

**LEARNING STYLES AND NEEDS OF GRADE 1
STUDENTS IN LEARNING ENGLISH
BY USING TABLET PCS**



**A Thesis Submitted in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy in English Language Studies**

Suranaree University of Technology

Academic Year 2015

วิธีการเรียนรู้และความต้องการของนักเรียนชั้นประถมศึกษาปีที่ 1
ในการเรียนภาษาอังกฤษโดยใช้แท็บเล็ต



นางอัมพนิดา ผการัตน์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรดุษฎีบัณฑิต

สาขาวิชาภาษาอังกฤษศึกษา

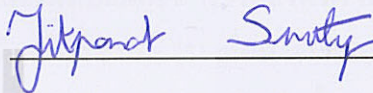
มหาวิทยาลัยเทคโนโลยีสุรนารี

ปีการศึกษา 2558

**LEARNING STYLES AND NEEDS OF GRADE 1 STUDENTS
IN LEARNING ENGLISH BY USING TABLET PCS**

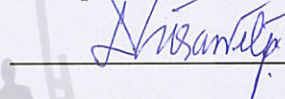
Suranaree University of Technology has approved this thesis submitted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy.

Thesis Examining Committee



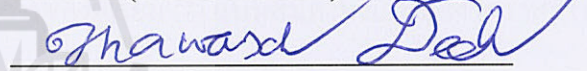
(Dr. Jitpanat Suwanthep)

Chairperson



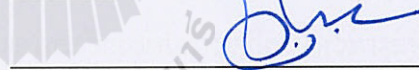
(Dr. Dhirawit Pinyanatthagarn)

Member (Thesis Advisor)



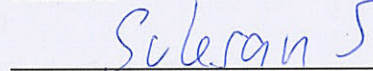
(Asst. Prof. Dr. Thawascha Dechsubha)

Member



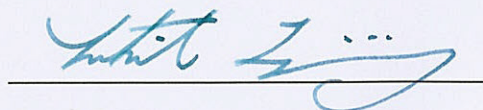
(Asst. Prof. Dr. Akkarapon Neumaihom)

Member



(Dr. Suksan Suppasetsee)

Member



(Prof. Dr. Sukit Limpijumnong)

Vice Rector for Academic Affairs
and Innovation



(Dr. Peerasak Siriyothin)

Dean of Institute of Social Technology

อัมพนิดา ผลารัตน์ : วิธีการเรียนรู้และความต้องการของนักเรียนชั้นประถมศึกษาปีที่ 1
ในการเรียนภาษาอังกฤษโดยใช้แท็บเล็ต (LEARNING STYLES AND NEEDS OF
GRADE 1 STUDENTS IN LEARNING ENGLISH BY USING TABLET PCS)
อาจารย์ที่ปรึกษา : อาจารย์ ดร.ธีรวิทย์ ภิญโญณัฐกานต์, 142 หน้า

การวิจัยครั้งนี้ได้ศึกษาวิธีการเรียนรู้และความต้องการของนักเรียนชั้นประถมศึกษาปีที่ 1
ที่เรียนภาษาอังกฤษโดยใช้แท็บเล็ตพีซี โดยมีวัตถุประสงค์ดังนี้ (1) เพื่อศึกษาวิธีการเรียนรู้วิชาภาษา
อังกฤษของนักเรียนชั้นประถมศึกษาปีที่ 1 โดยใช้แท็บเล็ตพีซี (2) เพื่อให้ทราบความต้องการของ
นักเรียนในการเรียนวิชาภาษาอังกฤษโดยใช้แท็บเล็ตพีซี และ (3) เพื่อหาวิธีที่มีประสิทธิภาพในการ
ใช้แท็บเล็ตพีซีเป็นสื่อในการจัดการเรียนการสอนวิชาภาษาอังกฤษในชั้นเรียนที่ตอบสนองต่อ
วิธีการเรียนรู้และความต้องการของผู้เรียน

กลุ่มตัวอย่างในการวิจัยประกอบด้วยนักเรียนชั้นประถมศึกษาปีที่ 1 จำนวน 354 คน
จาก 4 โรงเรียนในโครงการนำร่อง “One Tablet Per Child” ปีการศึกษา 2555 ของสำนักงาน
คณะกรรมการการศึกษาขั้นพื้นฐาน เครื่องมือในการวิจัยประกอบด้วย (1) แบบสอบถามวิธีการ
เรียนรู้ของผู้เรียน (2) แบบสอบถามความต้องการของผู้เรียน (3) แบบสัมภาษณ์แบบกึ่งโครงสร้าง
และ (4) การอภิปรายกลุ่ม

