) emphasized that for blended learning to be effective, it must include both face-to-face learning and online learning, in addition to including social and emotional support from the teacher. It is especially important for young learners to be given extra care and support from teachers and parents.

Meanwhile, Carman (2002) proposed five elements: Live Events channels where teachers and students meet in person; Self-Paced Practice through online or offline channels to allow students to practice and learn in their own time and at their own pace; Collaboration opportunities so that students can work cooperatively with classmates; Assessment methods used to assess learning; and Performance Support Materials as supplementary resources provided to students. Carman added that these elements should be combined in a systematic way to create an effective blended learning course.

Additionally, Graham (2004: 13-15) presented four main elements for blended learning: Space; Time; Fidelity; and Humanness. Space refers to the area in which learning should occur, whether in a traditional classroom on in a virtual learning environment. Time refers to a waiting time before the message is responded to, for example, an email, chat or blogs. Meanwhile, Fidelity refers to the types of content delivered to students, including texts, texts with images, audio, audiovisual, recorded video, or live video. Finally, Humanness refers to the ways in which instruction is given, such as by a physically present teacher or with technological assistance.

Elements of blended learning vary according to the designer's intended purpose for the course. The main elements include online and face-to-face learning,

while each mode of learning could include sub-elements such as Self-Paced Practice in online learning or Live Event in traditional face-to-face learning. Nonetheless, each element should complement each other to make the course effective as a whole.

This study adopts the blended learning elements by the aforementioned researchers. The designed blended learning program consists of online learning, face-to-face learning, and social and emotional support.

### 2.1.4 Advantages of blended learning

Blended learning offers some educational pedagogical advantages. The first advantage is that this approach be effective (see for example, Betaineh and Mayyas, 2017; Tawil, 2018; Macuruso et al. 2019), while it can also improve positive attitudes and satisfaction toward learning (Lin, 2003; Reber, 2005; Kongkapetch, 2012).

Behjat, Bagheri, and Yamini (2012) found that blended learning students outperformed traditional classroom students. In terms of academic achievement, the blended learning approach is likely to allow students to attain higher academic results (Dewar and Whitttinton, 2014). Banados (2006) argued that blended learning may enhance language skills by providing more learning practice opportunities, since students can complete independent work tasks online and they also have weekly conversations with a native English speaker. These benefits offered by blended learning are good reasons to adopt this approach into one particular school or learning context.

Another advantages aspect of blended learning is in relation to students' positive attitude and motivation toward the learning approach. Some studies, such as Lin (2003); Reber (2005); Kongkapetch (2012) investigated students' attitudes toward blended learning, finding that the approach facilitates students to become satisfied with their learning and develop positive attitudes and motivation. After participating on blended learning courses, these researchers found the participants to be satisfied with blended learning.

In conclusion, blended learning offers some important benefits for teachers and learners, namely that it provides pedagogical richness, such as higher performance and mastery skills, and secondly that it can lead to positive student attitudes.

### 2.1.5 Disadvantages of blended learning

Blended learning has a number of disadvantages. One potential limitation could be due to the teacher or course designer having inadequate skills or knowledge, while students may struggle with the learning method.

These drawbacks arise for several reasons, for instance improper course design, the teacher having limited knowledge about technology or implementing instructions, and attitudes towards implementing technology and learning pedagogy (Du, Fu and Wang, 2014; Abdelrahman and Irby, 2016).

Improper design of a blended learning course may be based on a range of factors, including the teacher's knowledge of technology and instruction, or their attitude to adopting new teaching methods. Moreover, Graham (2010) suggested that effectively combining technology and traditional instructions can be difficult if the course designer is insufficiently knowledgeable about how they can be blended smoothly.

Horn and Staker (2014) asserted that blended learning may be effective if the teacher or course designer has sufficient technological knowledge and media skills. Nonetheless, students must be familiarized with the technology and able to apply it to assist with their learning practice. Moreover, Lagu (2013) suggest that students' lack of responsibility, low-language performance, and insufficient technology skills can lead to an unsuccessful course.

It can be summarized that the factors that can hinder the effectiveness of blended learning are derived from at least two main sources: The ability of the teacher or course designer to fully implement blended learning instruction; and whether students prefer educational technology and are able to effectively manage their own online learning.

### 2.1.6 A challenge of blended learning

The challenges of blended learning relate to how the course can be made to be effective and reach the aimed course goals. The effectiveness of blended learning course heavily depends on the design and what is included in the blended learning, which can vary between different contexts (Kintu, Zhu and Kagambe, 2018).

Christensen (2008: 15) recommended that "by 2019, 50 percent of all high school courses will be delivered online" Christensen also encouraged teachers and

educators to apply blended learning to suit different contexts. Designing blended learning can be particularly challenging for new or novice course designers if they have little or no idea about what should be prioritized in the course and how blended learning can be implemented for real learning contexts.

Du, Fu, and Wang (2014) suggested that an effective blended course depends on "the design" and skills of those implementing the approach. It is likely that a successful blended learning approach should include the following aspects: The teacher's educational knowledge; professional development; and the technology and media skills of those implementing the blended learning approach.

Furthermore, Farah and Barnett (2019) argue that there are three big challenges for blended learning. The first is retaining teacher authenticity, which refers to how the teacher can effectively create meaningful relationships with their students. The second challenge is how to create an effective self-paced learning environment. It can be difficult to control students' learning outside the classroom and ensure they are willing to respond to their own learning. The final challenge is developing students' authenticity mastery.

In conclusion, blended learning, similar to other teaching methods, has some challenges educators considering how to overcome its weaknesses and achieve successful outcomes. Blended leaning challenges relate to the teacher and student's knowledge and attitudes, technology and media skills, and the integration of technology and educational pedagogy.

### 2.1.7 The roles of blended learning and reading development

Some studies reveal that blended learning and reading development are related. For instance, Betanieh (2017); Djiwandono (2018); Kheirzadeh and Birgani (2018) emphasized that blended learning is effective in aiding reading development in second and foreign language teaching and learning. Moreover, blended learning offers many important roles for reading skills.

The first role that blended learning offers is double modalities for learning practice. Schechter et al. (2015) suggested that explicit reading instructions in an online reading program helped students to build their vocabulary and grammar knowledge, which are fundamental for reading fluency and comprehension. In contrast, traditional teacher-led classroom teaching provides teacher support and classroom interaction.

The second role of blended learning to support reading development is the provision of reading resources and materials to be assessed online. Betanieh and Mayyas (2017); Macaruso et al. (2019) proposed that blended learning provides supplementary reading resources for learners. At this point, learners can be exposed to different types of texts and can complete online reading in a logical order to strengthen their reading skills.

The third role is that blended learning provides a friendly learning environment for reading practice, both inside and outside the classroom (Djiwandono, 2018). A friendly environment is important for reading development since learning in a friendly classroom can increase learners' motivation. Classroom learning gives opportunities for the teacher and students to meet in real time, especially for young learners requiring more teacher and parental support (Yang and Chen, 2011; Mellard and Pace, 2016).

The final role of blended learning in an online setting is that learners can assess their reading exercises by themselves through clear, correct, and immediate feedback and without time constraints (Graham, 2006; Lagu, 2013). This is very important for reading development as online learning assessments can offer feedback on reading accuracy and the number of practices. In online learning, all learners can receive reading feedback after completing each section on the website.

In conclusion, reading skills can be developed by a number of factors offered by blended learning. This approach could increase opportunities for reading practice, provide rich reading resources and a friendly learning environment, as well as instant feedback for reading assessments.

## 2.2 Teaching reading skills to young learners

The review of literature on the teaching of reading shows that reading is a receptive skill that requires the ability to understand vocabulary, as well as the ability to decode them when it appears in larger units such as phrases ,sentences and whole texts (Brown and Abeywickra, 2009). Teaching reading skills to EFL learners is important since it is necessary for further study. According to Aebersold and Field (1997), reading skills can be taught through both bottom-up and top-down approaches, or a combination of both which is referred to as the interactive approach (Richard, 2006). The bottom-up approach refers to when readers understand the texts by knowing the words, sounds, and

syntax in a sentence. Meanwhile, the top-down approach refers to the ability to use background knowledge or schemata to understand the language. The interactive approach refers to when readers can apply both bottom-up and top-down approaches to comprehend written texts. Reading instruction plays a major role in improving reading comprehension (Karami, 2008).

In the present study, bottom-up reading activities are included in the design of the blended learning program's online learning section, while top-down reading activities are included in the traditional teacher-led classroom learning section. Both reading approaches are integrated in the design of the blended learning program to improve the reading skills of Grade 6 students since, as suggested by Richard (2006), efficient readers must know both the meaning of words (bottom-up) as well as when words are applied in different contexts (top-down).

### 2.2.1 Reading instruction

When teaching reading, there are many factors to consider, including the students' grade, the reading genre, the reading purpose, and reading strategies. These factors influence the ways that teachers select their instructions to teach reading to a particular group of students. Reading instructions therefore vary according to the purpose and aimed reading outcomes (Lewin, 1999; Westwood, 2003).

Explicit reading instructions primarily emphasize the teaching of vocabulary to familiarize learners with words and sentence structure (Lipson and Wixson, 2009). In reading processes, clearer instructions result in the learners being better able to make sense of texts (Lewin, 1999; Westwood, 2003; Lau, 2006). At this point, it seems that explicit reading instructions are necessary to build strong reading skills among beginner readers.

One form of explicit reading instructions is vocabulary instruction. The instructions to teach reading skills begin with learning small units of texts, starting with word meaning, then training learners to comprehend texts when they are combined into larger units such as phrases, sentences, and paragraphs.

In addition to vocabulary instructions, Westwood (2003) suggested that learners require background knowledge and motivation to read. Westwood (2003) and Richard (2008) write that reading comprehension can be put in different orders, as follows:

(1) Preview Reading: The ability to look around texts, pictures, or titles to improve reading comprehension.

(2) Guessing word meaning: The ability to guess meaning from the context.

(3) Finding topics and the main idea: The ability to understand a text's overall story.

(4) Understanding details: The ability to remember details, events, and stories in texts. Understanding details helps to increase accuracy and the main idea.

(5) Using reference words: The ability to understand word references and pronoun references.

(6) Scanning: The ability to read quickly and get information that is required. Scanning reading is useful when reading for specific details or purposes (Richard, 2008, p. 115-120).

Reading instructions should be explicit, begin with a small unit or word first, and then make use of words when they are combined into larger units. This study applies these explicit reading instructions to teach reading skills in both online and face-to-face learning.

### 2.2.3 Bloom's taxonomy and reading comprehension

In this study, six different levels of Bloom's taxonomies (1959) are applied in the blended learning model. This framework is included in the designed program.

Bloom (1959) presented six different levels of thinking: Knowledge; comprehension; application; analysis; synthesis; and evaluation. These orders of thinking show what students are expected to perform at each level of thinking. Later, Anderson et al. (2000) changed the names of the six categories from nouns into verbs. They propose remembering, understanding, applying, analyzing, evaluating, and creating.

In reading comprehension, questions can be developed according to Bloom's Taxonomy. This means that students are expected to answer questions about what information is found in written texts or understanding questions in which they must decode texts and make use of information to answer comprehension questions.

