

THE EFFECT OF THE COMPUTER-BASED INSTRUCTION
ON THAI THIRD GRADE STUDENTS' ENGLISH VOCABULARY AND
GRAMMAR KNOWLEDGE



SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
MASTER OF ARTS IN TEACHING ENGLISH AS A FOREIGN LANGUAGE
AT SRINAKHARINWIROT UNIVERSITY

JUNE 2012

THE EFFECT OF THE COMPUTER-BASED INSTRUCTION
ON THAI THIRD GRADE STUDENTS' ENGLISH VOCABULARY AND
GRAMMAR KNOWLEDGE



Submitted in Partial Fulfillment of the Requirements for the
Master of Arts in Teaching English as a Foreign Language
at Srinakharinwirot University

June 2012

Copyright 2012 by Srinakharinwirot University

THE EFFECT OF THE COMPUTER-BASED INSTRUCTION
ON THAI THIRD GRADE STUDENTS' ENGLISH VOCABULARY AND
GRAMMAR KNOWLEDGE



Submitted in Partial Fulfillment of the Requirements for the
Master of Arts in English as a Foreign Language
at Srinakharinwirot University

June 2012

Peangrawin Nontawong. (2012). *The Effect of the Computer-Based Instruction on Thai Third Grade Students' English Vocabulary and Grammar Knowledge* Master Project M.A. (Teaching English as a Foreign Language). Bangkok: Graduate School. Srinakharinwirot University. Advisor: Dr. Walaiporn Chaya.

The main purpose of the present study was to examine whether 3rd grade (Prathom 3) students improve their English vocabulary and grammar knowledge through computer-based learning, to investigate whether computer-based instruction English is more effective than direct method instruction in developing students' English vocabulary and grammar knowledge, and to investigate students' attitudes' toward computer-based instruction in developing their vocabulary and grammar knowledge. The participants of the study were eighty 3rd students from Prathom 3 at Promratrangsarn School, in academic year 2011, selected out of the three existing classes by convenience sampling method. The experiment lasted 16 sessions in a 50 minute- class each. The instruments were consisting vocabulary pretest and posttest, grammar pretest and posttest, and students' attitude questionnaire. The eight computer- based activities lesson plans and eight direct method activities lesson plans were also employed in the instruction. The results of the study indicated that the school computer-based instruction had a significantly positive effect on the English vocabulary and grammar knowledge of Thai 3rd grade students. The posttest mean scores of the experimental group were significantly higher than that of the control group at the 0.05 level. Moreover, the results from the questionnaire showed that the students in the experimental group had positive perception towards the application of the school computer-based instruction.

ผลของการสอน โดยใช้คอมพิวเตอร์ที่มีต่อความรู้ด้านคำศัพท์และไวยากรณ์ภาษาอังกฤษ
ของนักเรียนไทย ชั้นประถมศึกษาปีที่ 3



เสนอต่อบัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒ เพื่อเป็นส่วนหนึ่งของการศึกษา
ตามหลักสูตร ระเบียบวุฒิสถาปัตยกรรมบัณฑิต
สาขาวิชาการสอนภาษาอังกฤษในฐานะภาษาต่างประเทศ
มิถุนายน 2555
ลิขสิทธิ์เป็นของมหาวิทยาลัยศรีนครินทรวิโรฒ

เพียงวินทร์ นนทะวงษ์. (2555). ผลของการสอน โดยใช้คอมพิวเตอร์ที่มีต่อ ความรู้ด้านคำศัพท์และ ไวยากรณ์ภาษาอังกฤษของนักเรียนไทย ชั้น ประถมศึกษาปีที่ 3. สารนิพนธ์ ศศ.ม. (การสอนภาษาอังกฤษในฐานะภาษาต่างประเทศ). กรุงเทพฯ: บัณฑิตวิทยาลัย มหาวิทยาลัยศรี นครินทรวิโรฒ. อาจารย์ที่ปรึกษา สารนิพนธ์: ดร. วไลพร ฉายา.

การวิจัยครั้งนี้มีจุดมุ่งหมายเพื่อศึกษาผลสัมฤทธิ์ของ นักเรียน โดยใช้คอมพิวเตอร์ที่มีต่อความรู้ ด้านคำศัพท์และไวยากรณ์ภาษาอังกฤษของนักเรียนไทย ชั้นประถมศึกษาปีที่ 3 นอกจากนี้ผู้วิจัยยัง ได้เปรียบเทียบผลของการสอนด้วยระบบคอมพิวเตอร์และวิธีการสอนแบบเดิม และศึกษาเจตคติของ นักเรียนที่มีต่อการเรียนรู้คำศัพท์และไวยากรณ์โดยผ่านระบบคอมพิวเตอร์ กลุ่มตัวอย่างเป็นนักเรียน ระดับชั้นประถมศึกษาปีที่ 3 จำนวน 80 คน โดยการเลือกจากนักเรียน 3 ห้องเรียน โดยการสุ่มเพื่อความ สดวก แบ่งออกเป็น กลุ่มทดลอง จำนวน 40 คน และกลุ่มควบคุม จำนวน 40 คน กลุ่มทดลองได้รับ การสอนด้วยระบบคอมพิวเตอร์ และกลุ่มควบคุมได้รับการสอน ด้วยวิธีการสอนแบบตรง ใช้เวลาในการ ทดลอง 16 คาบ เครื่องมือที่ใช้ในการทดลอง คือ แบบทดสอบวัดความสามารถ ด้านคำศัพท์และ ไวยากรณ์ภาษาอังกฤษก่อนเรียนและหลังเรียน แบบสอบถามความพึงพอใจของนักเรียนที่มีต่อการสอน โดยใช้คอมพิวเตอร์ บทเรียนคอมพิวเตอร์ 8 บทเรียน และบทเรียนการสอนแบบเดิม 8 บทเรียน คอมพิวเตอร์ ผลการวิจัยพบว่า นักเรียนที่ได้รับการสอน โดยใช้คอมพิวเตอร์ มีความสามารถ ด้าน คำศัพท์และไวยากรณ์ ภาษาอังกฤษก่อนและหลังการทดลองแตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ ระดับ .05 นอกจากนี้ นักเรียนที่ได้รับการสอน โดยใช้คอมพิวเตอร์ กับนักเรียนที่ได้รับการสอน ด้วย วิธีการสอนแบบเดิม มีความสามารถ ด้านคำศัพท์และไวยากรณ์ ภาษาอังกฤษแตกต่างกันอย่างมีนัยสำคัญ ทางสถิติที่ระดับ .05 โดยนักเรียนกลุ่มทดลองมีคะแนนเฉลี่ยสูงกว่ากลุ่มควบคุม และ นักเรียนที่ได้รับ การสอน โดยใช้คอมพิวเตอร์ มีความพึงพอใจสูง ต่อการสอน โดยใช้คอมพิวเตอร์

The Master's Project Advisor, Chair of the Master's Program in Teaching English as a Foreign Language, and Oral Defense Committee have approved this Master's Project, "The effect of the computer-based instruction on Thai 3rd- Grade Students' English Vocabulary and Grammar Knowledge" by Peangrawin Nontawong as partial fulfillment of the requirements for the Master of Arts in English at Srinakharinwirot University.

Master's Project Advisor

.....

(Dr.Walaiporn Chaya)

Chair of the Master's Program in Teaching English as a Foreign Language

.....

(Dr.Anchalee Jansem)

Oral Defense Committee

..... Chair

(Dr. Walaiporn Chaya)

..... Committee

(Assistant Professor Nittaya Wangkangwan)

..... Committee

(Dr.Anchalee Jansem)

This Master's Project has been approved as partial fulfillment of the requirements for the Master of Arts degree in Teaching English as a Foreign Language at Srinakharinwirot University.

..... Dean of the Faculty of Humanities

(Dr. Wanee Aujatid)

June....., 2012

ACKNOWLEDGEMENT

The completion of this Master's Project has not been possible without the contributions of the following people. First and foremost, I owe my gratitude to the chair of my master' project, Dr. Walaiporn Chaya for her insightful advise, suggestions, and warm encouragement. Without her guidance and persistent help, this research work would not have been successful.

I would like to express to appreciation to the committee members, Dr. Anchalee Jansem and Assistant Professor Nittaya Wangkangwan, for their thoughtful advice and insightful feedback and comments. Moreover, many thanks go to all my colleagues at Promratrangsarn school for their morale support.

In additions, I would especially like to thank all of teachers and friends at Srinakharinwirot University for their kindness, assistance and encouragement.

Finally, I am indebted to my beloved parents and my younger brother, whose love, understanding and care are always with me. Without their encouragement, I could not have come this far.

Peangrawin Nontawong

TABLE OF CONTENTS

Chapter	Page
1 INTRODUCTION	
Background of the Study	1
Purpose of the Study	7
Research Questions	7
Significance of the Study	8
Scope of the Study	8
Definition of Terms.....	9
Summary of the Chapter	10
Organization of the Research.....	10
2 LITERATURE REVIEW	
Computer-Based Instruction	12
Definition of Computer-Based Instruction	12
The Benefit of Computer-Based Instruction.....	13
Advantages of Computer-Based Instruction.....	13
The teacher roles in Computer-based Instruction.....	14
Direct Method Instruction.....	16
Definition of Direct Method Instruction	16

TABLE OF CONTENTS (continued)

Chapter	Page
2 (continued)	
Vocabulary Teaching	21
Definition of Vocabulary	21
Teaching English Vocabulary	22
Grammar Teaching	24
The goal of grammar Instruction	25
Relevant Studies on Computer-Based Instruction	26
Summary of the Chapter	32
3 RESEARCH METHODOLOGY	
Research Procedure	33
Research design	33
Sampling procedure	33
Selection of a school	33
Participants	34
Data	34
Variables	34
Instrumentation	35
Research instruments	35
Vocabulary Test	35
Grammar Test	36
The procedure of Test construction	37

TABLE OF CONTENTS (Continued)

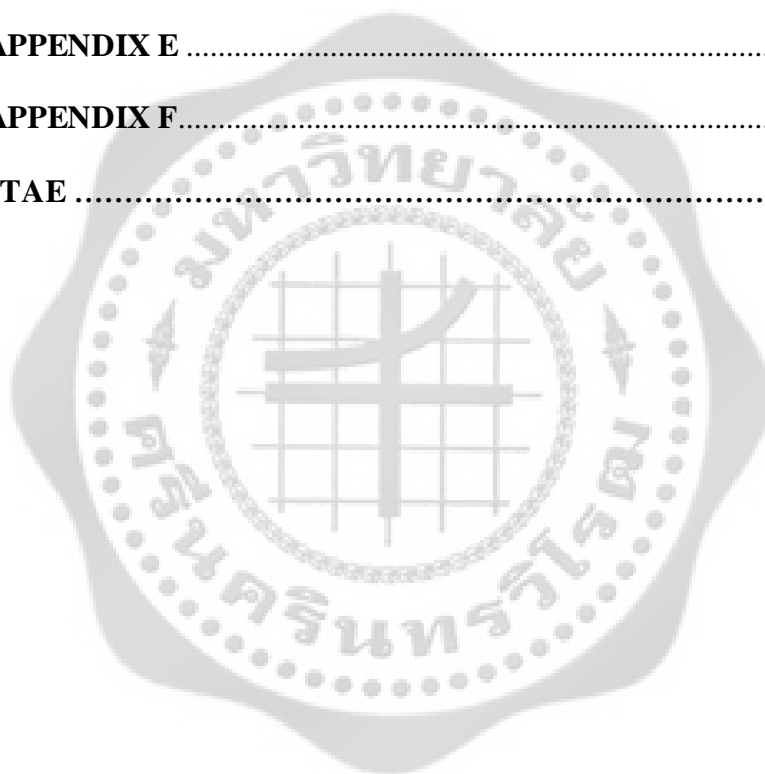
Chapter	Page
3 (continued)	
The test validity.....	38
Learning English Attitude Questionnaire	38
Instructional Materials	39
Lesson Plan for Computer-Based Instruction	39
Direct Method Instruction.....	39
The Procedure of lesson plan construction	39
Validity of the lesson plans.....	40
Data collection	41
Data Analysis	41
Summary of the Chapter	42
4 RESULTS OF THE STUDY	
Students' Overall Achievement on the Vocabulary and Grammar Learning	43
The Overall Means and Standard Deviations on the Students' Pretest and Posttest for Vocabulary Test and Grammar Test of the Experimental and Control Groups	44

TABLE OF CONTENTS (Continued)

Chapter	Page
4 (continued)	
The Differences in the Mean Scores of the Vocabulary Pretest and Posttest and Grammar Pretest and Posttest of the Computer-based Instruction Group	45
The Differences in the Mean Scores of the Vocabulary Pretest and Posttest and Grammar Pretest and Posttest of the Direct Method Instruction Group	46
The Comparison of Students' Achievement in the Computer-based Instruction and the Direct Method Instruction Groups	46
The Differences in the Mean Scores of the Pretest and Posttest between the Computer-based Instruction Group the Direct method Instruction Group	47
The Comparison of Students 'Achievement in Vocabulary Learning of the Computer-based Instruction and the Direct Method Instruction Group.....	47

Chapter	Page
4	(continued)
	The Differences in the Mean Scores of the Pretest and Posttest of the Vocabulary Test between the Computer-based Instruction Group the Direct Method Instruction Group..... 48
	The Differences in the Mean Scores of the Pretest and Posttest of the Grammar Test between the Computer-based Instruction Group the Direct Method Instruction Group..... 48
	Students ‘Attitude of toward Computer-based Instruction 49
	Mean and Standard Deviations for the Self-report of Students Attitude..... 50
	The Students ‘Opinion towards the Computer-based Instruction from Open-ended Questions 51
	Conclusion 52
	Summary of the Chapter 52
5	CONCLUSIONS AND DISCUSSION
	Summary of the Research 53
	Summary of the Main Findings 55
	Discussion 56
	Implication of the Study..... 62
	Recommendations for Further Studies..... 63
	Conclusion 63

Chapter	Page
REFERENCES	64
APPENDICES	
APPENDIX A	70
APPENDIX B	74
APPENDIX C	78
APPENDIX D	80
APPENDIX E	82
APPENDIX F	94
VITAE	101



LIST OF TABLES

Table		Page
1	Vocabulary Test Items	35
2	Grammar Test Items	37
3	The Lesson Plan for the Computer-Based Instruction.....	40
4	The Overall Means and Standard Deviations on the Students' Pretest and Posttest for Vocabulary Test and Grammar Test of the Experimental and Control Groups	44
5	The Differences in the Mean Scores of the Vocabulary Pretest and Posttest and Grammar Pretest and Posttest of the Computer-based Instruction Group	45
6	The Differences in the Mean Scores of the Vocabulary Pretest and Posttest and Grammar Pretest and Posttest of the Direct Method Instruction Group	46
7	The Differences in the Mean Scores of the Pretest and Posttest between the Computer-based Instruction Group the Direct Method Instruction Group	47

LIST OF TABLES (Continued)

Table		Page
8	The Differences in the Mean Scores of the Pretest and Posttest of the Vocabulary Test between the Computer-based Instruction Group the Direct Method Instruction Group	48
9	The Differences in the Mean Scores of the Pretest and Posttest of the Grammar Test between the Computer-based Instruction Group the Direct Method Instruction Group	48
10	Mean and Standard Deviations for the Self-report of Students' Attitude	50

CHAPTER I

INTRODUCTION

Background of the Study

It is widely known that English is one of the most important languages in the world. It is important because it links the whole world together. English has become increasingly important because of the effect of technology advancement. English is the medium of study; it helps in commercial transactions, international trading, business management, travel industry, universal communication, and so on. English has also become a world language for correspondence between leaders of different countries. In addition, it is the most frequently-used language on the World Wide Web (Kumar, 2009). Most of the information on the traditional paper-based texts and online texts are in English. Therefore, the importance of English language is emphasized in the education system of countries of the world, particularly developing countries.

English has played a role on Thais as in other developing countries resulted from the new technology (Wiriyachitra, 2002). It has been also used in Thailand in international business, education, science, industries, tourism, work labors, and other work areas equipped with computer technology. The demand of using English in Thailand then has increased extensively. For example, in tourism industry, Thailand is one of top ten destinations of foreign tourists because of enormous numbers natural resources such as nice beaches, mountains, and islands as well as very unique and beautiful architectures such at Thai houses, and temples. Thailand also has interesting cultures like festivals that encourage tourists to visit the country and increase the

income. It is essential to develop Thais' English ability, both in the capital city like Bangkok, big cities in the north like Chiang Mai, northeast like Ubonratch Thani, and the south like Songkhla. It is also important for local people to use English effectively to promote the tourism industries of Thailand.