ผลการวิจัยพบว่า

- (1) นักเรียนชั้นประถมศึกษาปีที่ 1 เรียนภาษาอังกฤษโดยใช้แท็บเล็ตพีซีผ่านทางสื่อ
ประสาทร้อยละ 91 เรียนผ่านทางสายตา ร้อยละ 88 และเรียนผ่านการเคลื่อนไหวทางร่างกายร้อยละ 50
- (2) นักเรียนชั้นประถมศึกษาปีที่ 1 ที่เรียนภาษาอังกฤษโดยใช้แท็บเล็ตพีซี มีความต้องการ
เรียนจากสื่อที่มีเกมและกิจกรรมท้ายเรื่อง ต้องการกิจกรรมการฟัง ต้องการแท็บเล็ตพีซีที่ใช้ได้ง่าย
ด้วยตัวเอง และต้องการกิจกรรมที่ให้ปฏิบัติจริง
- (3) ได้วิธีการที่มีประสิทธิภาพในการใช้แท็บเล็ตพีซีเป็นสื่อในการจัดการเรียนการสอนวิชา
ภาษาอังกฤษในชั้นเรียน โดยได้ข้อสรุปจากการอภิปรายกลุ่มว่าการจัดกิจกรรมการเรียนรู้โดยใช้
แท็บเล็ตพีซีให้เกิดประสิทธิภาพ ขึ้นอยู่กับครูผู้สอนและสื่อหรือเนื้อหาในแท็บเล็ต

AMPANIDA PAKARAT : LEARNING STYLES AND NEEDS OF GRADE 1
STUDENTS IN LEARNING ENGLISH BY USING TABLET PCS.

THESIS ADVISOR : DHIRAWIT PINYONATTHAGARN, Ph.D., 142 PP.

LEARNING STYLES/NEEDS/USING TABLET PCS

The study investigated the learning styles and needs of Grade 1 students in learning English by using tablet PCs. The purposes of the study were (1) to investigate the English language learning styles of Grade 1 students who use tablet PCs, (2) to understand the needs of students in learning English by using tablet PCs, and (3) to find out the effective way to teach English by using tablet PCs in order to respond the students' learning styles and needs.

The samples were 354 Grade 1 students of four schools under the jurisdiction of the Office of Basic Education Commission in the “Integrating Technology to Enhance Learning” pilot project in the academic year 2012. The instruments used for data collection were questionnaires, semi-structured interview, and focus group discussion.

The data revealed that;

(1) Grade 1 students learnt English via tablet PCs by auditory learning style , visual learning style, and kinesthetic learning style with 91%, 88%, and 50% respectively.

(2) Grade 1 students needed contents to end up with games and activities, listening activities, self-using tablet PCs, and practical activities.

(3) The effective way to teach English by using tablet PCs depended on teachers and materials.

School of Foreign Languages

Student's Signature _____

Academic Year 2015

Advisor's Signature _____

ACKNOWLEDGEMENTS

I would like to express my gratitude to the following for their help, support, and encouragement which I received in conducting this research.

I would like to express my deep gratitude to my advisor, Dr. Dhirawit Pinyonattagarn for his continued guidance, help and support throughout the study. This dissertation would not be achieved without his suggestions and encouragement.

I am deeply grateful to Dr. Peerasak Siriyothin, the former chair, Dr. Jitpanat Suwanthep, the chair of my dissertation committee. I am also grateful to other members of my dissertation committee, Dr. Suksan Suppasetsee, who kindly sacrificed his tough and valuable time to my study. I wish to express my appreciation to my former committee Assoc. Prof. Dr. Kanit Khaimook, who inspired me to interest in tablet PCs and guided me for the framework of the study. I really appreciated Asst. Prof. Dr. Tawascha Dechsubha and Asst. Prof. Dr. Akkarapon Neumaihom, the external examiners for their comments and valuable advice regarding this dissertation. Without their guidance and generous support, my graduate study would not have been possible.