Previous studies indicate the effectiveness of the framework in promoting reading comprehension. For example, Crews (2010) employed Bloom's taxonomy as a framework to develop reading comprehension and a lesson plan for Grade 4 students at

a rural Elementary school in the United State of America. The study found that the students' reading developed when the experimental student group outperformed the control group. Bloom's taxonomy was adopted as a framework to form reading questions and a lesson plan to increase students' academic growth. Similarly, Veeravagu, Muthusamyand, and Marimuthu (2010) asserted that students can develop reading skills step-by-step based on Bloom's taxonomy levels of thinking. This means that for students to understand texts, they should first master their vocabulary knowledge, or they have to understand the text to analyze or apply information from the texts.

These successful studies influenced the integration of the framework into the design of the blended learning program, because the reading activities can be designed based on the levels of Blooms' taxonomy.

### 2.2.4 Previous studies on blended learning

Previous studies on blended learning suggest that combining technology and traditional classroom learning can improve academic achievement and learning motivation (Chansamrong, Tubsree, and Kiratiboodee, 2014; Macaruso et al., 2018; Shaykina and Minnin, 2018). This section describes previous studies on blended learning and teaching reading skills.

In the primary school context, blended learning is effective at teaching reading skills to young primary school students as learners' reading comprehension and academic achievement improved after the implementation of blended leaning. Longitudinal research studies on blended learning and reading development among young elementary learners in the USA conducted by Macaruso et al. (2018) and Macuruso et al. (2019) found that young kindergarten students scored higher in standardized English tests after enrolling on the Lexia® Core5® reading program, which was developed to improve the reading skills of young primary students. Technology was found to play a significant role in providing instructions which embrace individualized learning and multiple opportunities for reading mastery. Similarly, Schechter et al. (2015) discovered that young primary school participants gained greater post-test scores on standardized reading assessment. It was suggested that young students need explicit reading instructions, clear goals, and systematic and scaffolded

feedback, as well as familiarity with the teaching instructions and ongoing monitoring. It is therefore clear that blended learning can improve learners' reading skills.

Blended learning has also been applied with groups of secondary and high school students. Sukavatee (2007) and Chansamrong, Tubsree, and Kiratiboodee (2014) show that this approach is appropriate to teach reading skills. Chansamrong, Tubsree, and Kiratiboodee (2014) suggested that blended learning is beneficial for both high- and low-language proficient students, yet low-language proficient students tend to have more significantly improved post-test scores compared to high-proficient students. The authors employed pre-tests and post-tests, questionnaires, and self-regulation checklists as the main research instruments to collect and analyze the data. The participants included 100 Grade 9 students who were divided into two low- and high-language proficiency groups. The findings suggest that low-proficient students were better performing the self-regulation checklist and scored significantly higher compared to the control group. Moreover, Sukavatee (2007) employed a blended learning approach to improve the reading skills of Grade 11 students at Chulalongkorn Demonstration School. Sukvatee suggested that low-proficient students benefited the most from their participation. A mixture of research methods were used in the data collection and analysis. The findings echo that blended learning is effective for both low- and high-proficient students, yet low-proficient students scored significantly higher in the post-test than high-proficient learners. Furthermore, blended learning has positive effects on reading development and promotes learner-centered learning and changes the role of the teacher and students. This evidenced that blended learning methods can be used to improve the reading abilities of high school students. The study also sought to improve the reading skills of young primary students at a private primary school. In the present study, a pre-test and post-test are administered to the participants before and after the intervention.

At the university level, research suggests that blended learning is more successful since the students are adult learners and are more likely to benefit from the implementation of educational technology than young learners (Chomchaiya, 2014 ; Tananuruksakul, 2014 ; Betaineh and Mayyas 2017; Djiwandono, 2018; Shaykina and Minnin, 2018). Djiwandono (2018) investigated the effects of blended learning on students' comprehension and collaboration. The participants included 24 undergraduate

EFL students at an Indonesian university. This study applied a test and questionnaire as the main form of data collection. The participants received six weeks of instruction. Blended learning was found to improve students' language skills, including reading comprehension, vocabulary, and strengthened the students' collaborative skills. Djiwandono suggested that students could be exposed to various types of texts, which could later be turned out into vocabulary mastery. This study also employs a six week training period for blended learning instruction.

Another study by Shaykina and Minnin (2018) suggested that high school students with an elementary skill level could improve their communicative language skills, interactions, and attitudes through a blended learning course. Blended learning was used with 30 elementary level language students aged 18-20 at a Russian Polytechnic University. The students were divided into an experimental and a control group. The experimental group studied using additional online resources from https://www.goconqr.com/. The study employed qualitative research methods in the form of a questionnaire, observations, and peer review. The results show that students gained communicative skills and regarded blended learning course homework tasks as interesting and informative. Betaineh and Mayyas (2017) used blended learning methods to provide supplementary reading materials for Jordanian university students through online learning. The participants accessed online learning on www.nicenet.com. The study revealed blended learning to be beneficial for grammar and reading skills, including the participants' abilities to skim read and scan written texts, as well as their overall reading comprehension. Similarly, Kheirzadeh and Birgani (2018) investigated the effectiveness of blended learning in improving reading comprehension among 60 EFL students at an Iranian university. They also used www.nicenet.com to deliver content to students and select reading material to be read online. The findings suggest that virtual learning can support individual learning, and the design of blended learning is likely to meet the needs of learners with different requirements.

In the Thai university context, Chomchaiya (2014) investigated the development of English language reading comprehension using an online blended learning approach. The study focused on 199 undergraduate students which were divided into two main groups consisting of an experimental group and a control group. The study was divided into three main phases, with the first phase discovering the

participants' reading barriers, the second phase to design and implement the online blended learning with the target group, and the third phase being a course evaluation. The findings suggest that the online blended learning course made a difference in terms of learning effectiveness, and instructional media incorporated with technology was found to make a positive change in the participants' learning. These two studies applied mixed research methods and were experimental research studies seeking to measure the efficacy of their designed blended learning courses. In the present study, mixed research methods were applied to study the designed blended program's effects on the students' reading development and their attitudes. Tananuruksakul (2014) employed mixed research methods to study blended learning in order to improve the academic language skills of 56 university students. The study revealed that even though blended learning can enhance students' academic skills, motivation, and attitudes, the majority of the participating students did not perceive blended learning to be the best teaching tool since they preferred using social media such as Facebook and Line.

Besides reading skills, blended learning has also been utilized to teach writing skills in the Thai high school context. Pongto (2011) used a blended learning approach to increase the writing skills of 31 Grade 10 students at a secondary school in Ayudhaya Province, Thailand. Three research instruments were employed, including a pre-test, post-test, and a questionnaire. The results reveal that the students' writing skills outperformed their peers, and they had strong positive attitudes toward the course. Blended learning was found to be effective for writing development because the approach provides opportunities to learn to write, and offers easy ways for students to plan their writing. Moreover, Visser (2017) also suggested that blended learning is effective for teaching writing to university students. Additionally, Pimpiban (2016) employed the station rotation model in a blended learning approach to teach speaking skills to 41 Grade 5 primary students. The findings from pre-test and post-test suggest that the students' speaking skills improved after participating in the blended learning course. The qualitative data also suggests that the participants had positive attitudes toward the course. According to these studies, blended learning can be considered to be an effective approach to enhance students' writing skills as well as their learning satisfaction toward their course.

From the literature, blended learning has been used in the Thai context to teach language skills to primary through to undergraduate students. However, when comparing the four core language skills, the reading skills in primary school or young students using blended learning approach was not widely popular and applied. The application of mixed research instruments in the present study supports previous studies suggesting that blended learning is effective approach to teach reading skills to young primary students.

# CHAPTER 3
# RESEARCH METHODOLOGY

This chapter presents a description of the study participants, the nature of the research, the research framework, the research setting, research ethics and accessibility, a sample of the research, the research procedures, a designed blended learning program, the research methods, and the data collection and analysis processes

## 3.1 Research nature

This research can be considered to use mixed research methods, as described by Creswell (2014). Mixed data collections resources help provide rich information. Quantitative research approaches are used to provide numerical data and statistical information, while qualitative data provides rich and in-depth data to better understand certain phenomenon.

## 3.2 Research framework

The theoretical framework applied in this research is a blended learning approach, which refers to a combination of online learning and face-to-face learning to achieve desired learning outcomes. Blended learning promotes high learning flexibility and availability for learners, which stems from the appropriate use of technology and instructional design. This study adopts three blended learning models, as proposed by Carman (2002); Graham; (2004); Picciano (2009) to design the program.

## 3.3 Research setting

The research was undertaken at a private primary school in Ubon Ratchathani, Thailand. The school teaches English as a compulsory subject four times per week, with a total study time of 80 hours per semester and 160 hours per year. The subject is taught by a Thai teacher and there are no foreign teachers present. The school provides technological teaching facilities, including high speed internet, Wi-Fi, an interactive board, a projector, a laptop, a computer room, and technical staff.

## 3.4 Accessibility and ethical considerations

Pseudonyms are used to protect the participants' identities, and the participants only started the blended learning course after the researcher received a consent form (See Appendix A for a sample consent form).

## 3.5 Research validity

To improve the research validity, the researcher obtained different types of data sources. Primary data includes pre-test and post-test scores and a Likert scale questionnaire. Secondary data includes the students' logs, the teacher's log, and a written questionnaire.

A blended learning program was designed to be tested in this study. The program was piloted prior and validated by three experts before the beginning of the main experiment. Due to the small sample size and specific context, the study intended to gather an in-depth understanding of the blended learning program and so generalizability was not a primary concern.

## 3.6 The sample

The study participants included 30 students selected through purposive sampling. According to Patton (1990), purposive sampling refers to a group of participants intentionally selected by the researcher for a particular purpose. Purposive sampling was selected for this study for reasons of convenience and availability. The sample of 30 Grade 6 students were from a small private primary school, Ubon Ratchathani province and included 20 females and 10 males aged between 11 and 13.

Only students who owned or had access to a tablet and a smartphone with an internet connection were selected to ensure that they could access the online course and complete the self-paced online learning before attending class in person.

After the return of the consent forms, the participants were given a Google Class code and then took the pre-test exam. The pre-test scores were used to indicate the students' reading performance before starting the designed blended learning program. The pre-test scores are shown in Table 3.1

**Table 3.1 Participants' pre-test scores**

| Pre-test score | Mean | SD | Mode | Medium |
|---|---|---|---|---|
| N= 30 | 9.97 | 2.73 | 9 | 9.5 |

Table 3.1 shows the pre-test scores of all the participants before receiving the treatment. The vast majority of participants scored below the passing grade of 50%. Only two participants scored higher than 50%, although they did not achieve a high score (15 and 16 out of 30, respectively). The average score for the pre-test is 9.97 (SD = 2.73), implying that the participants had a relatively similar reading skill level.

## 3.7 Research procedures

The research procedures are divided into the design of the blended learning program and the program's implementation.

**Table 3.2 Research procedures**

| Phase Level | Descriptions |
|---|---|
| Phase 1<br><br>Designing the blended learning<br><br>course | Study the basic concepts, related<br><br>documents, and previous studies<br><br>Design a blended learning in accordance<br><br>to the O-Net test<br><br>Pilot and revise the program |
| Phase 2<br><br>Implementation of the blended<br><br>learning course | Implement the blended learning with the<br><br>target participants<br><br>Collect and analyze data<br><br>Report research findings<br><br>Finalize the research study |

In phase 1, the program was designed based on blended learning theories and to be consistent with the O-Net reading test. The program was piloted and revised before implementing with the target participants. In phase 2, the designed blended learning program was implemented with the target participants. Data was collected and

analyzed in this phase, and the research findings, discussion, and conclusions are reported.