In education, the demand of English as a universal language has also emerged in Thailand. More and more children, students at all levels, and business people go abroad for studying. Many parents send their children to take the intensive English course during the summer. This is because they believe that the children can learn English successfully with native speakers as young learners. The problem that comes after this is that what parents who cannot afford the high cost of tuition fees abroad will do. Their children will lack of a good opportunity to develop the English ability if schools do not teach using the effective teaching techniques. These are the facts to prove that English is very important.

Also, the growth of Internet, the sources of information and knowledge for people appear on the websites in various languages. However, English is used the most on the websites. It is difficult to translate from English into Thai. It is then essential for the Internet users: young children, primary and secondary student, college students, people in the workplaces, and others, to use English both in e-learning, e-commerce or even for researching the Internet in their field of study. Therefore, the importance of English is recognized in Thai contexts in all areas and at all levels of education.

As discussed, it appears that there is the demand for high English proficiency among Thai people to meet the need of the changing world so that Thailand can compete with the Asian countries and other countries of the world in many aspects.

However, the Thai language is the solely one official language used for Thai people. This is one of the obstacles for developing English for Thai people; therefore, the level of English proficiency of Thais is quite lower compared with Asian people in Asia who use English as a second language such as in Malaysia, Singapore, and Philippines (Wiriyachitra, 2002).

In the past ten years or so, there are many international schools or English programs in many public schools all over Thailand, particularly in the big cities. This shows that there is the demand of learning English among the young Thai learners. According to Nonkukhetkhong, Baldauf and Moni (2006), Thai government recently has started educational reforms with the aim of developing Thailand into a knowledge-based society, which is a pre-requisite for becoming a knowledge-based economy, under the Thai National Education Act (NEA) of B.E. 2542 (1999) (p. 1).

Later, Board of Education of Thailand, in an attempt to fulfill the educational reform proposed the Basic Education Core Curriculum, B.E. 2551. The objectives of learning foreign languages mainly aim to promote Thai learners to be able to communicate with foreigners. In addition to developing the ability to communicate in English effectively, the essentials of English curriculum concern 5 skills: reading, writing, listening, speaking and vocabulary, in particular. Vocabulary is one of the language components which must be mastered by the students in learning a new language (Al-Jarf, 2007). Al-Jarf further explains that vocabulary knowledge is an essential factor of language learning because learning new words can increase students' listening, speaking, reading and writing vocabularies leading to the improvement in IL2 comprehension and production. In addition, it has been claimed that vocabulary knowledge is the fundamental and the important element of learning a

new language, as a language-based activity, and the learners must have access to the meanings of words that teachers use to guide them into the concepts in new ways (Baker, Simmons, & Kame'enui, 1998). Language learners will have difficulties using English if they lack of vocabulary knowledge. Tozcu and Coady (2004) point out that learning vocabulary is an important aspect of second language acquisition and foreign language learning. Vocabulary knowledge also lead to academic achievement and it is essential to r e adding comprehension and proficiency.

In addition to the vocabulary knowledge, grammar is the important part of learning English as a second language, and the English learners could not become proficient in the language if they do not understand the basic structure as provided by learning grammar (Larson, 2007). It has been showed in the literature that grammar shows a substantial variance with the four skills of the language (Folley, 1999) Without grammar knowledge, ESL or EFL learners could not communicate effective and make their English understandable for the ones they want to communicate with. It is clear that vocabulary and grammar are essential component of English language learning. In order to teach learners to have a good command of English to communicate in various situations, the teacher has to teach both vocabulary and grammar to their students.

To achieve in English vocabulary and grammar learning, the learners need an appropriate method and materials. Based on teaching experience of the researcher in primary schools for more than 8 years, some English teachers still use a traditional method for all materials. The teacher presents the materials by focusing on grammar rules, memorizing vocabulary, translating text, and doing written exercises. Reading, structure, and writing are the primary skills that the students work on, by giving little

attention to speaking and listening. Actually, this method adopts the classical method that is well known as Grammar Translation Method or Direct Method. The major characteristic of Grammar Translation Method (Thuleen, 1969) is a focus on learning the rules of grammar and their application in translation passages from one language into the other. Vocabulary in the target language is learned through direct translation from the native language. Over the years, many different approaches have been created and studied.

However, as the use of computers in language teaching increase dramatically, it is thus challenging to conduct the research based on the appropriate role of computer-based instruction in developing students' vocabulary and grammar knowledge, particularly with young children. Research revealed that computer technology can support learning in many ways, and many features of computer are claimed to enhance vocabulary development (Constatinescu, 2007). Moreover, the results of the studies indicate that computer-based grammar instruction can be effective and more effective than traditional grammar instruction (McEnery, Baker, & Wilson, 1995; Nagata, 1996 as cited in Nutta, 1998).

To my observation as a teacher of English in grade 3 at Promratrangsana School, I found that the students had low English proficiency level; they could not reach the developing level of English. They had many problems in English learning, particularly a lack of vocabulary. In addition, when assigned to participate in English learning activities such as playing games, speaking, listening, reading and writing, the students seemed to be bored and did not enjoy the doing class activities much because they did not understand the meaning of vocabulary. Therefore, it took time for each class activity. Thus, the researcher has tried to find the way to help students

gain more vocabulary size, the ability to remember the vocabulary as well as develop their grammar knowledge for individuals.

Numerous studies have investigated the effective means of teaching vocabulary and grammar and the results revealed many ways of teaching from teacher-directed, cooperative group, metacognitive strategy training on vocabulary, grammar tutorials, grammar instruction online, directed-grammar instruction and individual study with textbooks (Nutta, 1998). Very recently, because of the growth of computing power, computers can do more and more tasks and almost everything is helped and controlled by computers including in English learning in young children. A number of experts and researchers also summarized several advantages of the use of computer-based instruction (Nutta, 1998; Hall, 1998; Taraban 2004; AbuSeileek & Rabab'ah, 2007; Al-Jarf, 2007). The potential benefits of computer-based instruction include individualized learning, adding the variety of language learning experience, interaction among learners which is missing in the textbooks, saving time, facilitating language learning through interaction, self-motivating, and so forth (AbuSeileek & Rabab'ah, 2007).

Yet, the use of computers to teach vocabulary and grammar has not received much attention in Thailand, the researcher therefore was interested in conducting a study into the teaching of vocabulary and grammar in order to develop students' ability in English language so that vocabulary and grammar knowledge could be the foundations of developing the English communicative competence, in general. Therefore, this study investigated whether computer-based instruction is effective in developing grade three students' English vocabulary and grammar knowledge. The study also examined the students' attitude toward learning English vocabulary and

grammar through the computer-based instruction. In the study, the researcher also wanted to compare the computer-based instruction with direct method instruction to see which method is more effective developing students' vocabulary and grammar knowledge

The Purpose of the Study

The purpose of the present study is threefold as follows:

1. To examine whether grade 3 (Prathom Suksa) students improve their English vocabulary and grammar knowledge through computer-based learning.
2. To investigate whether computer-based instruction English is more effective than direct method instruction in developing students' English Vocabulary and grammar knowledge.
3. To investigate students' attitude toward computer-based instruction in developing their vocabulary and grammar knowledge.

Research Questions

This study addresses three research questions as in the following.

1. Is there a significant difference in the students' achievement of the vocabulary and grammar knowledge between the computer-based instruction and the direct method instruction ?
2. Which method of instruction, the computer-based instruction or direct method instruction is more effective in developing students' vocabulary and grammar knowledge?
3. What are the students' attitudes toward learning vocabulary and grammar through computer-based instruction?

The Significance of the Study

This study is significant in the following three aspects.

First, the study looks into the effect of computer-based instruction on primary school children's vocabulary learning and grammar knowledge. Theoretically, the study hopes to ground the studies that investigate the other language skills through the use of computer-based instruction.

Second, the results revealed from the study can help English teachers who teach at the primary school level to develop their students English ability to gain more vocabulary and grammar knowledge.

Finally, the present study focuses on developing students' vocabulary learning and grammar knowledge. It will be beneficial to English instructors teaching primary school children to effectively design the content, materials and activities of the courses by providing individualized learning and the exposure to the computer.

Scope of the Study

The present study was limited to the following;

First, this study was aimed to examine the developing of English vocabulary skills, and grammar knowledge of Prathom 3 students at Promratrangan School, with a total population of 80 students.

Second, the sample groups consisted of students from two classrooms, 40 students each, learning in the second semester of 2011 academic year.

Third, the researcher were assigned to teach those two groups of students and the learning lesson plans as well as teaching materials were developed by the researcher only for the present study based on the school curriculum under the supervision of the advisor.

Finally, although the two groups were taught with different methods, the learning objectives and content were the same to ensure that the students had the equal opportunities to develop their English vocabulary and grammar knowledge.

Definition of Terms

The following terms are defined because they are used repetitively and frequently through the study.

Computer-based instruction.

Computer-based instruction is the learning method which uses computer as a means of teaching and learning the language. Language learning and teaching based on the computer online or offline mostly consist of a lot of pictures, sound, and videos that make it more interesting for children. The students can go back and forth to the lesson as much as they want and they can access anytime and anywhere. In this study computer-based instruction refers to the instruction of English which the PowerPoint program, designed to teach vocabulary and grammar for Prathom three students at Promratrangsarn School .

Direct method instruction.

Direct method instruction refers to teaching vocabulary and grammar using the school curriculum of Promratrangsarn School which is constructed based on the four English curriculum elements namely: objectives, contents, methods, evaluation procedures. In the direct method face-to-face instruction, the teacher teaches by using 3P approach; Presentation, Practice and Product as the main steps for managing the classroom and arranging the class activities. Teacher manages class and run activity by his own.

Vocabulary knowledge.

Vocabulary knowledge means the ability to spell, pronounce and understand the meaning of vocabulary.

Grammar knowledge.

Grammar knowledge means the knowledge of the system of structural rules which describes how words combine with each other to form sentences. It is this knowledge which enables us to distinguish a correct formed English sentence from one which is incorrect formed. For example; parts of the speech, tenses or types of sentences.

Summary of the Chapter

This chapter describes the background of the study consisting of the need for developing English learning in Thai students, problems of learning English in Thai students, particularly at the primary level, and the importance of developing vocabulary and grammar knowledge. It then discussed the benefits of learning English through computer-based instruction as well as the effectiveness of computer-based instruction revealed in previous studies. The chapter concluded with the objectives of the study and research questions, scope of the study, the significance of the study and definition of key terms.

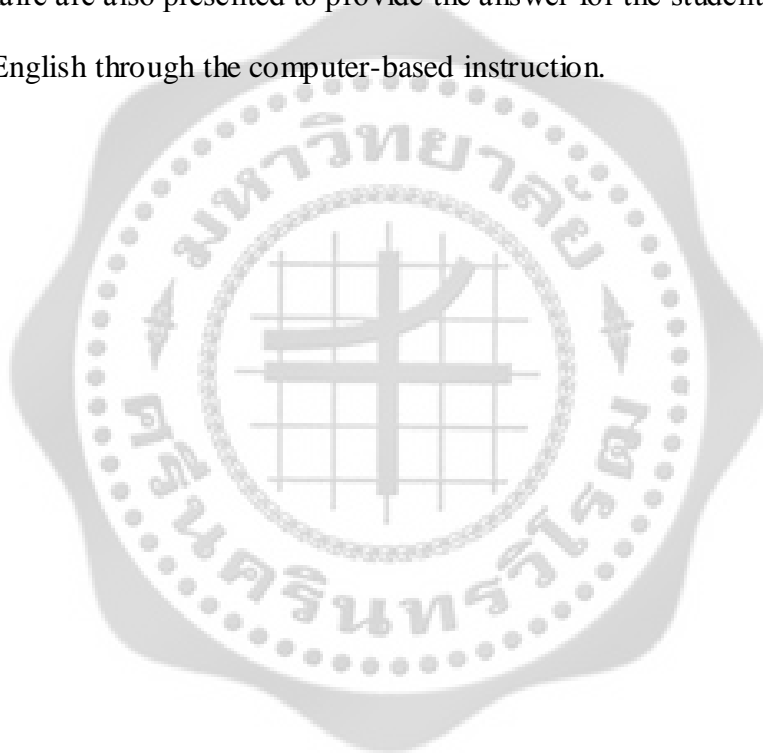
Organization of the Research

The rest of this research is organized as follows:

Chapter 2 includes description of computer-based instruction, a review of related literature on vocabulary learning and grammar instruction through the use of computer.

Chapter 3 discusses the research methodology used in this study consisting of research design, participants, research instruments, and data collection and analysis procedures.

Chapter 4 reports the results of the quantitative analysis of the students' scores from the pretest and posttest referring to the effect of vocabulary and grammar instruction through the computer-based instruction. Also, the results of data from the questionnaire are also presented to provide the answer for the students' attitude toward learning English through the computer-based instruction.



CHAPTER II

LITERATURE REVIEW

The main purpose of the study was to investigate the effects of learning Computer- based Instruction on grade 3 students. This chapter reviews literature related to the research including theory of Computer-based Instruction (CBI), Direct method Instruction (DMI), and vocabulary and grammar teaching. The last section discusses related research studies related to this research.

Computer- Based Instruction

In this study, the term computer-based instruction is the instructional system of processes and activities designed according to the English learning media instructor, characteristics, and models of learning process are based on computer. For this it is similar to e-learning.

Realization of e-learning as autonomous educational procedure; Realization of e-teaching as developmental instructional .Computer-based applications using visualization, modeling, and simulation have been proven to be very powerful tools for teaching various scientific concepts. The research literature abounds with successful applications that have enabled students to master concepts usually considered too sophisticated for their grade level.(White, 1993). For example, technology using dynamic diagrams – that is, pictures that can move in response to a range of input – can help students visualize and understand the forces underlying various phenomena. Involving students in making sense of computer simulations that model physical phenomena, but defy intuitive explanations, has also been shown to be a useful technique. One example of this work is Thinker Tools, a simulation program

that allows middle school students to visualize the concepts of velocity and acceleration.

The benefit of computer –based instruction.

Since, the educational systems worldwide insist on using information and communication technologies (ICT) to teach students who gain the knowledge and skills needed for the future knowledge society (Jimoyiannis and Komis, 2007: 149-150). Both the students and teachers develop a positive attitudes toward learning method by using computers in their classrooms (Tearle and Golder, 2008).

There are many advantages to online and computer-based learning when compared to traditional face-to-face courses and lectures. There are a few disadvantages as well.

(<http://new.dso.iastate.edu/asc/academic/elearner/advantage.html>)

Advantages of computer-based learning.

1. Class work can be scheduled around work and family.
2. Students may have the option to select learning materials that meets their level of knowledge and interest.
3. Students can study anywhere they have access to a computer and Internet connection.
4. Self-paced learning modules allow students to work at their own pace.
5. Instructors and students both report computer based learning fosters more interaction among students and instructors than in large lecture courses.
6. Computer based learning can accommodate different learning styles and facilitate learning through a variety of activities.

7. Develops knowledge of the Internet and computers skills that will help learners throughout their lives and careers.
8. Successfully completing computer-based courses builds self-knowledge and self-confidence and encourages students to take responsibility for their learning.
9. Learners can test their skills over materials already mastered and concentrate efforts in mastering areas containing new information and/or skills.

The teacher roles in computer- based instruction.

There are some suggestions of the models for the teacher as mentor outlined by Morton-Cooper and Palmer (2000) as follows:

1. The apprenticeship model and the mentor as skilled craftsman. This role includes learning by observing. This is sometimes referred to as 'sitting by Nellie'
2. The competence-based model and the mentor as trainer. This encompasses the role of the trainer as an instructor and coach who demonstrates and assists the student to achieve a set of competencies.
3. The reflective practitioner model and mentor as critical friend and co-enquirer. This includes the promotion of collaboration and partnership in the learning process.

In addition teachers can be in a position of the creator of computer based teaching and learning process (Devedži, 2006) or the user of the computer based learning attainment. Teachers need to re-think their underlying assumptions about teaching, about learning process, and, most fundamentally, about their role as educators. Teacher activities in teaching by computer scenarios can be broken into two major tasks: providing the content for the students and supporting communication between students and tutors (Schertler and Bodendorf, 2003). Both tasks pose problems to teachers who are used to follow more traditional teaching methods so far.