My sincere gratitude also goes to Assoc. Prof. Dr. Anchalee Wannarak, chair of the School of Foreign Languages for her support and encouragement. She provoked me to work with proper and timely guideline and I should also thank all of my lecturers at SUT for their encouragement and support. I am grateful to all staff of SUT School of Foreign Languages for their help and moral support.

I wish to express my appreciation to all of specialists who proved my research instruments and gave me suggestions and I am so grateful to all of my participants in all steps. I had a wonderful time of my life with all of them. I extended my gratitude to my graduate classmates at Suranaree University of Technology who shared their views, time, and moral support. I believe that I might not complete my study without them.

Finally, my deepest appreciation is dedicated to my father and mother, who encouraged me throughout the study. Their loves support me to accomplish this research.

Ampanida Pakarat



TABLE OF CONTENTS

	Page
ABSTRACT (Thai).....	I
ABSTRACT (English).....	II
ACKNOWLEDGEMENTS	III
TABLE OF CONTENTS	V
LIST OF TABLES	X
LIST OF FIGURES	XI
CHAPTER	
1. BACKGROUND OF THE STUDY	1
1.1 Introduction.....	1
1.2 Rationale of the Study.....	4
1.3 Purposes of the Study.....	9
1.4 Research Questions.....	10
1.5 Conceptual Framework of the Study.....	10
1.6 Definitions of Key Terms.....	13
1.7 Limitations of the Study.....	15
1.8 Significance of the Study.....	16
1.9 Summary.....	16
2. REVIEW OF THE LITERATURE	17
2.1 Introduction.....	17
2.2 Learning Styles.....	17

TABLE OF CONTENTS (Continued)

	Page
2.2.1 Definitions of Learning Styles	17
2.2.2 Types of Learning Styles.....	19
2.3 Learner Needs.....	26
2.3.1 Definitions of Needs.....	27
2.3.2 Learners Needs of Course Material.....	28
2.4 Constructivism Learning Theory.....	29
2.4.1 Technology Meets Constructivism.....	29
2.4.2 The Role of Emerging Technology.....	30
2.4.3 E-Learning and E-Learning Design.....	31
2.5 Policies of Ministry of Education.....	32
2.5.1 Policies.....	32
2.5.2 Enhancement of Educational Opportunities.....	33
2.5.3 Strategies.....	35
2.5.4 Concepts of Education Development.....	35
2.6 Tablets for Education.....	36
2.6.1 Definition of Tablet PCs.....	37
2.6.2 Potential and Implementation.....	38
2.6.3 Courseware and Software Response the Learning of Students Of the 21 st Century.....	40
2.6.4 The 21 st Century Thai Learners.....	41
2.7 Previous Studies.....	43

TABLE OF CONTENTS (Continued)

	Page
3. RESEARCH METHODOLOGY	51
3.1 Introduction.....	51
3.2 Research Methodology.....	51
3.3 Participants.....	53
3.3.1 Populations.....	53
3.3.2 Respondents for Questionnaire.....	54
3.3.3 Participants for Interview.....	54
3.3.4 Participants for focus group.....	55
3.4 Instruments.....	56
3.4.1 A Learning Styles Questionnaire.....	56
3.4.2 A Learner Needs Questionnaire.....	57
3.4.3 A Semi-structured Interview.....	58
3.4.4 Focus Group Discussion.....	59
3.5 Data Collection Procedures.....	59
3.5.1 Procedures for Learning Styles Questionnaires.....	59
3.5.2 Procedures for Learner Needs Questionnaire.....	60
3.5.3 Procedures for Learner Needs Interview.....	60
3.5.4 Procedures for Teaching Guide by Tablet PCs and Characteristics of Materials.....	60
3.6 Data Analysis.....	61
3.6.1 Data Analysis for the Questionnaires.....	61

TABLE OF CONTENTS (Continued)

	Page
3.6.2 Data Analysis for the Interview.....	61
3.6.3 Data Analysis for the Focus Group Discussion.....	61
4. RESULTS OF QUESTIONNAIRE RESPONSES.....	62
4.1 Introduction.....	62
4.2 Results of English Learning Styles Employed by Grade 1 Students.....	62
4.3 Results of Needs of Grade 1 Students in Learning English by Using Tablet PCs.....	65
4.3.1 Results from Questionnaire.....	65
4.3.2 Results from Semi-structured Interview.....	68
5. FOCUS GROUP RESULTS.....	78
5.1 Introduction.....	78
5.2 Focus Group Discussion.....	78
5.3 An Effective Way to Teach by Using Tablet PCs.....	88
5.4.1 Teachers.....	88
5.4.2 Materials.....	90
6. CONCLUSION, DISCUSSION, AND RECOMMENDATIONS.....	91
6.1 Introduction.....	91
6.2 Conclusion.....	91
6.3 Discussion.....	95
6.3.1 Discussion on the Research Question 1.....	95