## 3.8 Design of the blended learning program

As mentioned earlier, the designed blended learning course adopted a combination of three different blended learning models (see Carnan, 2002; Graham, 2004; Picciano, 2009. The program comprised five different features from the aforementioned studies, including: Self-Paced Learning; Live Events; Collaboration; Evaluation and Reflection; and Assessment. The model has three main components: Online Learning; Face-to-Face Learning; and Social and Emotional Support.
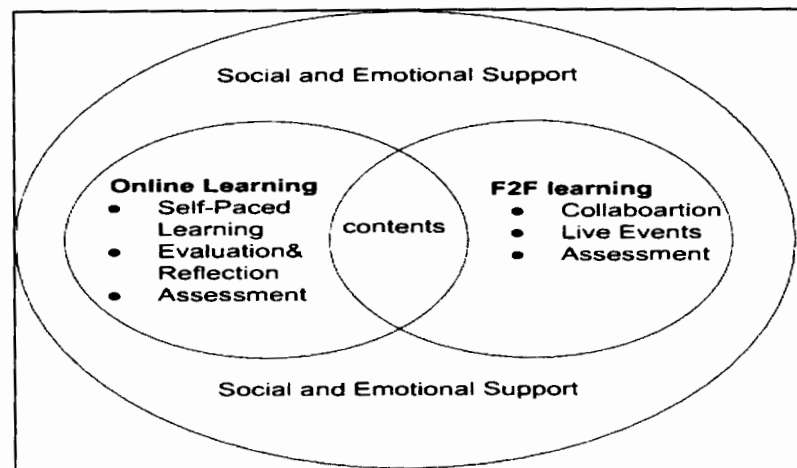


**Figure 3.1 Overview of the blended learning model design.**

### 3.8.1 Online learning

Online learning comprises Online Self-Paced Learning, Evaluation and Reflection, and Assessment.

3.8.1.1 Online Self-Paced learning refers to online activities for students to practice reading before attending class. Online reading activities including filling in the blanks, reading and recalling information, taking tests and quizzes, and vocabulary matching.

3.8.1.2 Assessment refers to online reading assessments in which the student must complete after their self-paced practice.

3.8.1.3 Evaluation and Reflection refers to students' written logs after they complete each topic and all associated activities. The evaluation checklist is provided in the student logs.

### 3.8.2 Face-to-face learning

Face-to-Face learning comprises Collaboration, Live Events, and Assessment.

3.8.2.1 Collaboration is promoted through shared learning. The students work in small groups, discuss the reading texts, and practice their reading skills through group activities such as think pair share, jigsaw reading, partner check, and the teacher's response to the intervention method.

3.8.2.2 Live Events refers to the interaction between the teacher and students in the classroom to promote social skills and clarify gaps from the online practice.

3.8.2.3 Assessments in this blended learning course mainly focus on formative assessments which utilize recycled language learned from the online practice and seek to assess reading comprehension.

### 3.8.3 Social and emotional support

To make the blended learning course more supportive and relevant to the students, teacher support was provided to the students throughout the implementation of the designed program. The program was designed for students to study solo before attending class, so they were expected to take responsibility for their own learning. Students were able to contact the teacher via a Facebook group, Line ID, and a weekly homeroom meeting. In the online learning, the parents were required to provide support and monitor their child's learning and access to the online learning environment

### 3.8.4 The program content

The content of the blended learning program was based on analyzing the O-Net English test, which tests vocabulary, conversation, grammar, and reading comprehension. The four topics in the reading sections of the O-Net test in 2016, 2017, and 2018 were selected. The topics cover holidays, school projects, sports, and the environment.

The O-NET tests were used because it claims to be a standardized test, so its validity and reliability are satisfied and the test content are in accordance with the Thai core curriculum (2008). Table 3.3 presents the content and reading activities from the designed blended learning program.

**Table 3.3 Reading content after analyzing the 2016, 2017, and 2018 O-Net tests**

| Content | Activities |
|---------|-----------|
| My last holiday | Reading diaries and emails |
| My first sport | Reading letters |
| School projects | Reading emails |
| The environment | Cloze reading test |

The content covers four main topics, namely my last holiday, my first sport, school projects, and the environment. This content was applied to the program design in the following section.

### 3.9 The program design

The program design is adapted from the designed blended learning model, with the program's details shown in Table 3.4

**Table 3.4 Program design**

| No. | Content | Objectives | Online Learning | | Face-to-Face learning | |
|-----|---------|-----------|-----------|-----------|-----------|-----------|
| | | | Activities | Time (hours) | Activities | Time (hours) |
| 1 | **My holidays** | Students can explain the main ideas and answer questions from the reading. | Self-Paced reading practice, assessments | 2 | Group activity, shared reading, formative assessment | 2 |

**Table 3.4  Program design (Continued)**

| No. | Content | Objectives | Online Learning | | Face-to-Face learning | |
|---|---|---|---|---|---|---|
| | | | Activities | Time (hours) | Activities | Time (hours) |
| 2 | **My first sport** | Students can explain the main ideas and answer questions from the reading. | Self-Paced reading practice, assessments | 2 | Group activity, shared reading, formative assessment | 2 |
| 3 | **School projects** | Students can explain the main ideas and answer questions from the reading. | Self-Paced reading practice, assessments | 2 | Group activity, shared reading, formative assessment | 2 |
| 4 | **The environment** | Students can explain the main ideas and answer questions from the reading. | Self-Paced reading practice, assessments | 2 | Group activity, shared reading, formative assessment | 2 |
| **Total 16 hours** | | | | | | |

In the online learning, the participants were required to practice different types of reading activities through Online Self-Paced Learning. Each activity was purposively selected from available websites. Different types of reading comprehension activities were provided in the self-paced learning. To assess the reading program, the

participants were given a Google Classroom code and password to log in to the online learning.

In the face-to-face learning, an alternative assessment was completed to assess the students' reading skills. The participants were expected to actively participate in the classroom reading activities, which included shared reading, jigsaw reading, summarizing, and writing.

In summary, a blended learning program was divided into online and face-to-face learning. In both channels, all the participants studied and practiced the same reading content and activities. The content was adopted in relation to the O-Net test. The total study time for the program was 18 hours and it lasted for two months from August to September 2019.

## 3.10 Piloting

During the piloting process, the blended learning program was validated by three experts. The first expert was a researcher's advisor who had over 10 years' experience in language teaching and technological instruction. The other two experts included one native English teacher holding a bachelor degree in TESOL and had taught through an online channel, while the second was a Thai English teacher at the school. The program was trial with ten Grade 6 students from the same school. Some issues were identified during the piloting and these were edited and revised prior to commencing the main study.

## 3.11 Research methods

### 3.11.1 Pre-test and post-test

The O-Net test was used as the pre-test and post-test in this research. The English reading sections from the 2016, 2017, and 2018 O-Net tests were used. The test was selected based on Bloom's taxonomy of reading question and the researcher gain permission for using the test for educational purposes. Analyzing the test revealed that the content could be divided into my holiday, my first sport, school projects, and the environment.

### 3.11.2 Questionnaire

The second research question aimed to explore the students' attitudes toward the designed blended learning, to which a Likert scale questionnaire was employed. The questions in the questionnaire were adapted from a previous blended study (Pongtho, 2011) and the questionnaire was composed of three main sections: Attitudes toward online learning; attitudes toward face-to-face learning; and attitudes toward the social and emotional support.

The questionnaire was written in Thai. According to Frary (2002), using questionnaires in the participants' first language can prevent language barriers and improve the clarity of the intended message. To improve the questionnaire's validity, the questionnaire was piloted before distributing it to the participants. Furthermore, three expert translators ensured the language accuracy and appropriateness. The questionnaire was uploaded in Google Docs and the participants were granted access to this to complete at the end of the program.

### 3.11.3 Student and teacher logs

A student log is used to record learning process in and outside class. All participants were expected to keep their own log and write about their learning process throughout the program. The student logs contain main sections such as activity name(s), score achieved, new vocabulary, question examples, their favorite parts, questions to ask the teacher, and learning notes. A teacher log is used to record the participants' learning process, class participation, and learner behavior in classroom time.

## 3.12 Data analysis

Explanatory sequential design is used as a data analysis method for the quantitative data (Creswell, 2014). Figure 3.2 provides an overview of the explanatory sequential design process. The quantitative data includes the pre-test and post-test scores which are analyzed to determine the effect of the treatment. A Likert scale questionnaire was also analyzed to determine the students' learning satisfaction. The qualitative data in the form of the students' and teacher's logs were then analyzed to provide deeper explanations (Creswell, 2014).
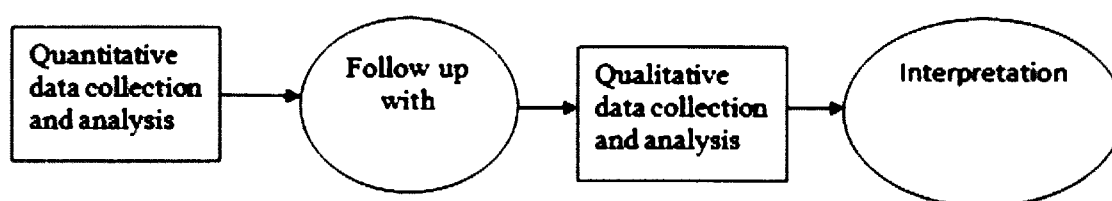
**Figure 3.2 Explanatory Sequential Design.**

### 3.12.1 Quantitative data.

The quantitative data includes pre- test and post- test scores and the Likert scale questionnaire. The quantitative data analysis is described as follows.

3.12.1.1 Pre-test and post-test scores

The average score was used to compare the development of the students' reading skills. The data was analyzed using descriptive statistics and t-test analysis.

3.12.1.2 Linkert Scale questionnaire

The data regarding the students' attitudes toward the blended learning program course was collected from the questionnaire and analyzed by applying the arithmetic mean (x) and the standard deviation (SD) of each question.

### 3.12.2 Qualitative data

Data came from the teacher's log, students' log, and the written questionnaire were analyzed and grouped into thematic structures (Braun and Clarke, 2006).

The qualitative data analysis included six steps, as follows:

Step 1: Data familiarization.

The first step is to read and study the quantitative data.

Step 2: Generating the initial code.

The second step is to address the code of

the obtained data.

Step 3: Searching for themes.

The third step is to group data into similar themes.

Step 4: Reviewing themes.

The fourth step is to review the themes.

Step 5: Defining and naming the themes.

The fifth step is to define and name the themes.

Step 6: Producing the report.

The final step is to report the data.

## 3.13 Conclusion

This chapter outlined the research plan for the present study to understand the effect of the designed blended learning program on the reading skills of Grade 6 students at a private primary school in Ubon Ratchathani Province, Thailand. The data collection and analysis processes adopted a mixed research method approach to attain rich and in depth data. The data analysis applied standard deviation techniques and descriptive analysis to present the research findings.

The next chapter presents the research findings and a discussion of the blended learning program and its effect on the participants' reading skills.