Teachers roles in computer based learning can be describe the teachers' competencies in based on the professional roles computer based teaching process. The roles of teacher can be as following:

1. Model teacher creates a model of cognitive functioning in the subjects / course content.
2. Diagnostic teacher observes and examines the students' reaction, activities in e-learning and e-teaching context; he assesses the student on the basis of these reactions.
3. Planner teacher creates the plan of e-teaching, integrates tasks and outcomes, creates plan of teaching/learning content, educational means, e-learning strategies.
4. Manager teacher organizes his/her own and learners' activities in e-teaching context, communication canals, selects e-teaching content and procedures
5. Initiator teacher drives learning process, initiates different e-resources applications
6. Author, creator: teacher can create or develop his/her own teaching materials, procedure, and scenarios.
7. Motivator teacher motivates the students and Partner Teacher cooperates with learners, uses indirect e-teaching communication, creates clearly and
8. Administrator teacher selects, classifies, reports about learners' achievement, dynamic of progress, difficulties in e-learning.
9. Evaluator teacher creates procedures to monitoring learner achievement, evaluates and assesses learning process, analyzes the norms of e-teaching, evaluates the e/teaching contents and procedures.
10. Mediator teacher mediates between the content and learners, uses ICT and e-technologies to mediate in process of learner learning, moderates between of the learners in teaching process.

11. Adviser teacher supports students, supports the process of cognitive difficulties resolving, and directs the learners to use specific knowledge and skills without e-teaching.

12. Learner explores the possibilities of improving work, learns course content, learns about e-education.

Direct Method Instruction

The direct method followed the grammar translation method and was to a large extent a reaction against it. It attempted to give students practice in spontaneous oral communication, and encouragement in thinking in the target language. It was also a total immersion method in direct contrast to grammar translation in which all instruction was in the students' first language.

The direct method also known as the natural method, which is one of the, "language teaching methods based on observation and interpretation of how learners acquire both first and second languages in non-formal settings." (Richards & Rodgers 2001) Krashen and Terrell saw the approach as a "traditional approach to language teaching, because it is based on the use of language in communicative situations without recourse to the native language." (Richards & Rodgers, 2001) arose towards the end of the 19th century when, reacting against what they considered to be the shortcomings of the Grammar Translation Method, a number of linguists and teachers, including Gouin, Berlitz and de Saüzé, developed versions of what came to be known widely as the direct method.

The direct method is based on the idea that learning the second language must imitate the natural way humans learn any language, that is, the child's learning of first language, which takes place without the interference of any other language. The

primary goals of the method were for learners to communicate and to think entirely in the second language. Practitioners of this method use the second language exclusively and never use translation. Everyday vocabulary and structures are taught, and grammar is learnt inductively by generalizing from examples. Oral communication skills are taught by question and answer exchanges between teachers and learners, with all new learning points being introduced orally. The approach focuses on input, comprehension, and meaningful communication and puts less emphasis on grammar, teacher monologue, direct repetition and accuracy. Concrete vocabulary is taught through real objects, pictures and demonstration, abstract vocabulary by association of ideas. Emphasis is placed on correct pronunciation. Self-correction of errors is encouraged.

Advantages - as perceived by its advocates.

- 1) It follows the natural order in which a child learns the first language that is, listening speaking, reading, and writing.
- 2) It lays great emphasis on speaking, the most important skill for many learners. It avoids the unnatural block of translation in the communication process.
- 3) Learners learn the language, not about the language.
Learners have an active role.
- 4) Lively classroom procedures motivate the learner.
The learning is contextualized.
- 5) The emphasis on speech makes it attractive for those who need real communication in the second language.
- 6) The teaching of vocabulary through real objects brings authenticity into the classroom.

Disadvantages - as observed by its critics.

- 1) Learning the second language different from learning the first language. The child learning the first language has no previous language-learning experience, but the learner learning the second language does.
- 2) There is little systematic structural practice.
- 3) Learners run the risk of inducing incorrect rules.
- 4) The method can be effectively used only by teachers who are native speakers.
- 5) The learner is confronted with unstructured situations too soon.
- 6) A great deal of teacher-energy is required.

Activities and materials.

Within a direct method, emphasis is placed on comprehensible input, meaningful communication and a relaxed classroom atmosphere. "To minimize stress, learners are not required to say anything until they feel ready, but they are expected to respond to teacher commands and questions." (Richards & Rodgers 2001: 185) There is a gradual progression from "Yes/No" and simple display questions, to more complex and open questions.

Materials used in a direct method classroom aim at making activities and tasks as meaningful as possible they foster comprehension and communication. Authentic materials, like brochures or maps, as well as visual aids and games are used to facilitate acquisition and to promote comprehension and real communication.

Learner and teacher roles.

The learners' roles change and develop during a natural approach course because there are various stages they have to go through. The first stage is the pre-production stage where the learners are not forced to respond orally and are allowed to decide their own when to start to speak. The next stage, the early-production stage, fosters short answers and the student have to respond to simple questions and to use fixed conversational patterns. In the speech-emergent stage the use of complex utterances emerges, for example in role plays or games. Another important role of the language acquirer is that of "a processor of comprehensible input who is challenged by input that is slightly beyond his or her current level of competence and is able to assign meaning to this input through active use of context and extra linguistic information." (Richards & Rodgers, 2001)

The direct method classroom allocates a central role for teacher, giving them several important roles.

First, the teacher provides a constant flow of comprehensible input in the target language and provides non-linguistic clues.

Second, the teacher has to create a harmonious classroom atmosphere that fosters a low affective filter. Third, the teacher decides on the classroom activities and tasks regarding group sizes, content, contexts, and materials.

Finally, the teacher must, "communicate clearly and compellingly to students

the assumptions, organizations, and expectations of the method." (Richards & Rodgers, 2001) Krashen and Terrell point out the importance of explaining to learners what they can expect and what not of the language course.

There were some effective teachers, those who help students from literacy struggling by combine direct, explicit instruction of strategies and concepts with other teaching approaches, nesting it within complete programs of literacy development (Langer, 2002). They provide students with content-rich materials, interact with them in meaningful discussions, and engage them in purposeful writing, all of which afford students opportunities to explore how to use the strategies and clarify concepts across diverse contexts, and so make the strategies and concepts their own. The best language and literacy presentations also are grounded in real texts and situations (Duffy, 2003). Teachers present strategies and concepts in concert with units' topics and reading materials. They show how particular strategies and concepts can be used to explore a unit's big questions. Additionally, the best presentations are grounded in students' everyday strategic thinking and stores of general knowledge (Langer, 2002), which teachers connect to the academic tasks. The most effective presentations include both verbal and visual explanations (Joyce & Weil, 2000). By completing some sort of graphic organizer as they talk about a strategy or concept, teachers help students trap ideas. Keeping and displaying the representations in the classroom also provides students a model to refer to as they apply a strategy or work with a concept on their own.

Vocabulary teaching

Definition of vocabulary

Vocabulary is one of the language components which must be mastered by the students in learning a new language. They will get difficulties in using English if they are lack of vocabularies. There are many researchers given the definitions of vocabulary as following:

McCarthy (1990) defines vocabulary of language like English consists of several hundred thousand words. McCarthy (1990: viii) also states that vocabulary is the biggest component of any language course.

Hornby (1995) confirms this statement that 1) Vocabulary is the total number of words in a language; 2) List of words with their meanings.

Hayward and Sparkes (1982) define vocabulary is a list collection of words used in language.

Another expert, Murcia (2001) states that vocabulary learning is central to language acquisition, whether the language is first, second, or foreign. Vocabulary is important for communication.

While, Moon in Schmitt and McCarthy (1997) argues that traditionally, vocabulary has been seen as individual words, which could be used with a great deal of freedom, only constrained by grammatical considerations. However, he also argues that vocabulary consists not only of single words; lexemes are often made up of strings of more than one word.

Webster (1983) defines vocabulary as: A list of words, and sometimes, phrase, usually arranged an alphabetical order and defined: a dictionary, glossary,

or lexicon. All the words used by a particular person, class, profession, etc; 'sometimes', all the words recognized and understood by a particular person, although not necessarily used by him (in full, passive vocabulary).

Similarly, Hornby (1995) defines vocabulary as: The total number of words in language. All the words known to a person or used in a particular book, subject, etc. A list of words with their meanings, especially one that accompanies a text book in a foreign language.

According to the definitions above it can be concluded that vocabulary is a list of words in a written or spoken language, with meaning that is considered as cultural meaning used by group or individual community or grammatical considerations.

Teaching English vocabulary.

Vocabulary is always the most important part of English as a foreign language instruction material. It is true that vocabulary plays an important role in the four language skills. Vocabulary development has to deal with words and meanings.

There were many linguistic educators who suggested how to teach vocabulary as follows: among issues of major interest are the development of vocabulary learning strategies, the frequency with which these strategies are used by second language learners, learners' perceptions regarding the usefulness of these strategies, major styles in strategy use and the relation between strategy use and second language vocabulary size and proficiency. In this literature, the distinction between vocabulary learning strategies and vocabulary teaching strategies is not clearly drawn as commented by O'Malley et al. (1985): "Learning, teaching, and communication strategies are often interlaced in discussions of language learning and often applied to the same behavior".

According to Schmitt (1997), a vocabulary learning strategy is any strategy that results in the learning of vocabulary. Notably, this covers vocabulary teaching strategies as well since they also lead, or are meant to lead, to vocabulary learning. It will be argued here that vocabulary learning and teaching strategies should be defined in a mutually exclusive manner.

Further suggestion of vocabulary learning strategies (Sanaoui, 1995), defines learners' study habits of second language vocabulary and vocabulary teaching strategies as actions taken by the teacher to teach or practice target vocabulary. Thus, a learning strategy is self-initiated by the learner whereas a teaching strategy is teacher-initiated.

Schmitt and McCarthy (1997) stated that teacher should concern with what words are suitable to be taught to the students. We should select and grade the words according to the level of the students in a certain way so their students will learn easily. The words will be taught to the students are common and suitable for their level.

Further, Madsen (1983) states that the purpose of vocabulary test is to measure the comprehension and production of words used in speaking or writing. The meaning shows that the vocabulary mastery can be measured when someone is able to comprehend and produce the words used in speaking and writing. It is necessary to consider some aspects of vocabulary when teaching a second or foreign language so that learners are able to get the meaning from words or texts. There are five or six aspects of vocabulary that must be considered by the teacher, as follows: 1) A single word, 2) A set phrase, 3) A variable phrase, 4) A phrasal verb, or 5) An idiom.

In addition, pronunciation and spelling pronunciation is what a word sound likes, while spelling is what it looks like. In teaching, teacher needs to make sure that both aspects are accurately presented and learned.

Grammar Teaching

Grammar is important because it is the language that makes it possible for us to talk about languages. Grammar names the types of words and word groups that make up sentences not only in English, but in any languages also. As human beings, we can put sentences together even as children. But to be able to talk about how sentences are built, about the types of words and word groups that make up sentences - that knows about grammar. And knowing about grammar offers a window into the human mind and into our amazingly complex mental capacity.

Grammar, one of the keys to making a good writer, is such a difficult concept for students to learn. Weaver (1996) says that teaching grammar in context is like teaching a child to learn to talk. Children acquire language by putting words together and then, eventually forming them to make a sentence. The manner, students sometimes acquire grammar skills as they draw hypotheses about a (rule) and then, eventually putting it together in writing. He further says “grammar” enables all of us to comprehend and produce language rather than analyze the words that are produced.

This is because the ability of an individual to use the rule of any language productively at all is dependent on the individual’s understanding of that language and this is what ‘grammar’ does. Grammar operates at the sentence level and governs the syntax or word orders that are permissible in the language. It also works at the sub-sentence level to govern such things as number and person agreement between subject and verb in a sentence.

Teaching grammar was a central concern in English language teaching. We often talk about 'knowledge' the structure of a language. This can mean two things. First, it can refer to the unconscious ability to use the structure of a language to convey meaning. Secondly, 'knowing' the structure of a language may refer to the information that has been acquired through studying structural descriptions. We call these two types of knowledge 'unconscious' and 'acquired.' This distinction is important, because it is relevant to what the student needs to know and what the teacher needs to know. The student needs to be able to produce correct sentences automatically. Teachers cannot presume to have taught students a particular structure by getting them to memorize the rules.

The goal of grammar instruction.

The goal of grammar instruction is to enable students to carry out their communication purposes. This goal has three implications; students need overt instruction that connects grammar points with larger communication contexts, students do not need to master every aspect of each grammar point, only those that are relevant to the immediate communication task. Error correction is not always the instructor's first responsibility. An important part of grammar instruction is providing examples. Teachers need to plan their examples carefully around two basic principles: 1) Be sure the examples are accurate and appropriate. They must present the language appropriately, be culturally appropriate for the setting in which they are used, and be to the point of the lesson, 2) Use the examples as teaching tools. Focus examples on a particular theme or topic so that students have more contact with specific information and vocabulary.

Relevant Studies on Computer-Based Instruction

Related studies to problems with vocabulary and grammar knowledge have been identified in Thailand as well as a number of other countries. These studies have been conducted in order to investigate the factors which affect English vocabulary and grammar knowledge and identified several factors which have a negative impact on students' vocabulary and grammar knowledge.

Estevez (2002) investigated whether in recent years, the evolution of information and communications technologies (ICT) has given rise to a great many e-Learning systems and resources, bringing with it, as is customary, problems of reuse and interoperability. As a result of this situation, a number of international institutions and groups have embarked on a process of standardization in order to obtain a set of broadly accepted recommendations. This article aims to show readers the present state of the art and current trends in the standardization process of computer based learning.

In another research Mayor (2002) Computer-based multimedia learning Environments- consisting of pictures (such as animation) and words (such as narration) - offer a potentially powerful venue for improving student understanding. How can we use words and pictures to help people understand how scientific systems work, such as how a lightning storm develops, how the human respiratory system operates, or how a bicycle tire pump works? This paper presents a cognitive theory of multimedia learning which draws on dual coding theory, cognitive load theory, and constructivist learning theory. Based on the theory, principles of instructional design for fostering multimedia learning are derived and tested. The multiple representations principle states that it is better to present an explanation in words and pictures than

solely in words. The contiguity principle is that it is better to present corresponding words and pictures simultaneously rather than separately when giving a multimedia explanation. The coherence principle is that multimedia explanations are better understood when they include few rather than many extraneous words and sounds. The modality principle is that it is better to present words as auditory narration than as visual on-screen text. The redundancy principle is that it is better to present animation and narration than to present animation, narration, and on-screen text. By beginning with a cognitive theory of how learners process multimedia information, we have been able to conduct focused research that yields some preliminary principles of instructional design for multimedia messages. 2001 Elsevier Science Ltd.

Additionally, Overfield (2003) states that Computer based learning (CBL) is increasingly used to enhance the learning experience. Cultural differences and attitudes in learning and teaching are an important consideration for tutors engaged in the choice and provision of CBL materials. We have compared the attitudes of Pharmacy/Dentistry students in a combined class (n=106) at the University of Queensland (UQ) with BSc Biological /Biomedical students at the Manchester Metropolitan University (MMU) (n=33) after using a Haemostasis CBL package. Results show that MMU students enjoyed the learning process more than UQ students. Both groups agree that moving graphics made CBL interesting and understandable. Students' autonomy of study pattern is seen to be important by both groups. Students' perception of the tutor's role during CBL sessions shows that both groups consider this to be a necessary support. Major differences in student opinion at UQ and MMU can be seen regarding the relevance and content of the material to their curriculum. This is a necessary factor in facilitating learning. CBL is a valuable

learning and teaching resource providing consideration is given to the nature of the student group. Availability and accessibility of computers is essential; students are unhappy with CBL if support is lacking.

Baker (2007) investigate whether computer based learning environment has been widely discussed, especially in finding a better way to incorporate computer-based activities in the classroom. Lately, the use of computers in the classroom is particularly important in the context of teaching and learning English as a second language. This paper aims to investigate and to understand how computer-based activities are organized in a school situation that is totally dependent on the syllabus. This study is a case study that incorporates classroom observations, field-notes, interviews and written documents. Both computer-based activities and non computer-based activities in ESL classrooms were recorded and analyses. This study concludes that the opportunities for students to learn English as a second language using computers are very wide, and the use of L2 can be increased if authentic computer-based activities can be incorporated in the lesson. Furthermore, from educators' perspectives, with a variety of computer-based activities, computer can help facilitate needs and challenge students' learning practices (Warschauer and Healey, 1998). However, many findings concluded that letting the students use computers in the classroom without any concrete activities that relate to language learning and without any understanding of the conditions of using computers in the world.