TABLE OF CONTENTS (Continued)

	Page
6.3.2 Discussion on the Research Question 2.....	97
6.3.3 Discussion on the Research Question 3.....	98
6.4 Applications of the Present Study.....	105
6.5 Implications of the Present Study.....	107
6.6 Recommendations for the Present Study.....	110
6.6.1 Recommendations for the Present Study.....	110
6.6.2 Recommendations for Further Research.....	110
REFERENCES	111
APPENDICES	123
CURRICULUM VITAE	142

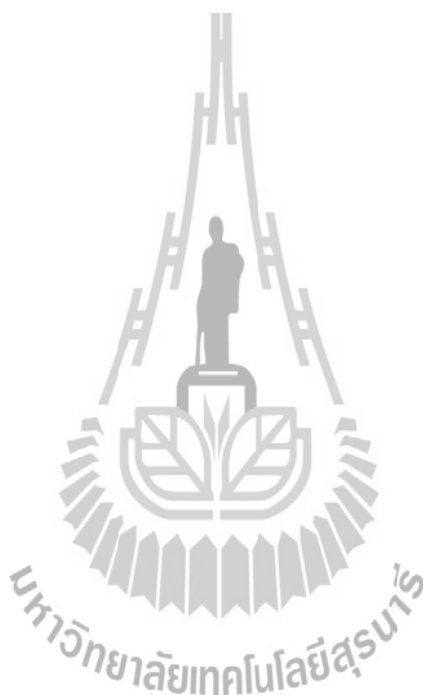
LIST OF TABLES

Table	Page
3.1 Populations of the Study.....	53
3.2 Respondents for the Questionnaire.....	54
4.1 Result of English Learning Styles Employed by Grade 1 Student.....	63
4.2 Result of Visual Learning Style.....	63
4.3 Result of Auditory Learning Style.....	64
4.4 Result of Kinesthetic Learning Style.....	65
4.5 Result of Learner Needs-Subject Matter.....	66
4.6 Result of Learner Needs-Language Skills.....	67
4.7 Result of Learner Needs-Technical Know-how.....	67
4.8 Result of Learner Needs-Physical Abilities.....	68



LIST OF FIGURES

Figures	Page
1.1 Conceptual Framework of the Study.....	12
3.1 Research Methodology.....	52



CHAPTER 1

BACKGROUND OF THE STUDY

1.1 Introduction

In the present global society, learning foreign languages is very important and essential to daily life, as foreign languages serve as an important tool for communication, education, seeking knowledge, livelihood and creating understanding of cultures and visions of the world community. Foreign languages enable learners to be aware of the diversity of cultures and viewpoints in the world community, and make it conducive to friendship and cooperation with various countries. They contribute to learners' development by giving learners better understanding of themselves and others. The learners are thus able to learn and understand differences of languages and cultures, customs and traditions, thinking, society, economy, politics and administration. They will be able to use foreign languages for communication as well as for easier and wider access to bodies of knowledge, and will have a better vision of their lives (Ministry of Education, 2008). It is anticipated that the number of English users will increase each year due to the fact that English prevails in almost all aspects of people's life. The Ministry of Education recognizes its importance and has stated in the core curriculum to require learning English as a foreign language during the basic education level.

The global society is changing rapidly, particularly in the advancement in technology. The role of English has been stressed even more both here and abroad

due to the innovation of computer technology. Therefore, it is necessary to improve teaching and learning to cope with these changes, especially in English language. In the beginning of the 21st century, enormous changes have occurred throughout the world as a result of new information and technological developments. These changes have affected every segment of society and all levels of education (Martin & Rader, 2003). In the first decade of the 21st century, the rate of change of technology is greater than ever before (Caladine, 2008).