# CHAPTER 4
# RESEARCH RESULTS

This chapter presents and describes the results from the analysis of four main data sources, including: The pre-test and post-test scores; reading scores from the online and face-to-face learning; 3) the student and teacher's logs; and 4) the questionnaire. The pre-test and post-test scores show the students' learning improvements between before and after the program implementation. The comparison of the pre-test and post-test scores provides evidence to support the efficacy of the designed blended learning program in terms of improving the students' reading comprehension. The reading scores from the online learning and face-to-face learning shows the students' learning progress during the program's implementation and provides insightful information on online and classroom reading to show the effectiveness of the blended learning program on improving the participants' reading skills. The data collected from the student and teacher's logs suggest how the designed blended learning program helped improve the participants' reading skills. The questionnaire analysis provides a picture of the students' attitudes toward the designed blended learning program. The results from each data collection are described in order below.

## 4.1 Reading ability

This section reports the test results in response to the first research question, with the pre-test and post-test results explained in the following section.

From the pre-test and post-test scores, it was found that the designed blended learning program had a positive effect on the students' reading comprehension.

Table 4.1 shows the pre-test and post-test scores. The average pre-test score was 9.96 (33.22%) (SD= 2.92, Min. = 5, Max. = 16), which compares to the average post-test of 20.36 (67.00%) (SD= 4.64, Min. = 10, Max. = 30). This implies that the participants' reading skills significantly improved after participating on the program (t-test value = 0.00).

**Table 4.1 Pre-test and post-test score**

| N= 30 | Pre-test | Post-test |
|---|---|---|
| Mean | 9.96 | 20.36 |
| Min. | 5 | 16 |
| Max. | 10 | 30 |
| Std deviation | 2.73 | 4.64 |
| Std. Error mean | .49939 | .84756 |

Table 4.2 shows the paired scores for the pre-test and post-test results. The paired t-test method is used to analyze changes between the pre-test and post-test scores. The average mean in paired differences is equal to -10.40 (SD = 3.63). The paired score is significantly different (1-tailed) p< 0.00 and the paired significance is below 0.05. This suggests that the post-test score is significantly higher than the pre-test score, with a 95% confidence level.

**Table 4.2 Paired simple T-Test differences**

| Pair 1 | Paired differences | | | | | t | df | Sig. (1-tailed) |
|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Std Error Mean | 95% confidence Interval of Difference | | | | |
| | | | | Lower | Upper | | | |
| Pre-test post-test | -10.40000 | 3.63508 | .66367 | -11.75736 | -9.04264 | -15.67 | 29 | .000 |

Figure 4.1 is a scatter plot summarizing normal distribution of the post-test scores. Compared to the pre-test score distribution (range =10), the post-test scores are comparatively closer (range = 20), which is a right-skewed distribution. This suggests that the distribution of the post-test is positively skewed, meaning that the participants'

reading skills improved after participating in the designed blended learning program. The post-test scores indicate that the vast majority (24 participants) scored between 15 and 25 (SD = 0.00), while three participants scored higher in the group (SD = 0.4), and a further three participants scored lower in the group (SD = -0.04).
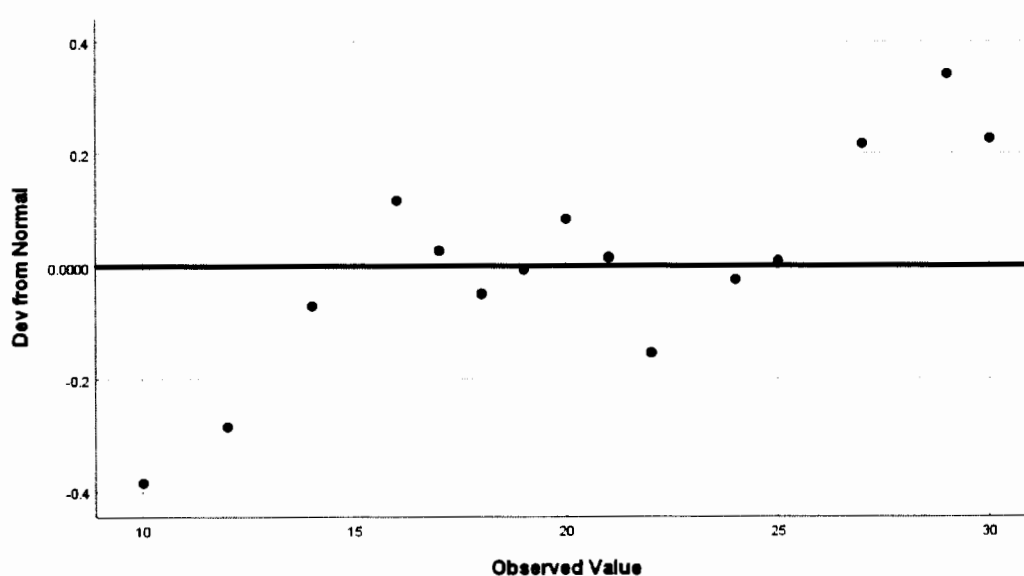


**Figure 4.1 Scatter plot summarizing the normal distribution of the post-test scores**

In conclusion, the post-test scores confirm that the participants achieved higher reading scores after participating in the designed blended learning program. The program can therefore be deemed to have effectively improved the participants' reading skills. Although three participants (I-naam, Intuon, and Diamond) did not pass the test, the post-test scores indicate that their scores improved compared to the pre-test score.

## 4.2 Reading scores from online and face-to-face learning

The reading scores from online and face-to-face learning were collected to answer the first research question. The online and face-to-face learning scores also confirm that the participants' reading skills after participating in the designed blended learning program.

The online reading scores were collected from the student logs and Google Classroom website. The scores from the face-to-face learning were collected from the

teacher's log and related documents, such as student worksheets. The scores were collected from 30 participants (N=30) in four reading topics: 1) My Holiday; 2) My First Sport; 3) A School Project; and 4) The Environment. The results from the two channels were compared to show the reading progress, which found that the participants' reading comprehension skills improved after participating in the online and face-to-face learning.

It can be summarized that the participants achieved above average scores in both modes of learning. Figure 4.2 presents the reading scores from the online reading activities and face-to face learning. The average score from the online reading test was 69.2%. In the online learning, the participants scored 65%, 70%, 74%, and 68%. The average score from the face-to-face learning was 76.00%. In the face-to-face learning, the participants scored 70%, 65%, 80%, and 89%. It is evident that the participants scored higher than face-to-face learning. Overall, the participants scored over 60% in both modes of learning.
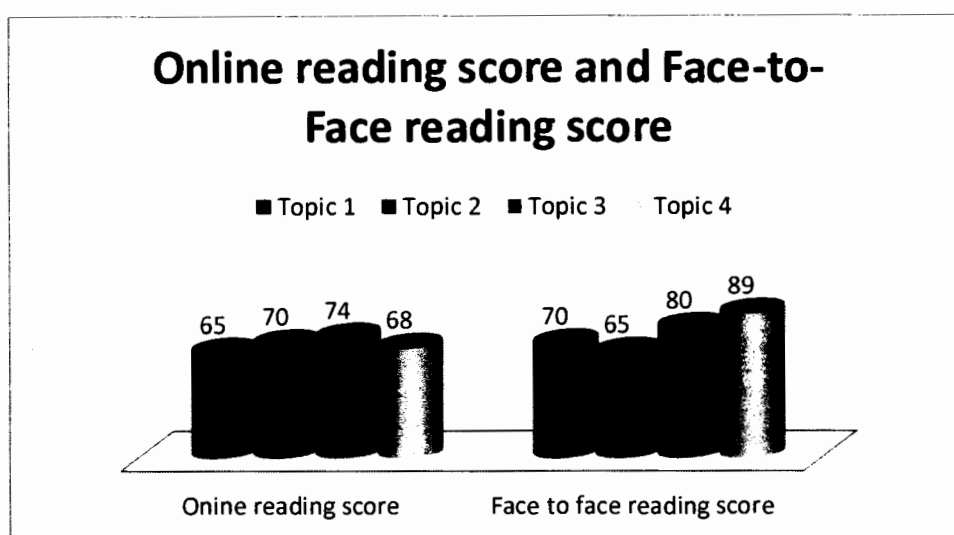


**Figure 4.2 Online and face-to-face reading scores**

When comparing the scores from the online and face-to-face learning, the online learning scores were slightly lower than the face-to-face learning scores. Figure 4.3 compares the scores from the two modes of learning in relation to each topic area. Comparing the four topics, it was found that most of the students achieved scores over

50%, but the online learning scores are slightly lower than the scores after participating in the classroom.
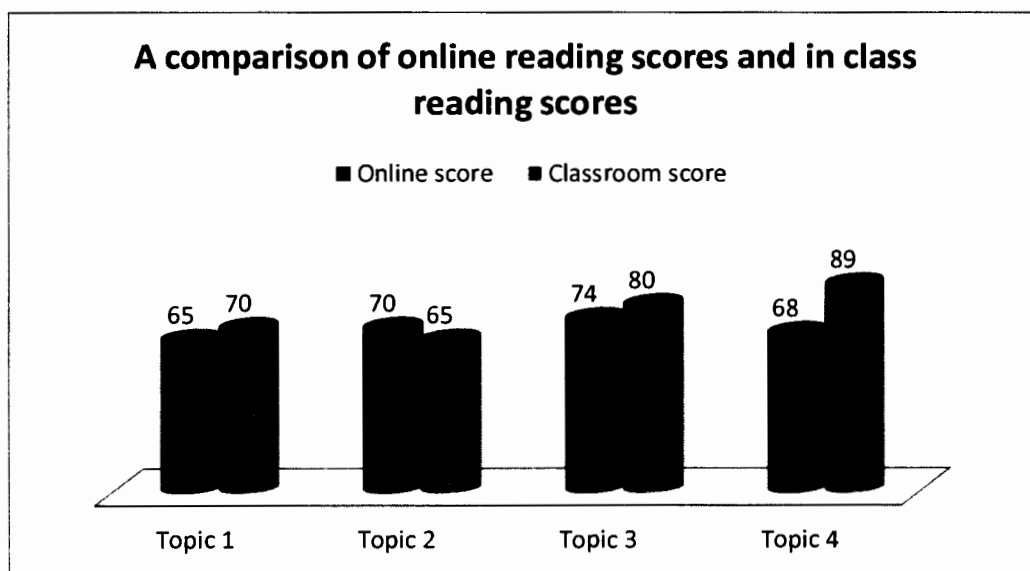


**Figure 4.3  Comparison of online reading and in-class reading scores**

In conclusion, the participants scored over 50% from two reading channels. The comparison of both reading channels shows that the participants performed reading activities quite well in both online reading practice and classroom reading activities as shown in their reading scores.

## 4.3  Reading skill improvements

The second research question sought to find out how the designed blended learning program helped the participants improve their reading abilities. The main data was collected from the student logs, teacher's log, and related documents. The analysis of these data sources showed that the designed blended learning program helped the participants improve their reading skills. In addition, the program improved the participants' vocabulary knowledge and reading comprehension. Further details are explained below.

### 4.3.1 Online learning

Online learning activities helped the participants improve their reading skills by enhancing their vocabulary knowledge, thereby allowing them to better comprehend the texts and perform during the reading tests.

4.3.1.1 Vocabulary improvement

This section presents the participants' opinions about their perceived improved vocabulary from the online practice. The majority of participants perceived that their vocabulary knowledge improved after participating in the program. In addition, the majority of participants thought that vocabulary building was one of the major factors that helped them to better understand the reading topics. The participants described what they gained and how they made use of vocabulary knowledge in the reading, as follows:

"...I can learn new words, such as groom, colleagues, etc." (Baby, Student's Log1, 28 August 2019).