In another research, Hornarman (2008) regarding to the fast growth of computer, internet, and virtual learning in our country (Iran) and need computer-based learning systems and multimedia tools as an essential part of such education, designing and implementing such systems would help teach different field such as science. This

paper describes the basic principle of multimedia. At the end, with a description of learning science to the infant students, the method of this system will be explained.

The suggestion of the study the research stated that in order to promote the ability of teaching and learning by self, encourage teachers participate refresher curriculum and can be able to adapt the changes of educational revolution and to ensure the function of the curriculum development committee: In order to increase execution of school organization, the function of curriculum development committee should have more open discuss, idea communion and inspirit cogitation in the meeting.

Bertea (2009) studied the measuring students' attitude towards e-learning. This study was designed to examine students' attitudes towards e-learning. Results revealed that there is a connection between technical abilities and students' attitude towards e-learning. Attitude is also influenced by time dedicated to computer use, indicator of PC experience. There were found attitude differences in the case of hired students compared with the unemployed ones. No influences were registered due to specialty and year of study. We expected to find an influence coming from postgraduate studies, where over 60% of students have a job and attitude towards e-learning should have been according to specialists more favorable. An explanation can be the changes of the educational system and the introduction of Bologna cycle, students considering masters' studies as important as bachelors'.

Mishra and Panda (2007) developed a scale composed of 12 items with the purpose of measuring attitude towards e-learning. The stages of the scale development were the following: obtaining 29 items regarding attitude towards e-learning based on extensive literature review, choosing the right type of scale measurement – 5 points

Likert, validation of items by experts in the field, testing the scale on a sample of 150 persons and, in the end, analyzing results and optimizing the scale by obtaining a significant value for the alpha Cronbach coefficient.

Gunlaya Buranakij (2009) was study about the effect of using computer multimedia instruction on “Adjective, Adverb and Conjunction” in the substance group of foreign program for the second level students. The objectives of the research were to develop and study the effect of using computer multimedia instruction on “Adjective, Adverb and Conjunction”.

The result of the research revealed that: In the study of instructional multimedia computer development has a quality of the computer multimedia instruction that evaluated of content expert been ranked at very good level and educational technology expert was ranked at a good level and its efficiency was 90.58/91.44 which corresponding with provided criteria. In the study of effect of using computer multimedia instruction was found that there were 86.66 percent achieved students of all that passed 80 percent criteria.

Moreover, the discussion was mention about computer multimedia instruction designing which were consisted of contents, texts, pictures, animations and sounds. They were connected and students could response by seeing and listening that could help the students in learning process. In addition, students were free to learn by themselves and they can learn as much as their competency.

The research suggested that to develop the computer multimedia instruction for enhancing the students, teacher should create more and apply for other topics in order to the alternative for student’s self learning, which is fill the gap of the individual different. However, the research suggests that teachers or researchers should knowing

about multimedia instruction design theories, that include techniques and procedures of instruction.

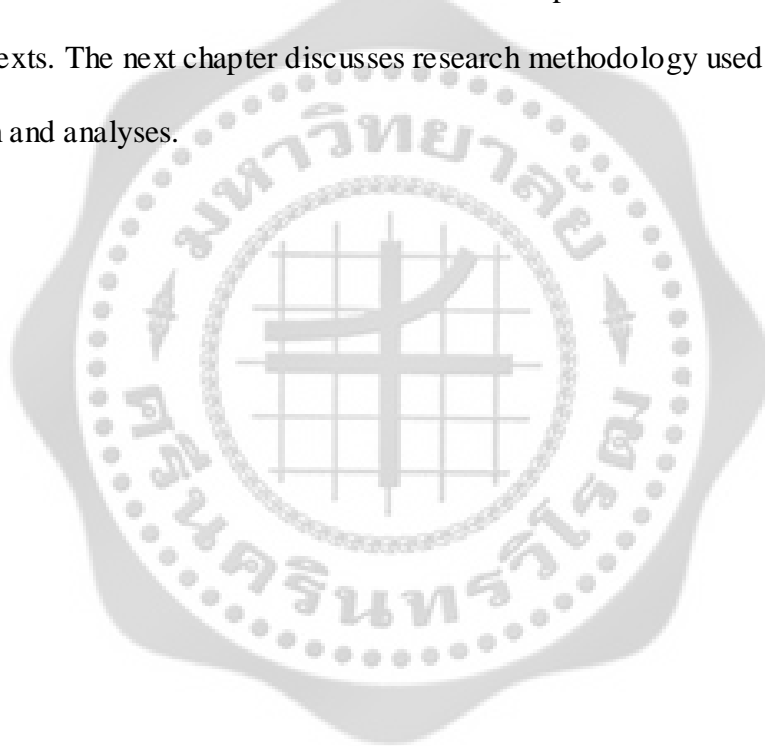
Chukietwongskul's study on titled (2008) "*The Achievement and Learning Retention in English of Matthayomsuksa1 Students by Using Computer Assisted Instruction.*" The objective of the study were to compare students' learning achievement and to compare the retention of learning achievement of English for Matthayomsuksa 1 students. The samples were consisted of 72 students from Tedsaban school in 2007 academic year by random selecting method. The research instrument were 1) the computer assisted instruction of English lesson, 2) the learning achievement test of English and 3) the evaluation form for the computer assisted instruction. The results indicated that the computer assisted instruction had the efficiency of 80.86/83.33 that was higher than the 80/80 criteria. The learning achievement of English subject after using computer assisted instruction and post test scored was significantly higher than pre test at .01 levels, and the learning retention and the achievement after using computer assisted instruction and post test scored was significantly different at .05 levels. Moreover, the researcher suggested that should also apply for other topics or other subjects. She stated that the computer assisted instruction was consisted of pictures, animation and multimedia, they were encouraged students to attend the lesson or in the other word is they making the lesson more interesting.

In brief, the result of these studies was drawn that computer-based instruction treatment significantly improves students' vocabulary and grammar knowledge. It is also said that this instruction works well with teaching vocabulary and grammar knowledge. It helps students raise effectiveness and achievement. It provides the

contents, animate and sounds to deal while learning. Most of all, it develops the skills for students to face.

Summary of the Chapter

This chapter described the theoretical framework of the present study was conducted. A review of related literature discussed the importance of computer-based instruction, vocabulary learning and theory as well as grammar instruction. The final part reviewed the relevant studies on the case of computer-based instruction, mostly in EFL contexts. The next chapter discusses research methodology used for data collection and analyses.



CHAPTER III

RESEARCH METHODOLOGY

The main purpose of the study was to investigate the effect of teaching students to learn vocabulary and grammar through computer-based instruction. It also examined the students' attitude toward learning vocabulary and grammar through the computer-based instruction. The chapter then presents the research methodology used in this study. It aimed to give an overview of the research procedures including the descriptions of the population and samples of the study, duration of the study, research instruments, data collection and data analysis.

Research Procedure

Research design.

This study was a quasi-experimental study with a pretest-posttest control group design. That is, the experimental group received experimental treatment- learning vocabulary and grammar through computer-based instruction, whereas, the control group learned vocabulary and grammar through direct method instruction.

The pretest was administered to each group as the first measurement at the beginning of the experiment and the posttest was administered to both groups at the end of the experiment.

Sampling procedure.

Selection of a school.

The study occurred in Promratrangan School, in the west of Bangkok. The researcher selected this school for the study because it is the public school where the researcher has been teaching. The researcher has been assigned to teach 3rd grade

students. Therefore, it is convenient to use the purposive sampling procedure for the selection of the participants. In 2010, a few of grade six students of this school passed the examination to study in the secondary government school. The management department of this school reported that only one percent of the students. They also got low marks in the English test.

Participants.

The participants of this study consisted of 80 grade 3 students at Promratrangsarn School, in 2011 academic year with a total of 80 students studying English as a foreign language which is a basic course. These participants were selected out of three existing classes learning in the second semester of academic year 2011 using convenience sampling procedure. The students then were randomly assigned into the experimental group and control group, 40 students in each group.

Data.

Data of the study were: scores of the vocabulary pretests and posttests, scores of grammar pretests and posttests, and self-rating of Learning English Attitude Questionnaire

Variables.

The variables of the study included the independent variable and dependent variables

Independent variable was the method of teaching vocabulary and grammar through computer-based instruction and direct method instruction.

Dependent variables were the improvement in vocabulary and grammar grammar knowledge through computer-based instruction and direct method instructions.

Instrumentation

Research instruments.

Research instruments used for data collection included Vocabulary Test, Grammar Test, and English Learning Attitude Questionnaire.

Vocabulary test.

Vocabulary test was constructed by the researcher and used for both a pretest and a posttest to find out the effect of learning vocabulary through the computer-based instruction. The vocabulary test comprised of 2 parts: Part 1 included 10 items for word spelling completion aiming at measuring students' knowledge of word spelling. Part 2 included 20 multiple-choice items of four alternatives aiming at measuring students' knowledge of word meanings. At the beginning of the test paper, the instructions of the test were introduced. The time allocated for the test was 50 minutes. Concerning the scoring, one mark is given for each item, so the total score is out of 30.

The vocabulary test was administered to both groups (experimental and control) to assess their previous vocabulary knowledge before the study started. The aim of the pretest was to assess the students' background knowledge of the word spelling, the meaning of vocabulary and application of vocabulary in sentences. Vocabularies measure four topics: rooms in the house, parts of the body, counting the numbers, days of the week. The pretest was also used as the posttest to assess the students' achievement on the four topics of vocabulary learned during the past 8 weeks. The objective of the posttest was to assess the effect of both instructional

methods (computer-based instruction and the school-based English curriculum) on students' achievement. Table 1 shows the table of test items for the vocabulary test (also see Appendix A).

Table 1

Vocabulary Test Items

Content	Objectives of Assessment	Number of Items	Weight Total
1. Rooms in the house	-spelling of vocabulary	2	8
	- meaning of vocabulary	2	
	- application in sentences	4	
2. Parts of the body	-spelling of vocabulary	2	8
	- meaning of vocabulary	2	
	- application in sentences	4	
3. Counting the numbers	-spelling of vocabulary	2	7
	- meaning of vocabulary	1	
	- application in sentences	4	
4. Days of the week	-spelling of vocabulary	4	7
	- meaning of vocabulary	3	
	- application in sentences		
Total		30	30

Grammar test.

Grammar test was also constructed by the researcher and used for both the pretest and posttest to find out the effect of learning grammar through the computer-based instruction. The grammar test consisted of 20 items and it was divided into 2 parts. Part 1 included 5 items asking students to complete each sentence using this is and these are. Part 2 consisted of 15 multiple-choice items of four alternatives aiming at assessing students' knowledge about the use question words: what/ where, and how many, countable nouns, singular and plural, there is / there are, articles (a, an), preposition of time and auxiliary such as do and do not.

The grammar test was administered to both groups after the vocabulary test

test, at the beginning of the implementation, as a pretest and after vocabulary test and at the end of the experiment as the posttest. The time allocated for the test was 50 minutes. Concerning the scoring, one mark is given for each item, so the total score is out of 20. Table 2 illustrates the number of test items and the focus of each part of the Grammar Test (Also see Appendix B).

Table 2

Grammar Test Items

Content	Objectives of Assessment	Number of Items	Weight Total
1. Rooms in the house	Wh Questions (Multiple choice)	10	10
2. Parts of the body	This/There (Multiple choice)	5	5
3. Counting the numbers	This/There (Multiple choice)	5	5
4. Days of the week	Preposition (Multiple choice)	5	5
Total		20	20

The procedure of test construction.

The Vocabulary Test and Grammar Test were constructed by the researcher as in the following procedures.

1. Studied Basic Education Curriculum of Thailand B.E. 2551 and School Curriculum about English Learning as Foreign Language for Grade 3 and determined the content then set the objectives of learning.

2. Studied the principles of writing the test items from the following books:

- 1) *Testing and Evaluating of English Learning* (Wongsothorn, 2001), 2) *Assessing*

Vocabulary (Karin Hess, National Center for Assessment, 2008) and 3) *Measurement and Evaluating in Linguistics* (Gynkkaew, 2003).

3. Studied the contents that had been selected then write test blueprint of Vocabulary Test and Grammar Test.

4. Write the test items, which are corresponding with the objectives. The vocabulary test consisted of 30 items and 20 items for Grammar Test. The objectives of measurement for the Vocabulary Test were 1) spelling check, 2) word meaning and 3) application of words in sentences; the objectives of Grammar Test were the use of grammar in a varieties of topics learned during 8 weeks, mentioned above.

The test validity.

The test content was validated by three English experts as follows:

1. The researcher provided the form for three English experts and asked them to validate the content of the tests with regard to test instructions, the relevance of questions to contents, its suitability to the research objectives and research questions, and the appropriateness of test items, time allocated to the test.

2. The Item-Objective Congruence Index (IOC) values were calculated to determine whether they were greater than 0.5. The comments from the experts were taken into consideration and then the researcher revised the test items before trying out the test with students in grade 3 in Wat Chanpraditharam School who were not the participants of the study.

Learning English Attitude Questionnaire.

The Learning English Attitude Questionnaire (Appendix C) was composed of 10 items of Likert scale type except 2 open-ended questions. The purpose of using the questionnaire was to measure students' attitude towards the use of computer-based

instruction in learning vocabulary and grammar. The questionnaire asked the students' attitude toward learning vocabulary and grammar through computer-based instruction. The questionnaire was conducted after the posttest.

Instructional Materials

Lesson Plan for Computer-Based Instruction.

There were 4 lesson plans for teaching vocabulary and grammar for the Computer-Based Instruction. Each lesson lasted two weeks, so the time for implementation was totally 8 weeks excluding the time for the pretest and posttest.

Direct Method Face-to-Face Instruction.

There were 4 lesson plans for teaching vocabulary and grammar for the Direct Method Instruction face to face. Teacher taught by use 3P approach; Presents, Practice and Product in the class room. Teacher manages class and run activity by his own.

The procedure of lesson plan construction.

The lesson plans for the Computer-Based Instruction were design as follows:

1. Studied Basic Education Curriculum of Thailand B.E. 2551 and School Curriculum about English Learning as Foreign Language for Grade 3. and determined the contents then set the objectives of learning.
2. Studied theories, principles, related studies and teaching English Techniques regarding vocabulary and grammar. .
3. Construct the lesson plans of Computer-based Instruction and School-based Curriculum Instruction concerning four topics: 1) Rooms in the house,2) The parts of the body,3) Counting the numbers and 4) Days of the week

Validity of the lesson plans.

The content of the lesson plans was validated by two experts: an English instructor from Srinakharinwirot University and the English teacher from Wat Chanpradittharam School to examine and check the content of the lesson plans and then made the modifications in accordance with their comments and suggestions. Table 3 shows the implementation plans for the Computer-based Instruction.

Table 3

The Lesson Plan for the Computer-Based Instruction

Lesson Plans	Contents	Sources	Contents
1.Room in the House	Room and things in the house	www.yenta4.com/wallpaper http://www.google.com/search	Vocabulary
2.Room in the House	What/ Where	www.yenta4.com/wallpaper http://www.google.com/search	Grammar
3.Room in the House	Exercise 10 items	www.yenta4.com/wallpaper http://www.google.com/search	Exercises
4.Parts of the body	Parts of the body	www.yenta4.com/wallpaper http://www.google.com/search	Vocabulary
5.Parts of the body	Countable nouns: singular ,plural There is / There are	www.yenta4.com/wallpaper http://www.google.com/search	Grammar
6.Parts of the body	Exercise 10 items Counting the Number	www.yenta4.com/wallpaper http://www.google.com/search	Exercises
7 Counting the Number	1-10	www.yenta4.com/wallpaper http://www.google.com/search	Vocabulary
8.Counting the Number	Using How many....? Articles a, an	www.yenta4.com/wallpaper http://www.google.com/search	Grammar
9.Counting the Number	Exercise 10 items	www.yenta4.com/wallpaper http://www.google.com/search	Exercises
10.Days of the week	Days in the week	www.bearthepooh.com http://www.google.com/search	Vocabulary
11.Days of the week	Preposition of time Auxiliary verb do, do not	www.bearthepooh.com http://www.google.com/search	Grammar
12.Days of the week	Exercise 10 items	www.bearthepooh.com http://www.google.com/search	Exercise

Data Collection

The procedure of the experiment.