Technology is one of the tools that has been recognized to improve achievement in English language. Various technologies have been applied and widely used in education. Martin and Rader (2003) stated that over the past few decades the view of teaching and learning has changed dramatically. The emergence of student-focused learning models has led to the re-examination of the activities of learning. At the same time, information technology (IT) has enabled new ways of setting up learning activities. In an IT - rich learning environment, students' achievement of IT and information literacy becomes essential to their success as learners. Yunus et al, (2010) viewed that integration of technology into language education has become an everyday occurrence. Educational multimedia courseware as a resource material to enhance the teaching and learning of English language was produced extensively. It is consistent with Tanyeli (2009), who said that the internet is a necessity today in the field of education to be used as an important tool both for students and teachers as a guide for learning and teaching. In Thailand, Prasertsang (2009) concluded in her study about the effect of using E-learning packages in English subject for Pratomsuksa 5 students that technology in education can improve English language

teaching and learning effectively. In addition, Duannin (2001) stated that technology in education can help students develop their ability to use the language more quickly.

The Ministry of Education (2008) presents that in the past decade, the role of Information and Communication Technologies (ICT) in education increased rapidly. In a direct way, ICT enables learners, both inside and outside the schools, to access a wide variety of information that goes beyond the traditional classroom setting. Learners can search for cutting-edge knowledge from the internet to expand their learning horizons as well as to develop the thinking skills and creativity needed for the 21st century. Concurrently, teachers nationwide can utilize developed courseware and Learning Management Systems (LMS) to compile specific content that effectively supports their lesson plans and formative assessment. LMS is rapidly uptake as an approach to the application of computers to education. Watson and Watson (2007) said that LMS handled all aspects of the learning process from being infrastructure that delivered and managed instructional content, identified and assessed individual and organizational learning or training goals, tracked the progress towards meeting those goals, and collected and presented data to supervise the learning process for the whole system. LMS grow from a range of multimedia and internet developments but today they also refer to as learning platforms, distributed learning systems, course management systems, content management systems, portals, and instructional management systems. They combine a range of course or subject management and pedagogical tools to provide a means of designing, building, and delivering online learning managements (Coates, James, & Baldwin, 2005). Therefore, LMS could facilitate the learners, teachers, and system administrators to analyze, monitor, and evaluate learning effectively.

1.2 Rationale of the study

Because of the importance of technology in education as mentioned earlier, the former government provided the use of technology to change learning paradigm into learner-centered and lifelong learning through hi-speed internet. In addition, the government promoted all levels of students to use tablet PCs for education by initiative to provide tablet PCs for Grade 1 students in education policy in the project “Integrating Technology to Enhance Learning”(One Tablet Per Child) to be a tool in 21st century learning. The tablet PCs were expected to be tools for learning and access to resources and knowledge available on both offline and online. By using the tablet PCs, students had the opportunity to learn and practice their knowledge by themselves (Ministry of Education, 2012).

There are several researches studies on the use of technology in teaching English language. They argue that technology works very well in teaching English language in terms of achievement and attitudes. Yunus et al (2010) studied the utilization of the ICT in the teaching and learning of English and found that both students and English language lecturers indicated positive perceptions on the ease of use, usefulness and suitability of the courseware and that the courseware was an effective tool to support language learning so well that Hubackova and Ruzickova, (2011) concluded that on-line courses enabled to students practise individually. Using ICT helps to increase the learner’s vocabulary and give the possibility of using the listening texts and working with a foreign language text. It is also useful in the teaching foreign languages. The study of Kocoglu (2009) on exploring the pedagogical content of technology knowledge in language education found that the participants gained technological content knowledge in the use of both Weblogs and Webquests and they

took advantage of what technological tools could do efficiently in language teaching. Similarly Tanyele (2009) showed the results of the efficiency of online English language instruction on students' reading skills with Law students being more successful in web-assisted instruction. The findings of Dreyer and Nel (2003) suggested that students benefitted from strategic reading instruction offered in a technology-enhanced learning environment. In relation to their attitudes, Yang and Chen (2007) studied on Technology-enhanced language learning and found that most students liked and approved English learning via internet. It enabled the students to experience new technologies, feel the pleasure of learning and increase their learning opportunities.