"...it's very easy for me. I knew some new vocabulary lists" (Achi, Student's log, 28 August 2019).

"...some words are hard for me, but I can understand..." (Plammy, Student's log, 28 August 2019).

"...there are a lot of vocabulary practices. I found it was useful when I come to class" (Diamond, Student's log, 19 September 2019).

These opinions reveal that the participants have learned the target vocabulary and language from the online practice. Targeted vocabulary leaning plays a vital role in the reading assessment that the participants completed later in the classroom and completed online through self-paced learning.

Some participants (Naampun and Excel) stated that knowing more vocabulary gave them greater confidence when answering the reading questions since this meant they were better able to answer the questions in the reading tests.

"...I am quite certain that I got right reading answers because I understand word meanings from online practice." (Naampun, Students' log, 19 September 2019).

"...I know the vocabulary (from the online practice) so I could understand the    reading questions in the classroom activities." (Excel, Student's log, 19 September 2019).

Knowing word meanings helped the participants to better understand the reading content and gain more self-confidence when answering the reading questions. It was found that some students (i.e. Excel and Naampun) who were well-prepared, were likely to participate in classroom activities (Teacher's log, 20 September 2019).

### 4.3.2 Face-to-face learning

The classroom reading activities were found to help the participants improve their reading skills by engaging in collaborative learning.

4.3.2.1 Collaborative learning

Collaborative learning in traditional face-to-face learning provides spaces for teachers and students to interact with each other. This mode of learning shows that opportunities to meet the teacher and classmates within the classroom can improve students' reading comprehension. The participants were able to enjoy collaborative work, interact with friends, and benefit from peer teaching.

"...I understand more because my teacher described the hard words for me." (Fuengfa, Student's log, 20 August 2019).

The extract from Fuengfa shows that having a classroom teacher was still important in the reading class because the teacher was able to simplify or explain ideas or words when the students required help or support with understanding difficult reading concepts.

"...when I talked to my friends in class, I understand better." (Excel, Student's log, 20 August 2019).

Excel's log shows that working with friends in the classroom lowered his anxiety in the reading test and helped him to better understand the texts. Excel stated that he enjoyed talking and working with his close friends because he knew what to do and could manage group reading tasks (Excel's log, 2019). Face-to-face learning therefore provided the participants with opportunities to work with friends in a low-anxiety environment and interact with the teacher and friends to further develop their reading comprehension.

"...I can ask my friends and teacher reading questions" (Nammtan, Student's log, 20 August 2019).

"....my friends explain what I don't understand about the reading texts" (I-Naam, Student's log, 20 August 2019).

"...I talked to my friends about reading texts and found the correct answers" (Gamsai, Student's log, 20 August 2019).

I-naam was one of the students who showed little reading development progress. In his log, he wrote that peer teaching helped him understand the reading questions. From the researcher's log (August 2019), I-naam was one student who continued to ask questions throughout the classes, and he always sat next to Naampun who has good reading skills and English competence. Nonetheless, Naampun was unaware that she could help I-naam to better understand reading texts and uestions. Furthermore, Gamsai and Naamtan talked and discussed with their classmates about the reading topics or activities to improve their reading skills and enable them to share reading.

Moreover, the teacher's log (August 2019) noted that the did not like participating in large reading group activities and instead wanted to work in small groups with their close friends. When asked why, they said they wanted to work in the same group because they could learn better if they worked with their close friends (Teacher's log, 20 August 2019). This information showed that the students preferred working in small groups because they felt more comfortable working with close friends.

Collaborative skills could be another benefit that the participants gained from the classroom reading activities. The majority of the participants commented about the second reading topic ("a school project") which required them to read about school projects and create a school project related to what they had read. This project-based learning provided opportunities for the participants to work in groups. Their feedback highlighted that collaborative work helped them improve their reading skills and that they found project-based learning to be fun.

"…today I enjoy working with friends. It's very fun. I think working together is good for reading development" (Tinna, Student's log, 20 August 2019).

"…in a group, if I don't understand anything, my friends can help me; we help each other" (Por, Students' log, 20 August 2019).

In her log, Tinna expressed that she preferred group activities and thought that collaborative group work could improve her reading development. When the students mentioned that they had fun during an activity which contributed to their reading development, it is a positive marker for the teacher to promote such activities because it matches with the students' learning styles. Moreover, Por mentioned that when working in group, he and his friends were able to help each other finish their reading assignments. This can be interpreted as the students using peer-teaching methods to help their classmates in reading activities.

In conclusion, collaborative learning in face-to-face class time helped the participants improve their reading comprehension through interaction with friends and the teacher.

### 4.3.2.4 Additional skills

Besides vocabulary building, the research findings suggest that the participants could develop other language skills, such as their writing and speaking skills.

"…it can make my writing better" (Mon, Questionnaire, 30 September 2019).

"...I know more about vocabulary and sentence structure" (Baby, Questionnaire, 30 September 2019).

"...I know more about sentence orders" (Achi, Questionnaire, 30 September 2019).

"...my writing skills improved as well..." (Center, Student's log, 30 September 2019).

"...now I know how to write the message to the friend..." (Por, Student's log, 30 September 2019).

"...I can talk about my past experience and discuss about environment in class" (Achi, Student's log, 30 September 2019).

Center mentioned that he could write response letters to friends and so presumed that he could express his ideas through writing. Furthermore, Por stated that he could write letter in response to friends after reading their letters. These students perceived that their writing developed during the program. In the teacher's log (September 2019), in response to the letter written by Por and Center it was found that they could write letters, express their ideas, and write clearly. These students were able to use simple and clear language styles, which they drew from their reading. Moreover, in the classroom participation, Achi improved his speaking skills by talking about his past experiences on his latest holiday and when discussing environmental issues. This shows that the students could apply what they read to other related language skills.

In conclusion, face-to-face learning entails various aspects that can lead to reading development. The participants gained useful reading skills, including interaction, collaborative work, peer-teaching, and additional skills such as writing and speaking

## 4.4 Participants' attitudes toward the designed program

Questionnaire data was collected to answer the third research question, while students' log was utilized as supplementary data. The questionnaire was designed in accordance with the designed blended learning model. The questionnaire was composed of a five Likert scale questionnaire and an open-ended section. The

participants completed the questionnaire online on Google Doc. The questionnaire revealed the participants' attitudes toward the designed blended learning program, which is described as follows.

### 4.4.1 Student satisfaction toward online learning

In the questionnaire, the participants were asked to rate their level of satisfaction for each component of online learning which aimed to develop the students' reading comprehension skills. The rating scales ranged from: 1 for strongly disagree; 2 for disagree; 3 for neutral; 4 for agree; and 5 for strongly agree. The results are shown in Table 4.3.

**Table 4.3  Student satisfaction toward online learning**

| Statements | n | Mean | SD |
|---|---|---|---|
| 1. Online learning improves my reading skills. | 30 | 3.93 | 0.96 |
| 2. I can improve my reading skill. | 30 | 3.87 | 0.96 |
| 3. Online learning enables me to study different learning content. | 30 | 3.70 | 1.10 |
| 4. Online learning enables me to have a more flexible learning schedule. | 30 | 3.57 | 1.05 |
| 5. Online learning prepares me before coming to class. | 30 | 3.80 | 0.98 |
| 6. I can more easily interact with friends and the teacher. | 30 | 3.53 | 1.06 |
| Totals | 30 | 3.73 | 1.02 |

The participants were found to be quite satisfied with online learning. Table 7 shows the extent to which the participants agreed that online learning in the designed blended learning program improved their reading abilities (items #1 and #2). They thought that online learning improved their reading skills and that they could improve their reading skill level at 3.93 and 3.87, respectively. However, they disagreed that they could more easily interact with their friends and the teacher at 3.53. Overall, the satisfaction toward online learning is 3.73 (SD = 1.02).

In addition to the Likert questionnaire, verbatim data from the student logs indicate that the participants also had positive attitudes towards the designed program.

Some participants (I-naam, Mon, Fuengfar) suggested that they liked online learning because it is interesting and provides various reading activities.

"...I like online learning because it is interesting" (I-naam, Student's log, 12 September 2019).

"...but I like online reading activities, for example, true-false, matching, drawing picture etc..." (Achi, student's log, 19 August 2019).

The student logs noted that some participants preferred online reading activities due to the quick feedback provided by websites.

"...the websites showed my reading results when I finished learning lessons" (Mon, student's log, 12 September 2019).

"...I can read and write my answers and the websites tells me if my answer was correct or not" (Fuengfar, student's log, 12 September 2019).

These opinions suggest the participants held positive attitudes toward online learning since the websites provide an interesting platform for self-paced practice and instant reading feedback.

### 4.4.2 Student satisfaction toward face-to-face learning

Data about face-to-face learning was also obtained from the questionnaire. In this section of the questionnaire, a 5 point scale was used to determine the extent to which the participants agreed that face-to-face learning helped to improve their reading comprehension. The descriptors for the rating scale were the same as previously described. The results are shown in Table 4.4

**Table 4.4 Student satisfaction toward face-to-face learning**

| Statements | n | Mean | SD |
|---|---|---|---|
| 1. My reading skills in the classroom. | 30 | 3.90 | 1.04 |
| 2. I like classroom reading activities. | 30 | 3.73 | 0.96 |
| 3. I gained confidence in my reading abilities. | 30 | 3.70 | 0.94 |
| 4. I actively participated in classroom reading activities. | 30 | 3.67 | 0.94 |
| 5. I understand more about word meanings. | 30 | 3.90 | 0.98 |
| 6. I am able to explain what I couldn't understand from the online learning. | 30 | 3.90 | 0.79 |
| 7. I can evaluate my reading skills. | 30 | 3.90 | 0.79 |
| 8. Classroom reading activities are useful. | 30 | 3.83 | 1.00 |
| 9. My reading skills improved. | 30 | 3.83 | 1.00 |
| 10. My listening skills improved. | 30 | 3.87 | 0.96 |
| 11. My speaking skills improved. | 30 | 3.87 | 0.96 |
| 12. My writing skills improved. | 30 | 3.73 | 0.96 |
| Total | 30 | 3.80 | 0.91 |
|  | 30 | 3.81 | 0.95 |

It is seen that face-to-face learning enhanced participants' satisfaction. Table 4.4 shows that the participants agreed with the objectives of using face-face learning in the designed blended learning program. The level of agreement was at 3.90 for items # 1, 5, and 6. However, when asked about the four language skills, they agreed that their reading and listening skills improved at a level of 3.87. They thought that their writing skills improved at a level of 3.80. Further, they rated their speaking skills at the lowest level of improvement at 3.73. Overall satisfaction toward face-to face learning was 3.81 (SD= 0.95).