The data collection for each research question was in the following procedures.

1. The vocabulary pretest and grammar pretest were administered to the students in both the experimental and the control groups in the first week of the class.

2. The researcher as a teacher explained the purpose of the instruction and made an agreement with students about the methods of learning, process of each activity and the evaluation method before the experiment.

The experiment of the study was implemented as in the following.

3. The students in the experimental group was taught using the Computer-based Instruction lesson plans for 8 weeks while the students in the control group was taught through the Direct Method Instruction.

4. After 8 weeks of teaching, the posttest for vocabulary and grammar were administered to the students in both groups.

5. After the posttest, the attitude questionnaire was conducted to the students in the experimental group to examine their attitude toward learning vocabulary and grammar through the Computer-based Instruction.

6. The two tests of both groups were marked and scored for data analysis.

Data Analysis

The data were analyzed quantitatively as in the following procedures.

1. The pretest and posttest scores of both Vocabulary Test and Grammar test from both groups were analyzed and calculated for the means and standard deviation using n SPSS program and interpreted statistically.

2. Then the means of the pretest and posttest of the students in the experimental group was compared within the same group using the paired t-test. The result revealed the effect of learning vocabulary and grammar through the Computer-Based Instruction.

3. Compared the means of the pretest and posttest of students in the control group used the paired t-test. The result revealed the effect of learning vocabulary and grammar through the Direct Method Instruction.

4. The means of the posttest of students in the experimental group and control group were compared by using independent t-test to determine if there is a significant difference between the mean scores of the two groups. The results reveal the difference in the effect of two teaching methods: Computer-based Instruction and the Direct Method Instruction.

Summary of the Chapter

The research method used in this study was described in this chapter. The implementation of Computer-based Instruction and Direct Method Instruction were detailed followed by the data collection and analyses produced for the pretest and posttest of Vocabulary Test and Grammar Test. The results of quantitative data analysis are reported in Chapter 4.

CHAPTER IV

RESULTS OF THE STUDY

The main objective of this present study was to find out if there is a significant difference in the students' achievement of the vocabulary and grammar knowledge of grade 3 students learning Computer-based Instruction and Direct Method Instruction. It also compared two methods of teaching vocabulary and grammar as well as the students' attitude toward the Computer-based Instruction. This chapter then presents the results of the study, the effect of Computer-based Instruction and Direct Method Instruction for developing grade three students' vocabulary learning and grammar knowledge. In addition, it reports the students' attitude toward the Computer-based Instruction obtained from the questionnaire.

Students' Overall Achievement on the Vocabulary and Grammar Learning

The first research question asked if there is a significant difference in the students' achievement of the vocabulary and grammar knowledge between the computer-based instruction and the direct method instruction. Analysis of the mean scores using the paired t-test from pretests and posttests of the students in the experimental group who were taught through computer-based instruction and the control group who were taught through the direct method instruction was performed to test significant differences within the same group. Table 4 presents the means and standard deviations within the experimental group and the control group for students' achievement in the posttest.

Table 4

The Overall Means and Standard Deviations on the Students' Pretest and Posttest for Vocabulary Test and Grammar Test of the Experimental and Control Groups

Groups	n	Pretest		Posttest		t	p-value
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Computer-based Instruction	40	32.48	4.50	42.60	2.57	-18.13	.000**
Direct Method Instruction	40	31.75	3.74	38.83	3.26	-15.75	.000**

* Significant at the .05 level ($p < .05$)

Table 4 shows the pretest and posttest means with 32.48 for the pretest and 42.60 for the posttest of the students in the Computer-based Instruction group respectively. T-test results showed that there was a statistical difference between the pretest and post-test, $t = -18.13$, $p < .05$. This proved that the Computer-based Instruction is effective in developing students' vocabulary and grammar knowledge.

Table 4 also shows the means of the pretest and posttest of Direct Method Instruction, with 31.75 for the pretest and 38.83 for the posttest. A comparison between the overall means of the pretest and the posttest of the Direct Method instruction revealed that there is a significant difference between the pretest and the posttest. T-test results showed that there was a statistical difference between the pretest and post-test, $t = -15.75$, $p < .05$. These differences proved that the students received both teaching methods improved their vocabulary and grammar knowledge.

The researcher further compared the mean scores of the pretest and the posttest of the students within the Computer-based Instruction and Direct Method Instruction accordance with the scores of the Vocabulary Test and Grammar Test. The results also

revealed the significant differences between the pretest and posttest of the two tests.

Table 5 shows a comparison of the mean scores from the Vocabulary Test and Grammar test of the Computer-based Instruction group and Table 6 shows a comparison of the mean scores of two tests of the Direct Method Instruction group.

Table 5

The Differences in the Mean Scores of the Vocabulary Pretest and Posttest and Grammar Pretest and Posttest of the Computer-based Instruction Group

English Skills	n	Pretest		Posttest		t	p-value
		M	SD	M	SD		
Vocabulary	40	18.95	2.82	25.80	1.49	-19.174	.000**
Grammar	40	13.52	1.92	16.80	1.34	-11.525	.000**

* Significant at the .05 level ($p < .05$)

According to Table 5, the mean score of the posttest of the students in the Computer-based Instruction is significantly high than that of the pretest; $t = -19.174$, $p < .05$. This shows that the students improved their vocabulary knowledge after receiving the teaching of vocabulary through the Computer-based Instruction. Similarly, the means of posttest in accordance with the Grammar Test is statistically higher than that of the pretest; $t = -11.525$, $p < .05$. This proved that the students' gained grammar knowledge after the treatment.

Table 6

The Differences in the Mean Scores of the Vocabulary Pretest and Posttest and Grammar Pretest and Posttest of the Direct Method Instruction Group

English Skills	n	Pretest		Posttest		t	p-value
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Vocabulary	40	18.78	2.89	23.70	2.41	-13.593	.000**
Grammar	40	12.98	1.33	15.13	1.22	-10.86	.000**

* Significant at the .05 level ($p < .05$)

As shown in Table 6 above, there are observed differences between the mean scores in the pretest and posttest of both Vocabulary Test and the Grammar Test of students in the control group, who learned through Direct Method Instruction. These differences are most likely due to vocabulary and grammar instruction these groups received. This indicates that the students' knowledge of vocabulary and grammar improved.

The Comparison of Students' Achievement in the Computer- based Instruction and the Direct Method Instruction Groups

To find out if there were any significant differences between the pretest and posttest results between the two teaching methods: the Computer-based Instruction and the Direct Method Instruction, the research compared the overall means scores of the pretest and posttest of both groups to determine the differences at the .05 level using the independent t-test analysis. Table 7 shows the comparison of the overall means in the pretest and posttest of students in both groups.

Table 7

The Differences in the Mean Scores of the Pretest and Posttest between the Computer-based Instruction Group the Direct Method Instruction Group

Tests	n	Computer-based Instruction		Direct method Instruction		t	p-value
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Pretest	40	32.48	4.50	31.75	3.74	.784	.436
Posttest	40	42.60	2.57	38.83	3.27	5.75	.000**

* Significant at the .05 level ($p < .05$)

According to Table 7, before learning, a significant difference was not found in the overall mean scores obtained from the pretest of Vocabulary Test and Grammar Test of the students in both groups. This shows that before treatment, the students were not different in their background knowledge of vocabulary and grammar. However, after learning, the result revealed that there was a significant difference in the mean scores of was both groups; the means of the Computer-based Instruction group was higher than that of the Direct Method Instruction group. This indicated that the students in the CBI group had more improvement in their vocabulary and grammar knowledge then those of the students in the group.

The Comparison of Students' Achievement in Vocabulary Learning of the Computer- based Instruction and the Direct Method Instruction Groups

The researcher further compared the mean scores of the pretest and posttest of the Vocabulary Test and Grammar Test. To determine the differences in the means of each test between two groups of the students in both experimental and control groups the independent t-test was applied. Table 8 presents the analysis of results of the Vocabulary Test. Table 9 presents the analysis of results of the Grammar Test.

Table 8

The Differences in the Mean Scores of the Pretest and Posttest of the Vocabulary Test between the Computer-based Instruction Group the Direct Method Instruction Group

Vocabulary Test	n	Computer-based Instruction		Direct method Instruction		t	p-value
		M	SD	M	SD		
Pretest	40	18.95	2.82	18.75	2.89	.274	.785
Posttest	40	25.80	1.49	23.70	2.41	4.690	.000**

* Significant at the .05 level ($p < .05$)

As shown in Table 8, the means of the pretest of Vocabulary Test, before learning of the students in both groups were not significantly different. After the experiment, there was a significantly difference in the means of both group; the mean of the Computer-based Instruction group was statistically higher than the Direct Method Instruction at the .05 level ($t=4.690$, $p < .05$). This shows that the students learning vocabulary through computer can improve their vocabulary knowledge more than those who were taught by the Direct Method Instruction.

Table 9

The Differences in the Mean Scores of the Pretest and Posttest of the Grammar Test between the Computer-based Instruction Group the Direct Method Instruction Group

Grammar Test	n	Computer-based Instruction		Direct method Instruction		t	p-value
		M	SD	M	SD		
Pretest	40	13.53	1.92	12.98	1.33	1.489	.141
Posttest	40	16.80	1.34	15.13	1.22	5.830	.000**

* Significant at the .05 level ($p < .05$)

Similar to vocabulary learning, according to Table 9, the means of the pretest of Grammar Test, before learning of the students in both groups were not significantly different. After the experiment, there was a significant difference in the means of both groups; the mean of the Computer-based Instruction group was statistically higher than the Direct Method Instruction at the .05 level ($t=5.830$, $p<.05$). This shows that the students learning grammar through computer can gain more knowledge of grammar than those who learned through the Direct Method Instruction.

Students' Attitude of toward Computer-based Instruction

To investigate the students' attitude toward the Computer-based Instruction, data from the questionnaires were analyzed for the means and standard deviations. The means were interpreted into three levels: high (3.50-5.00), moderate (2.50-2.49), low (1.00-2.49). Table 10 below displays the means and standard deviations for of grade 3 students' attitude toward English vocabulary and grammar learning through Computer-based Instruction.

Table 10

Mean and Standard Deviations for the Self-report of Students' Attitude

Questions	<i>M</i>	<i>SD</i>	Level
1. Learning English through computer is more effective than Learning in a book.	4.78	0.53	high
2. Learning English through a computer is both knowledgeable and enjoyable.	4.88	0.40	high
3. Computer makes learning English vocabulary and grammar more interesting and easy.	4.68	0.66	high
4. Learning English through a computer system helps me improve my vocabulary.	4.78	0.48	high
5. Learning English through a computer system helps me improve my grammar.	4.88	0.33	high
6. Learning English through a computer is fun.	4.78	0.42	high
7. Learning English through a computer has many benefits for Thai children.	4.75	0.54	high
8. Learning English vocabulary and grammar through a computer is useful for my studies.	4.85	0.43	high
9. I like to learn English through a computer more than with a teacher.	4.68	0.53	high
10. I learn more English though a computer than with a teacher.	4.63	0.67	high
Total	4.77	0.43	high

According to Table 10, it shows that overall students' attitude toward English vocabulary and grammar by Computer-based Instruction was at the high level with overall mean was 4.77 ($SD = 0.43$). The highest means fell into Item 2 ($M=4.88$, $SD = 0.40$) with the statement "*Learning English through a computer is both knowledgeable and enjoyable.*", and Item 5 ($M=4.88$, $SD=0.33$) with the statement "*Learning English through a computer system helps me improve my grammar.*" The lowest mean satisfaction was statement "*I learn more English through a computer than with a teacher.*" (Item 10- $M=4.63$, $SD = 0.67$). Overall students were satisfied with English vocabulary and grammar through Computer-based Instruction.

The Students' Opinion towards the Computer-based Instruction from Open-ended Questions.

The discussion for the opinion questionnaires on two open-ended questions are as followed:

The first open-ended question, students were asked what they gained from learning English vocabulary and grammar through computer-based instruction. The students reported their fondness of learning through the computer and give the reasons for this. Eighty-seven percent (87%) of students agrees that they learned more than English vocabulary and grammar knowledge through a computer based learning, and 93% of students revealed that they enjoyed learning through a computer. The results showed that the highest number of students who reported that they gained more knowledge of English vocabulary and grammar through the computer-based instruction. They explained that computer displayed the words and its picture, so they remember and understand the meaning of words easily. In addition, computer has the sound effect of each vocabulary that allowed students to click and hear how to say the word correctly. They enjoyed the lesson. They could also see how the word applied in sentence. Moreover, they did the exercise by themselves and connected to their technical abilities and experience of using the computer PC. The evidences as mentioned previously can be concluded that the students thought that the computer based instruction is beneficial and helped them to develop their vocabulary and grammar knowledge.

In addition, Although the results of the research showed that the computer-based instruction could develop students 'vocabulary and grammar knowledge, there were some suggestions from the students, who were in the experiment group. They

gave explanations as follows. Seventy-eight percent of the students (78%) agreed that learning English through a computer is both knowledgeable and enjoyable. Ninety-four percent (94%) of students agreed that computer makes learning English Vocabulary more interesting. However, 34% of students agreed that they learned more English through a computer than with a teacher, and 94% of students suggested that schools should provide computers in every class and the teacher should teach based computer-based instruction.

Conclusion

Overall, the results revealed that the computer-based instruction was effective in developing students' vocabulary learning and grammar knowledge. In addition, the result showed that the students in the computer-based instruction group were outperformed the students in the control group learning through direct method instruction. Accordingly, students' had positive satisfaction towards the computer - based instruction in classroom proving that the computer-based instruction affected the development of the vocabulary and grammar knowledge of the students

Summary of the Chapter

This chapter presented the results of the study showing the differences between students' vocabulary and grammar knowledge before and after the experiment. In addition, the students' satisfaction towards the implementation of the computer-based instruction was also presented. The next chapter, the discussions of the main findings including implications of the study and the recommendations for the future research will be presented.

CHAPTER V

CONCLUSION AND DISCUSSION

This study investigated the effect of the Computer-based Instruction and Direct Method Instruction on the third grade students' vocabulary and grammar knowledge. In addition, the study explored the students' attitude toward the English learning through Computer-based Instruction. This chapter presents the summary of research, results of the study, and provides discussions on the main findings according to the research questions. In the last section, the conclusion of significant results of the present study, the implications and recommendation for the future research are also discussed.

Summary of the Research

The purposes of the study were to (1) examine whether the 3rd students improve their English vocabulary and grammar knowledge through Computer-based Instruction e (2) to investigate whether Computer-based Instruction is more effective than Direction Method Instruction in developing students' English Vocabulary and grammar knowledge, and (3) to investigate students' attitude toward computer-based instruction in developing their vocabulary and grammar knowledge.

The participants were 80 students from the 3th grade (Prathomsuksa 3) students at Promratrangan School, studying in the second semester of 2011 academic year. Two sample groups were selected out of the three existing classes by convenience sampling method. The two groups (40 students each) were randomly assigned in the experiment

group, receiving the treatment, through the computer-based instruction, the control group, taught by the direct method instruction. The duration of the study was 8 weeks, two periods a week and each period lasted 50 minutes, totally the experiment included 16 periods. This, excluding the pre- and post- test sessions, so it made 16 periods sessions in total.

The instrument used in this studying consisted of the Vocabulary Test, and the Grammar Test; each test was used for both pretest and posttest, and the English Learning Attitude Questionnaire. The instructional materials used for Computer-based Instruction consisting of eight lesson plans, and the lesson plans for the Direct Method Instruction were also constructed. The researcher administered the pretests to both groups to assess their background knowledge on vocabulary and grammar before learning through two methods of teaching. At the end of the experiment, the posttests for vocabulary and grammar were also conducted to assess the students' achievement in learning. Moreover, the students in the experimental group were required to respond to a students' questionnaire toward learning through the Computer-based Instruction.

The data, obtained scores of the pretests and posttests were collected and then analyzed by means and standard deviations. The paired t-test analysis was used to compare the students' achievement in learning vocabulary and grammar within the same group of both experimental and control groups, and the independent t-test was calculated to compare the differences in the mean scores referring to their improvement in learning vocabulary and grammar of both groups after the experiment. The responses from the questionnaires of the students in the Computer-based Instruction group were analyzed

using descriptive statistics and the responses in the open-ended questions were analyzed descriptively. The main findings of the study are discussed in the next section.