### 4.4.3 Student satisfaction toward social and emotional support

In this section, the participants were asked to rate their level of satisfaction toward the social and emotional support provided during the designed blended learning program. The rating scale descriptors are the same as previously described. The results are shown in Table 4.5

**Table 4.5 Student satisfaction toward social and emotional support**

| Statements | n | Mean | SD |
|---|---|---|---|
| 1. I am satisfied with the teacher. | 30 | 3.80 | 1.08 |
| 2. The teacher is supportive. | 30 | 3.63 | 1.14 |
| 3. The teacher shows great interest in the students' progress. | 30 | 3.67 | 1.14 |
| 4. The teacher manages the time effectively. | 30 | 3.80 | 1.08 |
| 5. The teacher makes the program more interesting | 30 | 3.63 | 1.11 |
| Total | 30 | 3.71 | 1.11 |

This section summarized that social and emotional support is still important, and the participants agreed that they were satisfied with the social and emotional support provided. When the participants were asked to rate their satisfaction toward the social and emotional support, they rated items #1 and #4 at 3.80. The participants were satisfied with the social and emotional support from the teacher. The participants agreed that the teacher showed great interest in their progress at a level of 3.67. They rated items #3 and #5 with the least degree of satisfaction at 3.63. The participants were satisfied with the social and emotional support provided at the level of 3.71 (SD = 1.11).

### 4.4.4 Overall student satisfaction with the blended learning program

The final section of the questionnaire asked the participants to rate their level of satisfaction toward the program overall. The rating scale descriptors were the same as before. The results are shown in Table 4.6

**Table 4.6 Overall student satisfaction toward the blended learning program**

| Statements | n | Mean | SD |
|---|---|---|---|
| 1. The program objectives are clear. | 30 | 3.80 | 1.08 |
| 2. The program is well-organized. | 30 | 3.63 | 1.14 |
| 3. The time allocated to this program is appropriate. | 30 | 3.67 | 1.14 |
| 4. The program supports autonomous learning. | 30 | 3.80 | 1.08 |
| Total | 30 | 3.71 | 1.11 |

The participants were overall satisfied the blended learning program. In Table 10, items #1 and #4 were found to have the highest satisfaction level at 3.80. The participants mostly agreed that the program objectives were clear and could support autonomous learning. The participants agreed that the time allocated to this program was appropriate at a level of 3.67. However, they stated that the program was well-organized at a level of 3.63. The participants overall satisfaction with the program was at a level of 3.71 (SD= 1.11).

In conclusion, the four questionnaire sections reveal the participants' attitudes toward the designed blended learning program. They expressed positive and satisfied opinions toward the designed program. The participants were most satisfied with face-to-face learning at a level of 3.81 (SD= 0.95), while they were satisfied with online learning at a level of 3.73 (SD= 1.02). The participants were satisfied with the social and emotional support provided, as well as overall with the program at a level of 3.71 (SD= 1.11).

### 4.4.5 Program issues and further developments

The participants mentioned two main issues with the program, including accessibility and language barriers.

With reference to the open-ended section of the questionnaire (September 2019), the participants highlighted two main issues they encountered during the designed blended learning program, access and language barriers. They mentioned that they occasionally had difficulties in accessing the program and the program sequence. The internet issues and forgotten passwords were also problematic. Language barriers

arose when participants were unable to understand some words and sentences, meaning they recorded incorrect answers and forgot to write their scores in their log.

The participants suggested three aspects to improve the program which are no-further improvement; time; and additional suggestions

"…I want to cut down some elements" (Mon, Questionnaire, 19 September 2019).

"…the lessons should be decreased" (Achi, Questionnaire, 19 September 2019).

## 4.5 Program evaluation

At the end of the questionnaire, the participants were asked to evaluate the program using the following descriptors.

**1 = very unsatisfied 2 = unsatisfied 3 = neutral 4 = satisfied 5 = very satisfied.**

The vast majority of participants (48.3%) rated that they were satisfied with the program, with most (41.1%) stating they were very satisfied. A small number of participants (10.3%) answered this with the neutral option and no participants said they were unsatisfied or very unsatisfied.
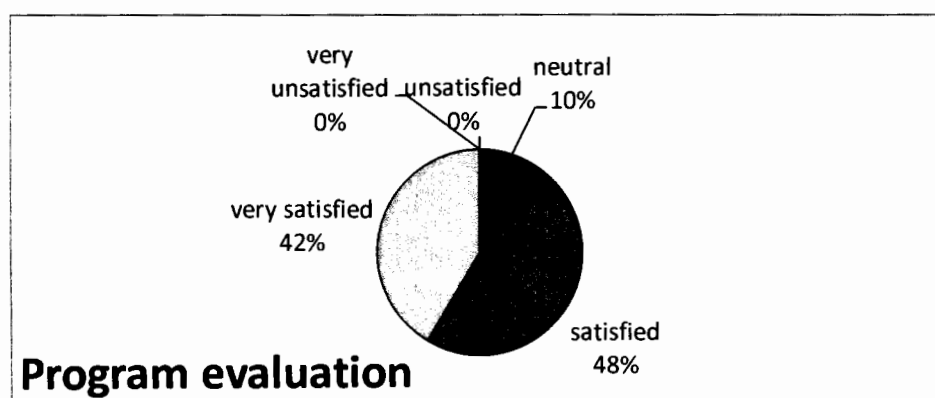


**Figure 4.4 Program evaluation**

From this figure, it can be inferred that the participants were satisfied with the designed blended learning program.

In conclusion, the designed blended learning program was found to improve the participants' reading skills by increasing their vocabulary knowledge and helping them to better understand the texts. Moreover, the participants were found to be satisfied with the designed blended learning program.

# CHAPTER 5

# DICUSSION AND CONCLUSION

This chapter is divided into a discussion and conclusion. The first section discusses the four main research results that impacted the students' learning outcomes: The efficacy of the designed program; the role of the teacher in promoting successful language learners; suggestions for program revision; and suggestions for policy makers to support O-NET tests. The second section provides study conclusions.

The reasons that help explain the participants' learning outcomes and attitudes are discussed below.

## 5.1 The efficacy of the designed program

This section discusses the effects of the designed blended learning program through the research findings in the previous chapter. In response to the first research question, the designed program was found to be effective, as evidenced by the higher post-test to pre-test scores after participating in the program. For the second research question, the designed blended learning program improved the students' reading comprehension by building their vocabulary knowledge and providing learning opportunities. Moreover, the program offered the students with learning flexibility which promoted learner autonomy and study motivation.

### 5.1.1 Reading comprehension

The designed blended learning program offered to possibilities for reading development. The first is that the program could develop reading comprehension by building vocabulary knowledge, especially in online and face-to-face learning. The second potential factor influencing reading development is the greater number reading practice opportunities made available to the participants.

#### 5.1.1.1 Vocabulary development

The research findings are similar to other studies (i.e. Kieffer and Lesaux, 2007; Lawrence et al., 2019) and confirm the importance of vocabulary in promoting reading comprehension. This program promoted vocabulary knowledge in

both online and face-to-face learning. Online learning allows students to practice reading activities in online self-paced practice, while face-to-face learning in the classroom allowed the students to interact with the teacher and classmates and participate in collaborative learning. Wood et al. (2018) emphasized that vocabulary is essential for young learners to comprehend texts when they are combined into larger units. The findings of the present study echo Wood (2018) in that vocabulary is a foundation for reading comprehension and that young learners can develop their reading skills through vocabulary building.

### 5.1.1.2 Reading practice opportunities

In addition to vocabulary knowledge, reading comprehension was found to improve because the program facilitates a greater number of reading practice opportunities. It can be interpreted that more student practice was positively correlated with better reading performance improvements. More reading practice opportunities can therefore improve reading development, vocabulary building, and familiarity with the target language. Previous studies (for example, Abdelhalim, 2017; Jones, 2014; Burgess, 2012) suggest that reading development can occur through reading practice engagement. In the present study, the provision of reading practice enhanced the participants' vocabulary building and familiarity with the target language, which eventually enabled them to achieve higher scores in the post-test. This study has findings similar to Protacio (2017) and Guthrie and Wigfield (2000) in that higher reading engagement through advanced practice can lead to higher reading performance and transform low-skilled readers into successful readers.

### 5.1.2 Learner autonomy

Previous studies show that blended learning can promote learner autonomy (Benson, 2011; Egel et al., 2009; Nunan, 1997). The present study adds to this existing literature since the students were found to improve their autonomous learning capacity after participating in the designed blended learning program. Learner autonomy is promoted by the program since the online learning component requires learners to take responsibility for self-paced learning. As evidenced in Chapter Four, the findings also show that the participants developed their reading skills in online practice, which allowed them to learn by themselves outside the classroom.

Previous studies (for example, Bradley and Thouesny, 2012; Handayani, 2015) show that real-time feedback can enable autonomous learning. This study supports these studies since it was found that the real-time feedback during the online reading practices made them more likely to learn and develop their own learning. Since websites providing instantaneous and accurate reading comprehension feedback after each reading task or activity is completed, the participants could quickly understand why they got something right or wrong. Similarly, Cavey (2019) and Handayani (2015) suggested that the feedback students received in online learning practice is in real-time, similar to what students receive from a teacher in a classroom, as a result, the students get their learning feedback. The findings in this study reveal that the students had opportunities to practice online learning which provided real-time feedback.

### 5.1.3 Promoting learner motivation

Macaruso (2019); Sukavatee (2007) show that interactive learning websites can lead to improved student motivation and positive attitudes toward learning. The present study found that the students felt enthusiastic when they were able to practice reading from the two modes of learning. As indicated in Chapter 1, a lack of fun and interesting reading activities can lower student motivation to learn to read or develop their reading comprehension. This study supports previous studies (for example, Macaruso et al., 2018; Schechter et al., 2019; Sukavatee, 2007) that blended learning is a teaching approach that can capture student interest, and increase their learning motivation and willingness to learn inside and outside classroom (Hossein, Davoudi, and Parpouchi, 2016; Johnson and Peters, 2014; Reeve, 1998).

Besides learning motivation, the design blended learning program was found to lower student anxiety when learning a foreign language. Previous studies such as Buchler (2013); Tomb and Hunter (2004) indicate that learning in a low-anxiety blended learning environment can increase student motivation and minimize anxiety. These findings are similar to Buchler (2013); Tomb and Hunter (2004), which suggest that low-anxiety classrooms can prevent students from being uncomfortable and encourage the students to learn more enthusiastically. Most of the literature on blended learning (for example, Djiwandono, 2016; Mallard, 2016; Yang, 2011) suggest that tertiary level learners have high study motivation after participating in

blended learning courses. The present study adds to this literature finding that blended learning can be applied to groups of younger learners. Additionally, blended learning is shown to increase their study motivation and lower their anxiety, which together promote life-long learning (Abubakar, Gopalan, and Zulkifili, 2016; Churchil, 2011; Davis, 1989). Life-long learning refers to learning processes when students show willingness to learn on their own volition and motivation.

## 5.2 Role of the teacher in promoting successful learners

Social and emotional support is essential in blended learning, especially the support provided by the teacher during online learning (Dettmers, Yotyodying, and Jonkmann, 2019; Green et al., 2007; Lee and Browen, 2006). The teacher's role in blended learning is vital since it helps students become successful learners. The teacher should provide guidance both online through Facebook chat as well as in the classroom. Teacher support can improve student confidence and learning motivation. Previous studies (for example, Green et al., 2007; Lee and Browen, 2006) suggest that blended learning can support students' learning and confidence which contribute to their learning development. The findings from the present study confirm the importance of the teacher's role in promoting the participants' learning potential.

## 5.3 Suggestions for program revision

Despite the successful learning outcomes, the design blended learning program requires further improvement in terms of the provision of L1 instruction and parental support in online learning.

A revised program should include L1 instruction, along with L2 instruction in all online reading tasks and activities. This study found that only English instructions were difficult for students with poor-language skills. The provision of both L1 instructions and L2 instructions could help support and guide students to clearly understand the learning tasks and material (Turin, 2014). Furthermore, the literature shows that L1 can promote L2 acquisition, so bilingual instruction can facilitate foreign language learning, especially for solo young learners participating in online learning (Cook 2001; Macaruso, 2001; Sharma 2006; Turin 2014).

Second, as mentioned by previous studies, that young learners require additional support to use educational technology (Henderson and Mapp, 2002). Parental involvement to support online learning therefore appears to be essential. Previous studies (for example, Olmstead, 2013; Ramirez, 2010) explain that parents play an especially important role for young learners. For young learners, online learning can lead to issues, such as websites requiring the user to be a certain age to enable access. Parents could therefore take responsibility to provide e-mail accounts for program registration and keep track of their child's learning. This would make the program more effective, particularly for younger learners.

## 5.4 Suggestion for policy makers in support of the O-NET test

In an era of educational technology, technology is promoted to support teaching and learning (Amiel and Reeves, 2008; Barbara, 2000; Paul, 1968). Blended learning can be considered to be a form of educational technology because this teaching approach promotes education richness and value through the implementation of technology. Blended learning can be used to teach reading skills to young English as a foreign language students. This study shows that students can develop their reading comprehension and reading scores on a standardized reading test such as O-Net. The Thai National Curriculum requires Grade 6 students to take the O-Net test to determine their language proficiency, so passing the test is a sign that students have the fundamental skills to continue into higher levels of study. The present research shows that integrating technology in language classrooms can be applied in schools in which teachers and students can use technology to facilitate their language teaching and learning. Blended learning could be beneficial to prepare students for the O-Net test because the approach allows learners to practice tests from different years and explore a range of reading resources.

## 5.5 Study limitations

This study indicates that blended learning was effective at enhancing the participants' target language skills. Nonetheless, the study has some limitations. First, the present study was conducted with a small group of participants studying at a private primary school. Second, the program content only covers the reading section of

the O-Net test. Therefore, careful consideration must be taken before applying the findings from the present study into another context. Moreover, the study was designed and taught by a researcher and any bias and subjectivities should be accounted for.

## 5.6 Implementations

In terms of implications, this study confirms that technology can be integrated in language classrooms. Furthermore, the blended learning approach can be used to teach reading skills to Grade 6 students and support learner autonomy, which is highly important to education in the 21st century.

## 5.7 Suggestions for further study

This study only covered one language aspect tested in the O-Net test. Further studies should cover all aspects covered by the test, including as vocabulary, grammar, language, and language use. Moreover, co-researchers and co-teaching may improve the validity of future studies.

## 5.8 Conclusions

This empirical research study was designed in accordance with the O-Net test to improve the reading skills of Grade 6 students by adopting blended learning as the main teaching instruction approach. The study included 30 Grade 6 students from a small private primary school in Ubon Ratchathani, Thailand. After participating in the blended learning program, the students' reading skills improved between the pre-test and post-test. Moreover, the study suggests that blended learning can also improve learner motivation and autonomy.

The results also confirm that vocabulary building and collaborative skills were the main sources for reading development. It should be added that young Grade 6 primary students may benefit from learning in a blended learning program. Additionally, the results contribute to the blended learning literature in relation to teaching reading skills to young students. Specifically, the study shows the efficacy of this learning approach to improve the reading skills of Grade 6 students in preparation for the O-Net test.

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# APPENDICES

# APPENDIX A

## Example lesson plan

**Content 1**: My last holiday                    **Topic** : Reading diaries and emails

**Time** : 1 hour                                  **Date** : September, 2019

**1.    Alignment lesson with curriculum standard**

Standard 1: Language for Communication Standard

F1.1:    Understanding of and capacity for interpreting what has been heard and read from various types of media and ability to express opinions with proper reasoning

Indicator 6/4: Tell the main idea and answer questions from listening to and reading dialogues, simple tales and stories.

**2.  Purpose of leaning**

    1.   Students can tell the main idea of the reading text.

    2.   Students can read an email and answer reading comprehension questions.

---

**LI : Read an English email
in order to answer reading comprehension questions.**
**LI:** อ่านอีเมล์ภาษาอังกฤษ
เพื่อพัฒนาทักษะการอ่านเพื่อความเข้าใจ

---

**3.  Main idea**

        Students can read an English email and be able to answer reading comprehension questions from the text. Comprehension questions are used to check students' remembering and understanding about the text.

**4. Content**

**1. Knowledge**

**Vocabulary**

    Costa Rica, dry, often, during, enjoy, volcano, together

**Sentences**

    The email is about………………

    …………………….wrote an email to…………………..

**2. Attitude**

    Self-determined, honest and disciplined

**3. Desirable characteristics**

    Self-determined  Honest  Disciplined

**4. Ability**

Communication skill    Thinking skill Problem-solving skill Life-long learning skill Technology skill

**5. Task assignments/ activities**

Read an emails and answer reading comprehension questions.

Discuss about emails.

**6. Key Questions**

- What is an email?
- Why do many people like to send an email?
- How often do you send a letter and in what way?
- Do you prefer sending emails or letters, why?
- What are the elements of email?

**7. Teaching procedure**

**Lead In process (Start Up)**

1.    Students have to make a meditation for 2 minutes

2.    Brain based activities (BBL) are practiced to warm up the lesson

**Teacher Mode (20 minutes)**

1. The teacher will tell students learning outcome "LI"

2. The teacher will check background knowledge by asking questions.

- What is email?
- Why do many people like to send an email?
- How often do you send a letter and in what way?
- Do you prefer sending emails or letter, why?

Students do "think pair share" activity before moving to next step.

3. The teacher will give vocabularies to students, and then students have to do 'pre-reading activity'

Costa Rica, dry, often, during, enjoy, volcano, together

4. The teacher will have students look at email, listen to the email and read the email out loud.

Look at the email, listen to what read in the email and read the email yourself.

5. The teacher will ask students "what are the elements of email? and assign work for students in practice mode.

**Practice mode (20 minutes)**

Read an emails and answer reading comprehension questions.

Discuss about emails.

- What is the best title of this email?
- Answer reading comprehension question
- True or false
- Understanding vocabulary
- Discuss about yourself

**The summary process**

**Teacher Mode (10 minutes)**

Students and teacher will summarize the language used and write on their notebook.

**Reflective questions**

Do you like the lesson today? Why?

**8. Materials**

1. Computer, picture, stereo    2. Vocabulary chart on Power Point

**9. Testing and assessment**

| 4-5 points (Good) | Can read email and answer reading comprehension all correctly (all answer is correct) |
|---|---|
| 2-3 points (fair) | Can read email and answer reading comprehension somehow correctly (Some answers are correct) |
| 1 point (Need improvement) | Cannot read email and answer reading comprehension correctly (No answer is correct) |

**APPENDIX B**

**Example of online and face-to-face learning**

## 1. Online learning website
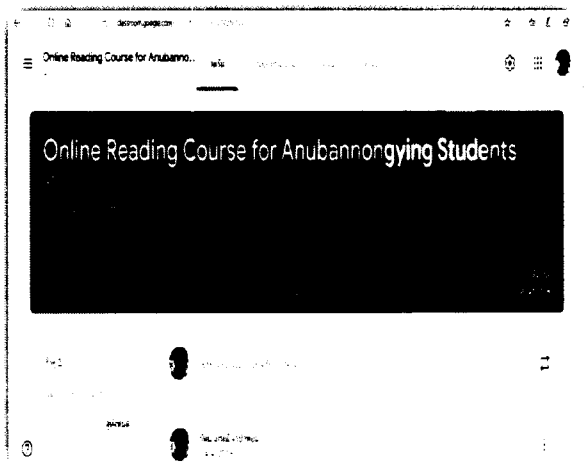




## 2. Face-to-face learning

# APPENDIX C
## Consent form

วันที่.......... เดือน........................ พ.ศ.............

ข้าพเจ้า..............................................อายุ.........ปี อาศัยอยู่บ้านเลขที่.........................

ถนน.....................ตำบล.........................อำเภอ.........................................

จังหวัด......................รหัสไปรษณีย์......................โทรศัพท์...........................เป็น

ผู้ปกครองของเด็กชาย/เด็กหญิง.........................................

      ขอแสดงเจตนายินยอมให้เด็กชาย/เด็กหญิง...........................เข้าร่วมโครงการวิจัย

เรื่องการเรียนรู้แบบผสมผสานเพื่อพัฒนาทักษะการอ่านของนักเรียนชั้นประถมศึกษาปีที่ 6

      โดยข้าพเจ้าได้รับทราบรายละเอียดเกี่ยวกับที่มาและจุดมุ่งหมายในการทำวิจัยรายละเอียด

ขั้นตอนต่าง ๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ

ประโยชน์ที่คาดว่าจะได้รับของการวิจัยและความเสี่ยงที่อาจจะเกิดขึ้นจากการเข้าร่วมการวิจัย

รวมทั้งแนวทางป้องกันและแก้ไขหากเกิดอันตรายขึ้น ค่าตอบแทนที่จะได้รับ

ค่าใช้จ่ายที่ข้าพเจ้าจะต้องรับผิดชอบจ่ายเอง

โดยได้อ่านข้อความที่มีรายละเอียดอยู่ในเอกสารชี้แจงผู้เข้าร่วมการวิจัยโดยตลอด

อีกทั้งยังได้รับคำอธิบายและตอบข้อสงสัยจากหัวหน้าโครงการวิจัยเป็นที่เรียบร้อยแล้ว โดยไม่มีสิ่งใด

ปิดบังซ่อนเร้น

      ข้าพเจ้าจึงสมัครใจเข้าร่วมในโครงการวิจัยนี้ :

      ข้าพเจ้าได้ทราบถึงสิทธิที่ข้าพเจ้าจะได้รับข้อมูลเพิ่มเติมทั้งทางด้านประโยชน์และโทษจากการ

เข้าร่วมการวิจัยและสามารถถอนตัวหรืองดเข้าร่วมการวิจัยได้ทุกเมื่อ โดยจะไม่มีผลกระทบต่อหน้าที่

การงาน และการศึกษาที่ข้าพเจ้าจะได้รับต่อไปในอนาคต

และยินยอมให้ผู้วิจัยใช้ข้อมูลส่วนตัวของข้าพเจ้าที่ได้รับจากการวิจัย แต่จะไม่เผยแพร่ต่อสาธารณะ

เป็นรายบุคคล โดยจะนำเสนอเป็นข้อมูลโดยรวมจากการวิจัยเท่านั้น

      **หากข้าพเจ้ารู้สึกอึดอัดใจ ไม่สบายใจ หรือมีผลกระทบต่อจิตใจของข้าพเจ้าเกิดขึ้น**

**ระหว่างวิจัยข้าพเจ้าจะแจ้งผู้วิจัยโดยเร็วที่สุด และหากข้าพเจ้ามีข้อข้องใจเกี่ยวกับขั้นตอนของ**

**การวิจัยหรือหากเกิดผลข้างเคียงที่ไม่พึงประสงค์จากการวิจัยขึ้นกับข้าพเจ้า ข้าพเจ้าจะสามารถ**

**ติดต่อกับ**

**นางสาวรัตนาภรณ์ หน่อแก้ว โทร. 0619699525 ได้ตลอด 24 ชั่วโมง**

      หากข้าพเจ้า ได้รับการปฏิบัติไม่ตรงตามที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย

ข้าพเจ้าจะสามารถติดต่อกับประธานคณะกรรมการจริยธรรมการวิจัยในมนุษย์หรือผู้แทน

ได้ที่สำนักงานส่งเสริมบริหารงานวิจัยฯ มหาวิทยาลัยอุบลราชธานี หมายเลขโทรศัพท์ 061-

9699525

      ข้าพเจ้าเข้าใจข้อความในเอกสารชี้แจงผู้เข้าร่วมการวิจัย และหนังสือแสดงเจตนายินยอมนี้
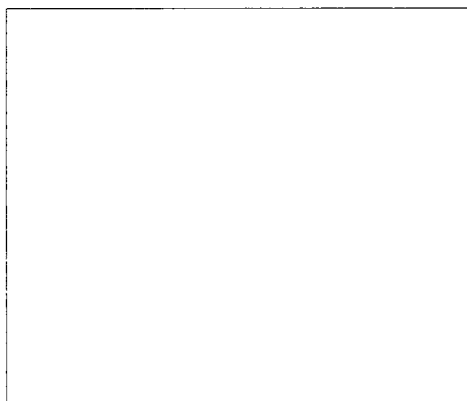
โดยตลอดแล้ว จึงลงลายมือชื่อไว้

        ลงชื่อ.........................................ผู้เข้าร่วมการวิจัย

        (.....................................)