Summary of the Main Findings

Students' vocabulary and grammar knowledge achievement score was significantly different at the .05 level after learning through the computer based instruction. The mean scores of the posttest were higher than mean scores of the pretest among students who learned English through the computer based learning. According to the result, the t-test results showed that there were significant differences between the pretest and posttest. As shown in the results, there was the improvement in vocabulary and grammar knowledge after the experiment that can be inferred that the computer based teaching method could be effective method for teaching English vocabulary and grammar included in the present study. Moreover, focus on instruction, there was significantly different at the .05 level after learning through the direct method instruction. The mean scores of posttest were higher than mean scores of pretest among students who learned English through the direct method instruction. The t-test results showed that there were significant differences between the pre-test and post-test. According to the results, there was a development of English vocabulary and grammar knowledge ability after learning through direct method instruction that direct method can be inferred that the direct method instruction could be effective method for teaching English vocabulary and grammar.

In addition, the comparison of teaching methods between the computer-based and school based curriculum had shown that the computer-based performed better than the direct method , with statistically significant different among the two groups at the 0.05 level. This means that computer-based instruction had a positive impact on the students' achievement in the vocabulary and grammar knowledge. It can be inferred that the computer-based teaching method could be more effective than the direct method in teaching English vocabulary and grammar included in the present study. Moreover, the students had positive attitude toward the computer based learning activities at the highest level. According to the results, most of students enjoy learning English through a computer and they believed that learning through the computer system could help them improve their grammar knowledge. In overall student had a high level of satisfaction of learning by computer based instruction.

Discussion

The Effect of the Computer-based Instruction on Students' Vocabulary and Grammar Knowledge

The following discussion illustrates the effect of the computer based teaching method on students' vocabulary and grammar knowledge achievement.

First of all, the computer-based learning activities encouraged student to memorize their English vocabulary better by pictures and songs. The students were learning how to pronounce the words with the sound effect of native speaker, and they were learning how to use the vocabulary in sentences that displayed in the computer

program, and motivated their positive attitude toward learning English with kid song that related to the lesson. Therefore, after learning each activity, they could successfully perform the exercise in the end of lesson. The finding was corresponding with Richard's study (2002) stating that the computer-based multimedia learning environments consisting of pictures and words offer a potentially powerful venue for improving students' understanding. How can we use words and pictures to help people understand how scientific systems work? The coherence principle is that multimedia explanations are better understood when they include few rather than many extraneous words and sounds. The modality principle is that it is better to present words as auditory narration than as visual on-screen text. The principle is that it is better to present animation and narration than to present animation, narration, and on-screen text. He also presented a cognitive theory of multimedia learning which draws on dual coding theory, cognitive load theory, and constructivist learning theory. Based on the theory and principles of instructional design for multimedia learning, it is then necessary for teachers to concern before starting to create the learning media.

In addition, all activities were not only target on motivate students to achieve the vocabulary and grammar activities, but try to encourage their attitude of learning English, also. The finding was consistent with the study of Tearle and Golder (2008) stated that the students and teachers developed a positive attitude toward learning method by using computers in their classrooms.

Finally, students had opportunities to practice as much as they want on their own or under the teacher instruction. This can help them review the vocabulary and grammar

knowledge without being shy if they cannot follow the lesson. For example, one student could not catch the word or teacher directions but didn't dare to ask for repeating, but here in the computer based system allow them to play again as much as the necessary.

The finding was correspondent with the article

(<http://new.dso.iastate.edu/asc/academic/elearner/advantage.html>) pointing out that the

advantage of the computer-based learning can building self-knowledge and self-

confidence and encourages students to take responsibility for their learning and they may

have the option to select learning materials that meets their level of knowledge and

interest.

The Effect of the Direct Method on Students' Vocabulary and Grammar Knowledge Achievement.

The following discussion illustrates the effect of the Direct Method Instruction on students' vocabulary and grammar knowledge achievement.

First of all, the direct method instruction activities also encouraged students to develop their vocabulary and grammar knowledge. The possible explanation is that by the situation and objectives formed based that student can be applied for their daily life, due to the direct method instruction allowed the school to design the curriculum separately from the other in the sense of location or area which school is located. This situation brings to the school based curriculum were different in terms of the interests and needs of school communities. The lesson plan for direct method learning activities were focusing on language and relationship with community and the world, according to the basic

education core curriculum (B.E. 2551) of Thailand, the using of foreign languages in various situations, both in the classroom and the outside community and the global society, forming a basic tool for further education, livelihood and exchange of learning with the global society. Therefore, teacher can design the lesson plan with freedom to choose what material can be applied for the lesson to achieve the objectives in order to bring the students' successful on the task after learning by the direct method instruction. The finding was consistent with the study of Reid (1987) said that the advent of national education systems and centralized curriculum-making was an important step in the development of modern nationhood.

In addition, the results found that the direct method instruction gave the opportunity to teacher to develop their own lesson plan and encouraged teachers to refresh curriculum and can be able to adapt the changes of educational revolution. That brought the good outcome to classroom activities. This finding was corresponding to Hsiao, Yang and Chiu (2007) suggested that in order to promote the ability of teaching and learning by self, encourage teachers participate refresher curriculum and can be able to adapt the changes of educational revolution and to ensure the function of the curriculum development committee.

On the other hand, Reid (1987) said that, "the point of teaching in the curriculum is that we have some further end-in-view that students shall better know who they are, what they are capable of doing and what it is good to be doing" (p.118). The implications of this shift in conception of curriculum are very important for thinking about how publics should be involved in the determination of curriculum.

The comparison of the computer based learning and the direct method instruction students' vocabulary and grammar knowledge.

The following discussion demonstrates the comparison of the computer based learning and the directed method instruction on students' vocabulary and grammar knowledge achievement.

According to the results, there was a significantly different of the mean scores of the students in the computer based instruction and direct method instruction. The computer based learning group had a higher mean score of achievement posttest that because of in computer based had designed with pictures and multimedia that make it more interesting than the materials were used with direct method group. There was also the simulation of questions in computer based that were more attractive to respond. Because most of computer simulations are not using much text, but a lot of animations and sound effect are more important. Additionally, there were the interactive tests in the computer program when student done each test item then the program will told them if the answer correct or not. This made students know exactly their ability. This finding was correspondent with Buranakij (2009) found out that the effect of using computer multimedia instruction on "Adjective, Adverb and Conjunction" in the substance group of a foreign program for the second level students, which the result of the research shown that the instructional multimedia computer development has a quality of the computer multimedia instruction that evaluated of content expert was ranked at very good level and educational technology expert was ranked at a good level and its efficiency was 90.58/91.44 which is corresponding with the provided criteria. In the study of effect of

using computer multimedia instruction was found that there were 86.66 percent achieved students of all that passed 80 % criteria. In addition, the finding also related to Chukietwongskul (2008) investigated the achievement and learning retention in English of Matthayomsuksa1 students by using computer assisted instruction; the results indicated that the computer assisted instruction has led to the learning achievement of English subject after using computer assisted instruction and the students posttest scores was significantly higher than pretest and the learning retention and the achievement. She stated that the computer assisted instruction was consisted of pictures, animation and multimedia, so it encouraged students to attend the lesson or in the other word is they made the lesson more interesting. Similarly, Nadzrah (2007) investigated and tried to understand how computer-based activities are organized in a school situation; that is totally dependent on the syllabus. The result was learning by computer based could help facilitate needs and challenge students' learning practices, with a variety of computer-based activities.

The students' attitude toward the computer based learning.

The following discussion illustrates the students' attitude toward the school computer based instruction on students' vocabulary and grammar knowledge achievement. According to the result, it was revealed that overall students' attitude toward English vocabulary and grammar by the computer-based learning was in highest level. There were two items that shown the highest score with the statement "Learning English through a computer is both knowledgeable and enjoyable." (item 2) , that can be

implicated that students enjoyed learning through computer and “Learning English through a computer system helps me improve my grammar.” (item 5) , that can be implicated that the lesson that they had learned helped them to gain their grammar knowledge. According to the advantage of multimedia learning course designing and English vocabulary teaching, researcher had concern with words lists that suitable to be taught to the students. I selected and displayed the words and its picture that according to the level of the students in a certain way, so their students will learn easily. In addition, learning through the computer, the sound effect of each vocabulary was integrated in the program allowed students to click and hear how to say the word correctly. They could also see how the word was used in sentence repeatedly. Therefore, the students had highest level of satisfaction toward the computer based learning. They thought that learning with computer had more fun than learning in the textbook. The finding was consistent of Tearle and Golder’s study (2008) indicating that the students and teachers developed a positive attitude toward learning method by using computers in their classrooms. Moreover, the finding was consistent with the study of Berteau (2009) which showed that the students’ attitude were connected to their technical abilities and experience of using the computer PC. Also, attitude towards computer based learning should have been according to the school based learning.

Implications of the Study

The results showed that learning English through computer-based learning method improved the students’ vocabulary and grammar knowledge ability. However, the teacher should be guided on how to integrate computer use into their lessons and instructed

regarding what learning software to use to achieve the best results. If the students do not know how to use the program, it will slow down the process of promoting computer based learning in classroom. Attractive pictures can be affected the materials for computer based learning. Songs, videos, or games can also make the learning activities more interesting than handouts or the worksheets and test., but the use of computer should be related to the lesson. Moreover, every time that the class is over, teacher should ask students d to summarize the lesson by encouraging them to say what they have learnt in class regarding vocabularies and grammar knowledge. Finally, according to the direct method requires the teacher to think in creative ways about fulfilling students learning needs, and are-orientation of currently accepted and practiced teaching methodologies. However, integrating computer use into lessons focusing on the extension of curriculum requires the development and application of new approaches to teaching.

Recommendations for Further Studies

This study was limited to the use of computer-based instruction with the 3rd grade students, and the participants were only 46 students. The study also focused on vocabulary learning and grammar knowledge. Although the study confirmed the hypothesis, but the further studies need to be conducted in order to expand the body of knowledge in the field of EFL learning. The further studies being done are discussed as in the following:

1. Teachers or researchers could apply the English vocabulary and grammar activities in other topics such as occupation, weather, transportation, family members,

subjects, or even the countries in ASEAN economic community as an integration of social science.

2. Teachers or researchers could apply the computer based learning method in others skills of learning English; listening, speaking, reading and writing.

3. Teachers or researchers could apply the computer based learning into internet based learning that students can access by themselves even at home, with the parents. This can help the teacher and parents see how their children's English development.

4. Teachers or researchers could apply computer based learning into an application for a tablet. This application can be very useful for children who have access to a tablet in school or at home.

Conclusion

This study showed that there were benefits and great opportunities for students to learn English through computer-based learning. Teaching English vocabulary and grammar knowledge by both the computer-based and direct method instruction had a positive effect on students' achievement. Apart from English learning and teaching method, it is meant to improve all 4 skills: speaking, listening, reading and writing, and vocabulary is one of the most important skill of learning new language, so teacher should concern on learning process designing; planning to English vocabulary and grammar course materials, you may want to use the instructional design process. The goal of learning activities will help to make the development process more efficient and ensure the best use of your lesson plan. According to the language teaching methods in this study bring the significantly higher achievement score both methods and the positive attitude

toward the computer based learning method. The evidence provided in this study has prove that computer-based instruction is effective in improving students' vocabulary and grammar knowledge. It was also revealed that the computer-based instruction was more effective in developing students to learn vocabulary and grammar then that of the direct method face-to-face instruction. Therefore, it is necessary that English instruction should help to promote students' exposure to individualized learning in the age of information technology.



REFERENCES

- Angwattanasakul, S.(1994). *English Teaching Methods*. Bangkok:Chulalongkorn University Press, [in Thai].
- Arends, I. (1997). *Classroom Instruction and Management*. New York: McGraw-Hill Companies Inc.
- Baumann, J. F., & Kame'enui, E.J. (Eds.). (2004). Vocabulary instruction: Research to practice (pp. 14-17, 29-63, 160). New York: Guilford.
- Bertea, P. (2009) . *Measuring students' attitude towards e-learning: a case study*.
<http://faculty.ksu.edu.sa/aljarf/Documents/eLSE%20Educational%20Technology%20Conference%202009%20-%20Romania/979.1.Bertea.pdf>
- Biber, D. (1988). *Variation across speech and writing*. Cambridge: Cambridge University Press.
- Biemiller, A., & Boote, C. (2006). An effective method for building meaning vocabulary in primary vocabulary. *Journal of Educational Psychology*, 98(1), 44-62.
- Booth, A. (2002). Three-Days Mini-Copywriting E-Course. <http://www.digital-e.biz>
- Camilli, G., Vargas, S., & Yurecko, M. (2003). *Teaching Children to Read: The fragile link between science and federal education policy*. Education Policy Analysis Archives,11(15). Retrieved [July 16, 2003] from <http://epaa.asu.edu/epaa/v11n15/>.
- Charoenjai, S. (2007). *A comparative Study on the Effects of Using Visual Art and Total Physical Response Activities towards the Achievement and Retention of Prathomsuksa 3 Students in Learning English Vocabulary*. Unpublished Master's Thesis, Srinakarinwirot University, Thailand, [in Thai].

- Cheepuksa, R.(1985).*The Evaluation of English Vocabulary of Mathayomsuksa 3 Students in Takhilprachason School,Takhil District,Nakornsawan.*
Unpublished Master's Thesis, Khon kaen University, Thailand, [in Thai].
- Chun, D. & Plass, J. (1996). *Research on Text Comprehension in Multimedia Environments.* Language Learning & Technology, Vol. 1, No. 1, July 1997
- Cunningham, P. (2006). *What if they can say the words but don't know what they mean.*The Reading Teacher, 59(7), p708-711.
- Devedži, V. (2006): Semantic WEB and education, New York, NY, USA: Springer's Integrated Series in Information Systems.
- Doiron, R. (2011). *Using E-Books and E-Readers to Promote Reading in School Libraries: Lessons from the Field.* University of Prince Edward Island Charlottetown, PE, Canada.
- Educational Technology – TOJET January 2006 ISSN: 1303-6521 volume 5 Issue 1 Article 6.
- Eskey, D. (2002). *Reading and the teaching of L2 reading.* TESOL Journal, 11(1), 5-9.
- Galloway, V. (1992). *Toward a cultural reading of authentic texts.* In H. Byrnes (Ed.), Languages for a multicultural world in transition (pp. 87-121). Lincolnwood, IL: National Textbook Co.
- Ghadessy,M. (1979). *Word lists and Material Preparation: A New Approach.* English Teaching Forum, 17(1),24-27.
- Grellet, F. (1981). *Developing reading skills: A practical guide to reading comprehension exercises.* Cambridge: Cambridge University Press.
- Harmer, Jeremy. 2007. *The Practice of English Language Teaching (4th ed.).*Cambridge, UK: Longman.