        วันที่...................................

ลงชื่อ......................................ผู้ให้ข้อมูลและขอความยินยอม/หัวหน้า
โครงการวิจัย
(......................................)
วันที่......................................

**กรณีที่อาสาสมัครไม่สามารถอ่าน-เขียนหนังสือได้**

**หมายเหตุ :**
(1) พยานต้องไม่ใช่แพทย์หรือผู้วิจัย
(2) ในกรณีที่อาสาสมัครไม่สามารถ อ่านหนังสือ/ลงลายมือชื่อ ได้ ให้ใช้การประทับลายมือ
แทน

# เอกสารชี้แจงผู้เข้าร่วมการวิจัย
## (สำหรับเด็กอายุ 11-13 ปี และผู้ปกครอง)

*ในเอกสารนี้อาจมีข้อความที่ท่าน/เด็กในการปกครองของท่านอ่านแล้วยังไม่เข้าใจโปรด สอบถามหัวหน้าโครงการวิจัย ให้ช่วยอธิบายจนกว่าจะเข้าใจดี ท่าน/เด็กในการปกครองของท่านจะ ได้รับเอกสารนี้ 1 ฉบับกลับไปอ่านที่บ้านเพื่อปรึกษาหารือ และช่วยในการตัดสินใจเข้าร่วมการวิจัย*

**ชื่อโครงการ**
    การวิจัยเรื่อง การเรียนรู้แบบผสมผสานเพื่อพัฒนาทักษะการอ่านของนักเรียนชั้น
ประถมศึกษาปีที่ 6
**ชื่อผู้วิจัย**        นางสาวรัตนาภรณ์   หน่อแก้ว
**สถานที่วิจัย**    โรงเรียนอนุบาลน้องหญิง อำเภอตระการพืชผล จังหวัดอุบลราชธานี
**สถานที่ทำงานและหมายเลขโทรศัพท์ที่ติดต่อได้ทั้งในและนอกเวลาราชการ** โรงเรียนอนุบาลน้อง
หญิง อำเภอตระการพืชผล จังหวัดอุบลราชธานี เบอร์โทรศัพท์ 061-9699525

**โครงการวิจัยนี้จัดทำขึ้นเพื่อ**
1. เพื่อศึกษาประสิทธิผลของการเรียนรู้แบบผสมผสานและการอ่านของนักเรียนชั้นประถมศึกษาปีที่ 6
2. เพื่อพัฒนาทักษะการอ่านของนักเรียนชั้นประถมศึกษาปีที่ 6 โดยใช้การเรียนรู้แบบผสมผสาน
3. เพื่อศึกษาความคิดเห็นของนักเรียนชั้นประถมศึกษาปีที่ 6 ที่มีต่อการเรียนรู้แบบผสมผสาน

โดยท่าน/เด็กในการปกครองของท่านจะได้รับประโยชน์จากงานวิจัยชิ้นนี้ คือ

(1) เด็กในการปกครองของท่านจะได้พัฒนาทักษะการอ่านภาษาอังกฤษ

(2) เด็กในการปกครองของท่านจะได้เตรียมความพร้อมการทำแบบทดสอบมาตรฐาน(O-Net)

(3) งานวิจัยนี้จะเป็นประโยชน์ต่อการเรียนการสอนการอ่านโดยใช้การเรียนรู้แบบผสมผสาน

    เด็กในปกครองของท่านได้รับเชิญให้เข้าร่วมการวิจัยนี้
    เพราะ เด็กในปกครองของท่านมีอายุระหว่าง 11-13 ปี และเป็นผู้ที่สนใจเรียนภาษาอังกฤษ และสามารถใช้เทคโนโลยีเพื่อพัฒนาทักษะทางภาษา ซึ่งเป็นคุณสมบัติเหมาะสมกับงานวิจัยชิ้นนี้ ทั้งนี้ มีผู้เข้าร่วมการวิจัยครั้งนี้จำนวน 30 คน ระยะเวลาที่ใช้ในเข้าร่วมการวิจัยประมาณ 20 ชั่วโมง เริ่ม ตั้งแต่วันที่ 1 สิงหาคม 2562 – 31 สิงหาคม 2562 โดยผู้เข้าร่วมวิจัยจะได้รับรหัสผ่านเพื่อเข้าเรียน ห้องเรียนออนไลน์ ในเว็บไซด์ Google Classroom แล้วต้องทำกิจกรรมการอ่านออนไลน์ให้ครบ พร้อมทั้งบันทึกผลการเรียนลงใน แบบบันทึกการเรียนของนักเรียนก่อนเข้าเรียนในห้องเรียนทุกวัน พฤหัสบดี และ วันศุกร์ วันละ 1 ชั่วโมง รวมเป็น 2 ชั่วโมงต่อสัปดาห์

| กิจกรรมการเรียนออนไลน์ผ่าน Google Classroom 10 ชั่วโมง | กิจกรรมการอ่านในห้องเรียน 10 ชั่วโมง | รวม 20 ชั่วโมง |
|---|---|---|

จะมีผู้เข้าร่วมการวิจัยนี้ทั้งสิ้นจำนวน 30  คน

**หากท่าน/เด็กในปกครองของท่านตัดสินใจเข้าร่วมการวิจัย  จะมีขั้นตอนการวิจัย ดังต่อไปนี้  คือ**

หากท่าน/เด็กในปกครองของท่านจะได้รับการสัมภาษณ์เกี่ยวกับประวัติส่วนตัวด้านการศึกษา ระดับ ความรู้ภาษาอังกฤษ  ทักษะการอ่าน และแรงบันดาลใจในการเรียนภาษาอังกฤษนอกชั้นเรียนเป็น เวลา 10 ชั่วโมงและภายในชั้นเรียน 10 ชั่วโมง

ณ  โรงเรียนอนุบาลน้องหญิง ร่วมกับผู้เข้าร่วมการวิจัยท่านอื่น  รวมจำนวน 30 คน และหลังจากการ เรียนการสอนท่าน/เด็กในปกครองของท่านจะได้รับแบบสอบถาม เพื่อสอบถามทัศนคติเกี่ยวกับการ เรียนรู้แบบผสมผสานและการอ่านของนักเรียนชั้นประถมศึกษาปีที่ 6  เพื่อนำข้อมูลไปวิเคราะห์และ ประมวลผลในขั้นตอนต่อไป

**ความเสี่ยงที่อาจเกิดขึ้นได้ระหว่างเข้าร่วมการวิจัย**

งานวิจัยครั้งนี้ไม่มีผลกระทบโดยตรงทางด้านร่างกายและจิตใจของผู้เข้าร่วม  แต่ท่าน/เด็กใน ปกครองของท่านอาจรู้สึกอึดอัด  ไม่สบายใจ  เครียด  กับบางคำถาม  ท่าน/เด็กในปกครองของท่านมี สิทธิ์ที่จะไม่ตอบคำถามเหล่านั้นได้  ทั้งนี้  ข้อมูลส่วนตัวทั้งหมดของอาสาสมัครจะถูกเก็บเป็นความลับ

**หากท่าน/เด็กในปกครองของท่าน  รู้สึกไม่สบายกาย  หรือมีผลกระทบต่อจิตใจของท่าน/ เด็กในปกครองของท่านเกิดขึ้นระหว่างการวิจัย  หรือเกิดอาการบาดเจ็บ/เจ็บป่วยหรือหากเกิด ผลข้างเคียงที่ไม่พึงประสงค์จากการวิจัยขึ้นกับท่าน/เด็กในปกครองของท่าน  ท่าน/เด็กในปกครอง ของท่านสามารถติดต่อกับ  นางสาวรัตนาภรณ์   หน่อแก้ว โทร 061-9699525     ตลอด 24 ชั่วโมง**

*ค่าตอบแทนที่จะได้รับ  ไม่มี*

หากมีข้อมูลเพิ่มเติมทั้งด้านประโยชน์และโทษที่เกี่ยวข้องกับการวิจัยนี้  ผู้วิจัยจะแจ้งให้ทราบ โดยรวดเร็วไม่ปิดบัง

ข้อมูลส่วนตัวของท่าน/เด็กในปกครองของท่านจะถูกเก็บรักษาไว้  ไม่เปิดเผยต่อสาธารณะ เป็นรายบุคคล  แต่จะรายงานผลการวิจัยเป็นข้อมูลส่วนรวม

ข้อมูลของผู้เข้าร่วมการวิจัยเป็นรายบุคคลอาจมีคณะบุคคลบางกลุ่มเข้ามาตรวจสอบได้ เช่น ผู้ให้ทุน วิจัย , สถาบัน  หรือองค์กรของรัฐที่มีหน้าที่ตรวจสอบ , คณะกรรมการจริยธรรมฯ เป็นต้น

ท่าน/เด็กในปกครองของท่านมีสิทธิ์ถอนตัวออกจากโครงการวิจัยเมื่อใดก็ได้  โดยไม่ต้องแจ้ง ให้ทราบล่วงหน้า  และการไม่เข้าร่วมการวิจัยหรือถอนตัวออกจากโครงการวิจัยนี้  จะไม่มีผลกระทบ ใด ๆ ต่อท่าน/เด็กในปกครองของท่านแต่ประการใด

โครงการวิจัยนี้ได้รับการพิจารณารับรอง  จากคณะกรรมการจริยธรรมการวิจัยในมนุษย์ของ มหาวิทยาลัยอุบลราชธานี  ซึ่งมีสำนักงานส่งเสริมบริหารงานวิจัยฯ  มหาวิทยาลัยอุบลราชธานี อำเภอวารินชำราบ  จังหวัดอุบลราชธานี 34190  หมายเลขโทรศัพท์  086-4710582

หากท่าน/เด็กในปกครองของท่านได้รับการปฏิบัติไม่ตรงตามระบุไว้  ท่าน/เด็กในปกครองของท่าน สามารถติดต่อสำนักงานส่งเสริมบริหารงานวิจัยฯ ได้ตามสถานที่และหมายเลขโทรศัพท์ข้างต้น

# CURRICULUM VITAE

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