- Hayward, A.L., & Sparkes, J. J. (1982). *The Concise English Dictionary*. Omega Books
Managers, 2nd ed. Belmont, CA: Thomson Brooks/Cole.
- Hildebrand, David K., Lyman Ott R., & Brian Gray J.. 2005. *Basic Statistical Ideas
 for Managers*, 2nd ed. Belmont, CA: Thomson Brooks/Cole.
- Hornby. A. (1995). *Oxford Advanced Learner's Dictionary of Current English*. Oxford:
 Oxford University Press.
- Hsiao, Yang & Chiu. (2007). *The Contemporary Research of School- Based
 Curriculum Development for Supplementary Vocational High School in Taiwan*.
 Cheng Shiu University, National Changhua University of Education .Taiwan.
- Hüsamettin, A. (2006) *Effects of computer based learning on students' attitudes and
 achievements towards analytical chemistry*. The Turkish Online Journal of
- Ip, K., S., & Sit,. (2010). *Primary students' reading habits of printed and
 ebooks*.Scribd.com, Retrieved from [http://www.scribd.com/doc/25514452/Ip-
 2008- Primary-students'-reading-habits-of-printed-and-e-books](http://www.scribd.com/doc/25514452/Ip-2008-Primary-students'-reading-habits-of-printed-and-e-books).
- Jewitt, C. (2008). *Technology, Literacy, Learning: A Multimodality Approach*. London:
 Routledge.
- Jimoyiannis, A.& Komis, V. (2007). *Examining teachers' beliefs about ICT in education:
 implication of a teacher preparation program*, Teacher Development, 11(2),
 149/173.
- Kanithanon,W.(1987). *Language and Linguistics* (4th ed.). Bangkok: Thammasat
 University Press, [in Thai].
- Korat,. & Shamir, A. (2006). The educational electronic book as a tool for support
 children's emergent literacy in low versus middle SES groups. *Computers &
 Education*, 50(1), 110-124. DOI:10.1016/j.compedu.2006.04.002

- Krneta, R., & Milošević, D. (2007). Competencies of e-Teaching in the System of Teachers' Competence, ETAI 2007, September, Ohrid- Macedonia, Book of Abstract, 29, CD Proceeding, Available on http://www1.etf.ukim.edu.mk/SCM_C021A06/conference/E3-2.pdf
- Larsen-Freeman, D. (1997). *Grammar and its teaching: Challenging the myths* (ERIC Digest). Washington, DC: ERIC Clearinghouse on languages and Linguistics, Center for Applied Linguistics. Retrieved May 14, 2011, from <http://www.cal.org/ericll/digest/larsen01.html>
- Larsen, Diane & Freeman. 2000. *Technique and Principles in Language Teaching Second Edition*. New York: Oxford University Press.
- Lynn, K. (2010). *Grammar Matters Teaching Grammar in Adult ESL Programs* Cambridge University Press, New York.
- Madsen, H. S. (1983). *Teaching in Testing*. London: Longman.
- Marie L, 2009. A Short History of e Books, NEF, University of Toronto.
- Maynard, S., & Cheyne, E. (2005). *Can electronic textbooks help children to learn?* The Electronic Library, 19(6), p.405-424.
- McCarthy, M. 1990. *Vocabulary*. Oxford: Oxford University Press.
- Mishra, S & Panda, S. (2007). *Development and Factor Analysis of an Instrument to measure Faculty Attitude towards e-Learning*. <http://www.asianjde.org/2007v5.1.Mishra.Abstract.html>
- Murcia, M. (2001). *Teaching English as a Second or Foreign Language*. Third Edition. London: Heinle Heinle – Thomson Learning,
- Newton, E, Padak, N. D., & Rasinski, T. V. (Eds.). (2008). *Evidence-based instruction in reading: A professional development guide to vocabulary*. Boston: Pearson Education, Inc. (pp. 1-7, 70).

- Nichols, W. D., & Rupley, W. H. (2004). *Matching instructional design with vocabulary instruction*. *Reading Horizons*, 45(1), 55-71.
- NLS Framework for teaching (1998), p. 4: <http://www.standards.dfes.gov.uk/literacy>
- NRP, National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading*. Washington, DC: National Institute of Child Health and Human Development (NICHD).
- Nutta, J. (1998). Computer enhanced grammar teaching using computer technology, Student's attitudes towards learning grammar EUROCAL 2006 Granada, Spain
- O'Malley et.al. (1985). *Learning strategies used by beginning and intermediate ESL students*, Cambridge: Language Learning.
- Patricia, B. (1998). *Grammar in the foreign language classroom: Making principled choices*. Washington, DC: Center for Applied Linguistics,
- Pilachai, I. (2005). *The Development of Students' Vocabulary Recognition Through Joke Stories*. Unpublished Master's Independent Study Report, Khon kaen University, Thailand, [in Thai].
- Reid, W. (1987a). *Where is the habit of deliberation?* In N. Sabar, J. Rudduck, & W. Reid (Eds.), *Partnership and autonomy in school-based curriculum development* (pp. 110–114). University of Sheffield: Division of Education.
- Richard, Jack C & Rodgers, Theodore S. 2001. *Approaches and Methods in Limited. Language Teaching Second Edition*. Cambridge: Cambridge University Press.
- Schmitt, N., & McCarthy, M. (Eds.) (1997). *Vocabulary: Description, acquisition, and pedagogy*. Cambridge: Cambridge University Press.
- Senwanich, S.(1998). *Techniques or English Reading Skill and Comprehension Development for Thai Students*. Bangkok: Thammasat University Press,

- Thuleen, Nancy. "The Grammar-Translation Method." Website Article. 24 October 1996. <<http://www.nthuleen.com/papers/720report.html>>.
- Tyack, D. and Cuban, L. (1995). *Tinkering toward utopia: A century of public school reform*. Cambridge, MA: Harvard University Press,
- Ur, Penny. (1996). *A Course in Language Teaching: Module 6: Teaching Grammar*. Cambridge: Cambridge University Press.
- Weaver, C. (1996). *Teaching Grammar in Context*. Portsmouth, NH: Heinemann, 1996.
- Webster (1983) . *9,000 words Merriam-Webster Inc.*, Massachusetts.
- White, B.Y. (1993). ThinkerTools: Causal models, conceptual change, and science education. *Cognition and Instruction* 10(1):1-100.
- Wiriyachitra, A. (2002). English language teaching and learning in Thailand in this decade. *Thai TESOL Focus*, 15(1),4-9
- Zimmerman, C. B. (1997). Historical Trends in Second Language Vocabulary Instruction. In I.S.P. Nation (Ed.). *Second Language Vocabulary Acquisition* (pp.5-19). Cambridge: Cambridge University Press.

APPENDIX A

Vocabulary Test

Name.....Class.....No.....
Part 1

Fill the vowels *a, e, i, o, u* to complete the vocabulary as the picture in each items.

1. B_DR__M



2. B_THR__M



3. F_NG_RS



4. KN__



5. F__R



Re-order the letter that given to the word with meaning.

6. TIGEH = _____

7. DYAMNO = _____

8. FARIDY = _____

9. RADEYSTA = _____

10. SAEDWYNDE= _____

From 1 – 30 Select the right answer and make ✕ in the answer sheet.

11. What is this?

- A. bed
- B. toilet
- C. pillow
- D. towel



12. What is this?

- A. spoon
- B. soap
- C. TV
- D. bed



13. What is this?

- A. eye
- B. toes
- C. legs
- D. teeth



14. What is this?

- A. feet
- B. arms
- C. mouth
- D. shoulders



15. How many legs do you have?

- A. two
- B. five
- C. ten
- D. thirty-two



16. What is in the living room?

- A. spoon
- B. soap
- C. TV
- D. Bed



17. What is in the bedroom?

- A. bathtub
- B. sink
- C. pillow
- D. soap

18. What is in the kitchen?

- A. stove
- B. bed
- C. pillow
- D. sofa



19. Which one is all in the same room?

- A. soap sofa bed
- B. dish sink pillow
- C. towel toilet soap
- D. bed lamp spoon

20. What do you use for seeing?

- A. ears
- B. eyes
- C. arms
- D. feet

21. What can you do with mouth?

- A. hearing
- B. seeing
- C. eating
- D. walking

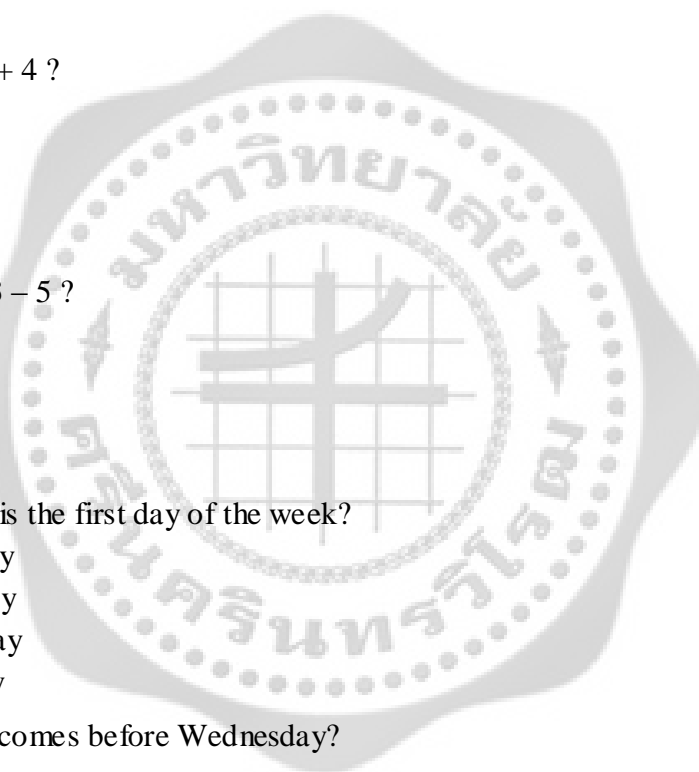
22. Which one is not in the upper parts?

- A. mouth
- B. ears
- C. knees
- D. head

23. Which are all lower parts?

- A. neck legs toes
- B. hands feet knees
- C. arms eyes legs
- D. knees feet toes

24. How many days in a week?
- A. two
 - B. three
 - C. five
 - D. seven
25. How many toes do you have?
- A. two
 - B. five
 - C. ten
 - D. twenty
26. What is $5 + 4$?
- A. seven
 - B. eight
 - C. nine
 - D. ten
27. What is $13 - 5$?
- A. eight
 - B. nine
 - C. ten
 - D. eleven
28. What day is the first day of the week?
- A. Monday
 - B. Tuesday
 - C. Saturday
 - D. Sunday
29. What day comes before Wednesday?
- A. Tuesday
 - B. Thursday
 - C. Friday
 - D. Saturday
30. What day comes after Friday?
- A. Tuesday
 - B. Thursday
 - C. Wednesday
 - D. Saturday

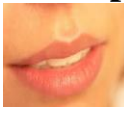



APPENDIX B

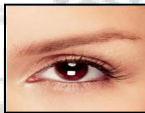
Grammar Test


Name.....Class.....No.....


Part 1: Choose the correct answer from the parentheses.

1. (This is/ These are) a mouth. 

2. (This is/ These are) legs. 

3. (This is/ These are) an eye. 

4. (This is/ These are) a nose. 

5. (This is/ These are) teeth. 

Part 2 Choose the correct answer.

6. 

A: Where is he?

B:

A. He is in the bedroom.

B. He is in the bathroom.

C. He is in the kitchen.



7. A: Where is he?

B:

A. He is in the living room

B. He is in the bathroom

C. He is in the bedroom



8. A: Where is she?

B:

A. She is in the kitchen.

B. She is in the bathroom.

C. She is in the livingroom.

9. A:is this?

B: It is the television.

A. What

B. Where

C. Who



10 A:is this?

B: It is a toilet pot.

A. What

B. Where

C. How

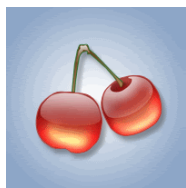


11. How many are there?

A. apple

B. apples

C. applies



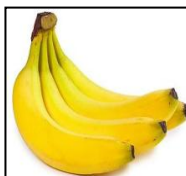
12. How many..... are there?
 A. cherry
 B. cherrys
 C. cherries



13. How many..... are there?
 A. blueberry
 B. blueberrys
 C. blueberries



14. A: How many bananas are there?
 B: a banana.
 A. There
 B. There is
 C. There are



15. A: How many bananas are there?
 B: four bananas.
 A. There
 B. There is
 C. There are



16. **A: How many oranges are there?**
B: There is..... orange.
A. a
B. an
C. none

17. I go to schoolMonday?

- A. in
B. on
C. the

18. I play football..... Sunday.

- A. in
B. on
C. the

19. I have breakfast the morning.

- A. on
B. in
C. of

20. I do my homework the evening.

- A. at
B. in
C. on

APPENDIX C

Learning English Attitude Questionnaires

Direction: Check ✓ in the table below as your opinion.

5=strongly agree 4=agree 3=not sure 2=disagree 1=strongly disagree

Questions	Level of opinion				
	5	4	3	2	1
1. Learning English through computer is more effective than Learning in a book.					
2. Learning English through a computer is both knowledgeable and enjoyable.					
3. Computer makes learning English vocabulary and grammar more interesting and easy.					
4. Learning English through a computer system helps me improve my vocabulary.					
5. Learning English through a computer system helps me improve my grammar.					
6. Learning English through a computer is fun.					
7. Learning English through a computer has many benefits for Thai children.					
8. Learning English vocabulary and grammar through a computer is useful for my studies.					
9. I like to learn English through a computer more than with a teacher.					
10. I learn more English through a computer than with a teacher.					

1. What do you gain from learning English vocabulary and grammar through a Computer- based Instruction?
.....

2. Do you think learning English vocabulary and grammar through Computer based Instruction should have in every class?
.....



APPENDIX D

Learning English Attitude Questionnaires

คำชี้แจง: ทำเครื่องหมาย ✓ ในตารางเพื่อแสดงความคิดเห็น

5=ชอบมากที่สุด 4=ชอบมาก 3=ปานกลาง
2=ไม่เห็นด้วย 1=ไม่ชอบ

คำถาม	ระดับความคิดเห็น				
	5	4	3	2	1
1. การเรียนภาษาอังกฤษผ่านระบบคอมพิวเตอร์ ช่วยให้เรียนได้สะดวกและรวดเร็วกว่าการเรียนภาษาอังกฤษในหนังสือ					
2. การเรียนภาษาอังกฤษผ่านระบบคอมพิวเตอร์ให้ทั้งความรู้และเพลิดเพลิน					
3. เนื้อหาของการเรียนคำศัพท์และไวยากรณ์ภาษาอังกฤษผ่านระบบคอมพิวเตอร์โรงเรียนมีความหลากหลาย น่าสนใจ สามารถเรียนรู้ได้ง่าย					
4. การเรียนภาษาอังกฤษผ่านระบบคอมพิวเตอร์โรงเรียนช่วยพัฒนาการเรียนรู้คำศัพท์ของข้าพเจ้าได้					
5. การเรียนภาษาอังกฤษผ่านระบบคอมพิวเตอร์โรงเรียนช่วยพัฒนาการเรียนรู้ไวยากรณ์ของข้าพเจ้าได้					
6. กิจกรรมในการเรียนภาษาอังกฤษผ่านระบบคอมพิวเตอร์โรงเรียนเป็นกิจกรรมที่สนุกสนาน					
7. การเรียนภาษาอังกฤษผ่านระบบคอมพิวเตอร์โรงเรียนมีประโยชน์ต่อเด็กไทยมาก					
8. การเรียนคำศัพท์และไวยากรณ์ภาษาอังกฤษผ่านระบบคอมพิวเตอร์โรงเรียนมีประโยชน์ต่อการศึกษาของข้าพเจ้า					
9. การเรียนคำศัพท์และไวยากรณ์ภาษาอังกฤษผ่านระบบคอมพิวเตอร์โรงเรียนมีประโยชน์ต่อการศึกษาของข้าพเจ้า					
10. ผู้เรียนชื่นชอบการเรียนภาษาอังกฤษผ่านระบบคอมพิวเตอร์โรงเรียนมากกว่าเรียนกับครูผู้สอน					

1. ผู้เรียนได้รับอะไรจากการเรียนภาษาอังกฤษผ่านระบบคอมพิวเตอร์โรงเรียน

.....

2. ผู้เรียนคิดว่าควรมีการใช้ระบบคอมพิวเตอร์โรงเรียนในทุกรายวิชาหรือไม่

.....



APPENDIX E

Lesson plan for Computer-based Instruction

Lesson Plan

Pratomsuksa 3
numbers

Unit 3 Counting the

Title : Number 1-10

Time : 50 minutes

.....

..... 1. Lesson Overview

In this lesson, students will learn vocabulary to count, read and write number in words

2. Objective

1. Function: Ask and answer about amount of things with number in words.

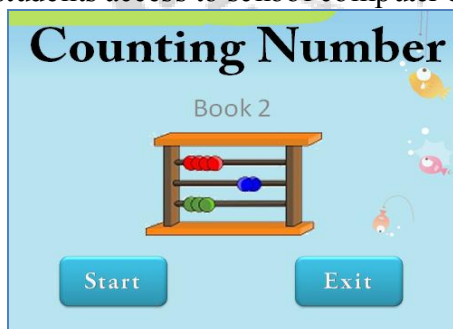
2. Vocabulary: Spell, read and write the word in sentences: *number, one, two, three, four, five, six, seven, eight, nine, and ten*

3. Contents:

- Talking about number of things in daily life
- Vocabulary Number 1-10
one, two, three, four, five, six, seven, eight, nine and ten

4. Activities

1. Let students access to school computer base "Counting Number Book 2"



2. Students click "Start button" Let students sing the song 'Ten Little Indian'



3. Teacher asks students to count 1 to 5.



one 1



two 2



three 3



four 4



five 5

4. Teacher asks students to count 5 to 10.



six 6



seven 7



eight 8



nine 9



ten 10

From: www.yenta4.com/wallpaper
<http://www.google.com/search>

5. Students write number of thing in words in English. *one 1 , two2, three3, four4, five5,*

six6, seven7, eight8, nine9, ten10

5. Assessment Evaluation/Assessment of Learning:

1. Instructor observation of students' participation.
2. Evaluation of completed worksheets/handouts
3. Comparison of performances on the Pre-Tests and Post- Tests.
4. Instructor generated assessments

6. Instructor Media: School Computer Base

7. Assessment Teaching

1. Students' evaluation
2. Problems / Conflicts
3. Suggestions / Comments

8. Integrated with other learning area

1. Mathematics
2. Dancing

Work Sheet

Name Class Number

Directions: Look at the number. Then unscramble the letters to write the name of the number.

i g h e t n t e e o n s x i o u r f

s v e n e t o w n e i n e f v i e r t e
h

1	2	3	4	5
6	7	8	9	10

Lesson Plan

Pratomsuksa 3

Unit 3 Counting the numbers

Title : How many?

Time : 50 minutes

Exercise 10 items

.. 1. Lesson Overview

In this lesson, students will learn ask and answer about amount of things with number and word, using article a, an for Singular noun.

2. Objective

1. Function: Ask and answer about amount of things with number in words.

2. **Grammatical points** : Countable nouns, Article using: *a, an* and Using *How many*

3. Vocabulary: Spell, read and write the word in sentences: *number, one, two, three, four, five, six, seven, eight, nine, and ten*

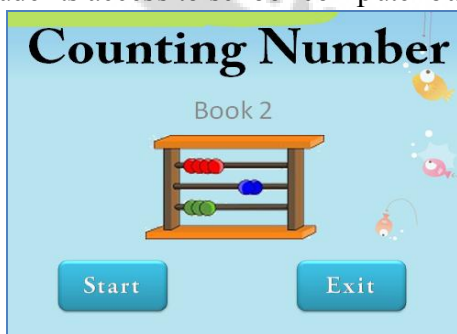
3. Contents:

- Ask and answer about number of things in daily life by using “How many?”
- Vocabulary Number 1-10
one, two, three, four, five, six, seven, eight, nine and ten

Article using: *a, an*

4. Activities

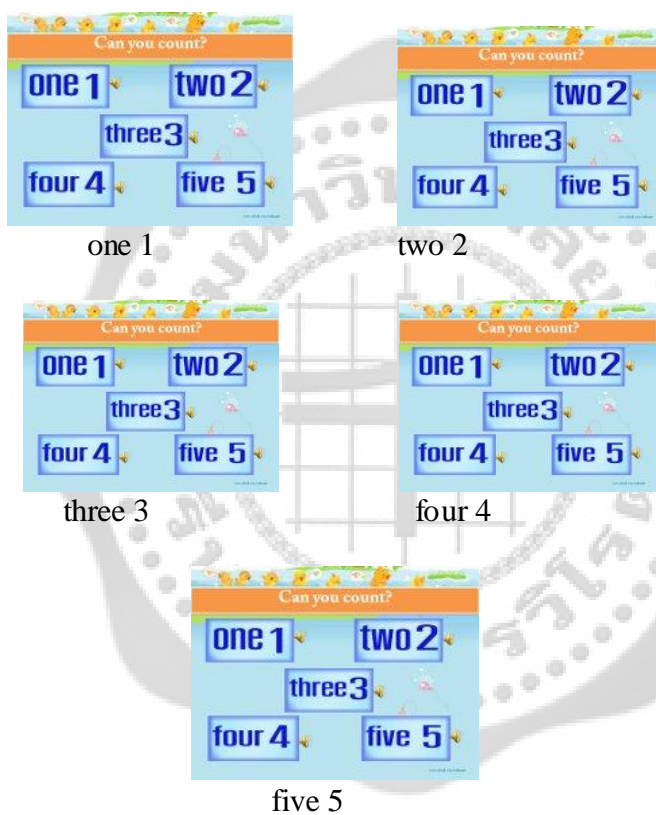
1. Let students access to school computer base “Counting Number Book 2”



2. Students click “Start button” Let students sing the song ‘Ten Little Indian’



3. Teacher asks students to count 1 to 5.



4. Teacher asks students to count 5 to 10.





eight 8



nine 9



ten 10

From: www.yenta4.com/wallpaper
<http://www.google.com/search>

5. Students write number of thing in words in English. *one 1, two 2, three 3, four 4, five 5, six 6, seven 7, eight 8, nine 9, ten 10,*

6. Students matching vocabulary with picture.

Using How many.....?



7. Students learning a grammar component using article a, an for Singular noun.



Singular and Plural

- SINGULAR** คือ จำนวนของสิ่งของที่มีอยู่เพียง 1 ชิ้น
 คำกริยาเป็นเอกพจน์ มี **a** หรือ **an** นำหน้าคำนาม เช่น
 There is a pencil.
 มีดินสอ 1 อัน
- PLURAL** คือ จำนวนของสิ่งของที่มีอยู่มากกว่า 1 ชิ้น
 คำกริยาเป็นพหูพจน์ ใช้ว่า **are** นำหน้าคำนาม เช่น
 There are three pencils.
 มีดินสอ 3 อัน

8. Students do the exercise in the School Computer Base 10 items

1.

Exercise

1. How many cats are there?

A. There is a cat.
 B. There are two cats.
 C. There are three cats.
 D. There are five cats.



Answer 1

Well Done!



C. There are two cats.

2.

Exercise

2. How many rabbits are there?

A. There are two rabbits.
 B. There are four rabbits.
 C. There are six rabbits.
 D. There are seven rabbits.



Answer 2

Correct! ถูกต้องค่ะ



B. There are four rabbits.

3.

Exercise

3. How many eggs are there?

A. There are five eggs.
 B. There are six eggs.
 C. There are seven eggs.
 D. There are eight eggs.



Answer 3

Correct! ถูกต้องค่ะ



B. There are six eggs.

4.

Exercise

4. How many mangoes are there?

- A. There are five mangoes.
- B. There are six mangoes.
- C. There are seven mangoes.
- D. There are eight mangoes.



Answer 5

Good Job! ยอดเยี่ยมค่ะ



D. There are eight mangoes.

5.

Exercise

5. How many colors of Thai flag?

- A. There are two colors.
- B. There are three colors.
- C. There are four colors.
- D. There are five colors.



Answer 5

Correct! เก่งมากค่ะ



B. There are three colors.

6.

Exercise

6. This is doll.

- A. a
- B. an
- C. one
- D. three



Answer 6

Good Job! ยอดเยี่ยมค่ะ



A. This is a doll.

7.

Exercise

7. These are.....

- A. Three banana
- B. Three bananas
- C. Four banana
- D. Four bananas



Answer 7

Correct! เก่งมากค่ะ



B. There are four bananas.

8.



9.



10.



From: www.yenta4.com/wallpaper

<http://www.google.com/search>

9. Students sing a song at the End of the Lesson. After that press the button Exit



5. Assessment Evaluation/Assessment of Learning:

1. Instructor observation of students' participation.
2. Evaluation of completed worksheets/handouts
3. Comparison of performances on the Pre-Tests and Post- Tests.
4. Instructor generated assessments
6. Instructor Media: School Computer Base
7. Assessment Teaching
 1. Students' evaluation
 2. Problems / Conflicts
 3. Suggestions / Comments
 9. Integrated with other learning area
 1. Mathematics

Work Sheet

Name Class Number

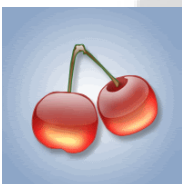
Directions: Look at the picture. Then put the word of number in correct answer.



1. A: How many apples are there?
B: There are apples.



2. A: How many bananas are there?
B: There are bananas.



3. A: How many cherries are there?
B: There are cherries.



4. A: How many blueberries are there?
B: There are blueberries.

APPENDIX F

Lesson plan for School-based Curriculum Instruction

Lesson Plan

Pratomsuksa 3

Unit 3 Counting the numbers

Title : Number 1-10

Time : 50 minutes

1. Lesson Overview

In this lesson, students will learn vocabulary to count, read and write number in

words

2. Objective

3.

1. Function: Ask and answer about amount of things with number in words.

2. Vocabulary: Spell, read and write the word in sentences: *number, one, two, three, four, five, six, seven, eight, nine, and ten*

3. Contents:

- Talking about number of things in daily life

- Vocabulary Number 1-10

one, two, three, four, five, six, seven, eight, nine and ten

4. Activities

1. Let students look at on English Book “Aha on page 40”

2. Let ‘s students sing the song ‘Ten Little Indian’

3. Teacher asks students to count 1 to 5.

one 1

two 2

three 3

four 4

five 5

4. Teacher asks students to count 5 to 10.

six 6

seven 7

eight 8

nine 9

ten 10

5. Students write number of thing in words in English. *one 1, two 2, three 3, four 4, five 5,*

six 6, seven 7, eight 8, nine 9, ten 10,

5. Assessment Evaluation/Assessment of Learning:

6. Instructor observation of students' participation.
7. Evaluation of completed worksheets/handouts
8. Comparison of performances on the Pre-Tests and Post-Tests.
9. Instructor generated assessments

6. Material: Flashcards

7. Assessment Teaching

4. Students' evaluation
 5. Problems / Conflicts
 6. Suggestions / Comments
10. Integrated with other learning area
5. Mathematics
 2. Dancing

Work Sheet

Name Class Number

Directions: Look at the number. Then unscramble the letters to write the name of the number.

i g h e t

n t e

e o n

s x i

o u r f

s v e n e

t o w

n e i n

e f v i

e r t e

h

1

2

3

4

5

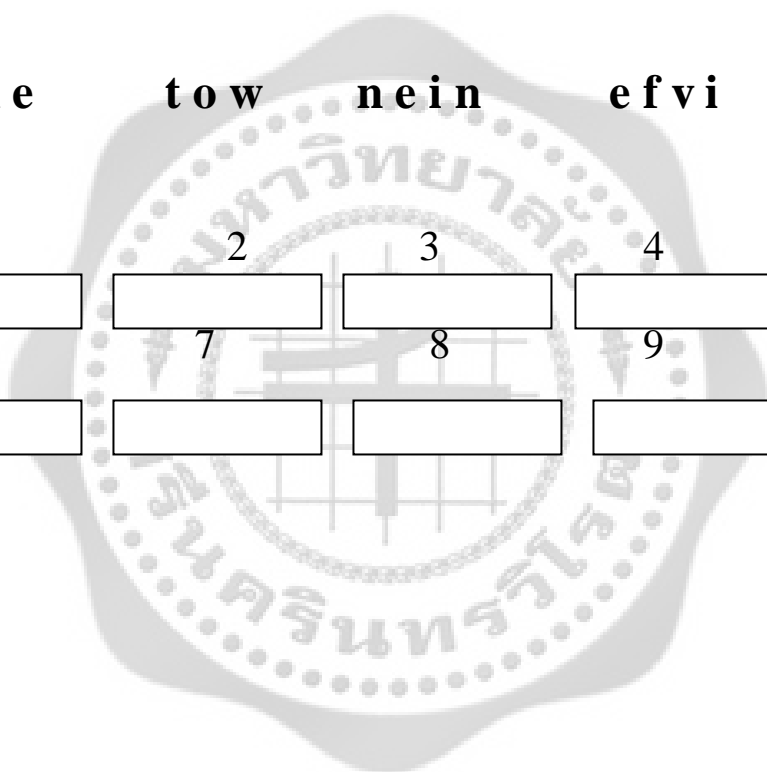
6

7

8

9

10



Lesson Plan

Pratomsuksa 3

Unit 3 Counting the numbers

Title: How many?

Time: 50 minutes

Exercise 10 items

 1. Lesson Overview

In this lesson, students will learn ask and answer about amount of things with number and word, using article a, an for Singular noun.

2. Objective

1. Function: Ask and answer about amount of things with number in words.

2. Grammatical points: Countable nouns, Article using: *a, an* and Using *How many*

3. Vocabulary: Spell, read and write the word in sentences: *number, one, two, three, four, five, six, seven, eight, nine, and ten*

3. Contents:

- Ask and answer about number of things in daily life by using “How many?”
- Vocabulary Number 1-10

one, two, three, four, five, six, seven, eight, nine and ten

Article using: *a, an*

4. Activities

1. Let students access to school computer base “Counting Number Book 2”

2. Students click “Start button” Let students sing the song ‘Ten Little Indian’

3. Teacher asks students to count 1 to 5.

one 1

two 2

three 3

four 4

five 5

4. Teacher asks students to count 5 to10.

six 6

seven 7

eight 8

nine 9

ten 10

10. Students write number of thing in words in English. *one 1 , two2, three3, four4, five5, six6, seven7, eight8, nine9, ten10*

6. Students matching vocabulary with picture.

Using How many.....?



How many apples are there?

There are.....apples.

7. Students learning a grammar component using article a, an for Singular noun.

8. Students do the exercise in the School Curriculum Base 10 items.

5. Assessment Evaluation/Assessment of Learning:

1. Instructor observation of students' participation.
2. Evaluation of completed worksheets/handouts
3. Comparison of performances on the Pre-Tests and Post- Tests.
4. Instructor generated assessments

6. Materials: Flash cards

7. Assessment Teaching

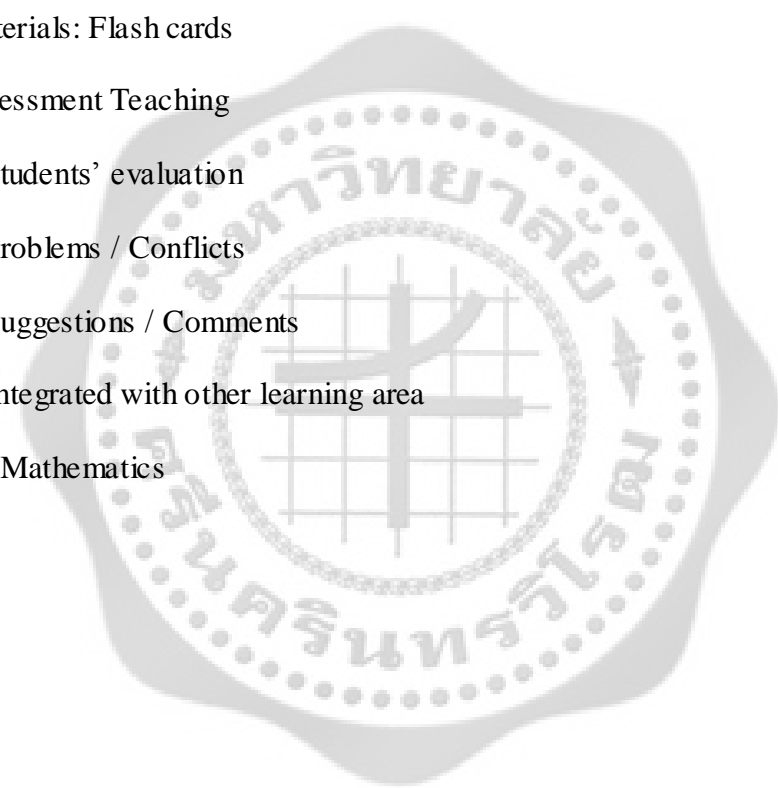
4. Students' evaluation

5. Problems / Conflicts

6. Suggestions / Comments

11. Integrated with other learning area

1. Mathematics



Work Sheet

Name Class Number

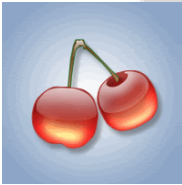
Directions: Look at the picture. Then put the word of number in correct answer.



1. A: How many apples are there?
B: There are apples.



2. A: How many bananas are there?
B: There are bananas.



3. A: How many cherries are there?
B: There are cherries.



4. A: How many blueberries are there?
B: There are blueberries.

VITAE

Name: Miss Peangrawin Nontawong
Date of Birth: January, 19 1979
Place of Birth: Sisaket, Thailand
Address: 633 Moo.2 Thumbol Muang Kong,
Rasisalai, Sisaket 33160

Educational Background:

March 2001 Bachelor of Arts
(English)
Ubon Ratchathani Rajabhat University

May 2012 Master of Arts (TEFL)
Srinakarinwirot University