In the context of basic education in Thailand, many researches involving the use of technology in English language teaching and learning have been studied. Mahimaung (2005) studied the problem of teaching and learning in English at the Rajabhat Institute of Elementary Demonstration School and found that language laboratories and modern teaching materials could support high learning achievement of English language. Moreover, Pratomsuksa 6 students could understand the content better when teachers used materials in English language teaching. Prasertsang (2009) presented her study about the effects of using E-learning packages in English subject for Pratomsuksa 5 students, the result revealed that using technology could improve English language teaching and learning effectively. Daunnin (2001) agreed that technology in teaching English language could help students develop their abilities to use the language more quickly. Taeporamasamai (2008) studied the problems and needs in the production and use of instructional media of the English language teacher in the lower secondary level. Obtained information from her interviews showed that materials improved English language learning effectively.

Apart from the provision of appropriate learning materials, Kolb & Fry, 1975 (cited in Pothaworn 2009) stated that in teaching and learning, learning styles of students should be considered because each student had a different ability, a unique way and style of learning. Kolb (1985) interpreted that understanding the patterns could help to know what the students focused on the learning styles and helped to find the ways to encourage students to learn better by using the students learning to cater to the learning styles. Department of Academic (1998) presented that the learning style was an important element to keep in consideration in the teaching and learning because it made teachers understand teaching and learning styles of students more and it was a guide to teaching process that was appropriate for different learners as Keefe, 1979 (cited in Pothaworn, 2009) mentioned that the learning styles were not only innovative in teaching and learning but also a learning tool to a new approach based on a profound understanding of the students. This style of learning of each student was determined by the physical, emotional, and cognitive style that was relatively constant and indicated that learners perceived, interacted, and learnt to respond to the environment. Hunt, 1981 and Dunn, 1981 (cited in Raenark (2003) studied the importance of learning styles of students and found that it was necessary to explore the learning styles of students to use as a tool to reflect the unique characteristics of each individual to affect the best result of students' learning as background information for teachers to use in planning and teaching and learning activities appropriate to the specific effects.

For learning styles, concept can be defined generally as preferences of individuals as to how they engage in the learning process (Ehrman & Oxford, 1990). Skehan (1991) explains that learning styles are learners' characteristic towards

processing information in a certain manner. On the other hand, learning styles are a part of an individual's make up or personality. While an individual may prefer one type of learning style over another for different kinds of learning tasks, the fact remains that a learning style preference reflects an individual's own personal predilection of learning in a particular situation. As people's personalities change over time, so their learning style preferences; such changes in preferences occur over time and generally as a result of exposure to different teaching/learning situations (Wintergerst, DeCapua, & Verna, 2003).

Learning styles indicate how a learner perceives, interacts with, and responds to the environment. Language learning styles appear to be among the most important variables influencing performance in a second language. Moreover, the identification of learners' learning styles helps educational planners and teachers provide learners necessary educational support and supplies because learning styles are influential factors in learners' learning (Anderson & Elloumi, 2004). Individuals acquire learning styles and techniques according to their individual differences like other abilities through experience (Seif, 2001).

At the present is an era of knowledge and information, so who has more knowledge and information would have an advantage to live practicably. For this reason, teachers should prepare students to pursuit the knowledge by themselves continuously. Hence, teaching students to know how to learn is very important. The first thing teachers need to know how to teach students to learn by themselves is to realize that students have different styles of learning. Those who know the learning styles of each child are very likely to succeed in knowledge transfer to the students. Therefore, students can develop their learning potential to the utmost.

Psychologists who study styles of learning have shown that humans can get information through three perceptions. They are visual perception or visual style, auditory perception or auditory style, and kinesthetic perception or kinesthetic style (Thammabut, 2009). The visual learners learn best when information is presented visually. They benefit from instructors who use visual aids such as film, video, maps and charts. They also benefit from information obtained from the pictures and diagrams in textbooks. When trying to remember something, they can often visualize a picture of it in their minds. The auditory learners learn best when information is presented auditory in an oral language format. They benefit from listening to lectures and participating in group discussions. They also benefit from obtaining information from audio tape, CD's, MP3, computer, radio and so on. When trying to remember something, they can often "hear" the way someone told them the information, or the way they previously repeated it out loud. They learn best when interacting with the others in a listening or speaking exchange. The kinesthetic learners like touching and moving. They learn best when they can physically active in classroom experiences. They benefit from instructors who encourage in class demonstration, field trip, and role-playing. Some learners really increase their learning potential when they are given the opportunity to do something by themselves. They like learning by doing.

Each learner is unique, and brings to the learning situation his or her own different learning style, knowledge set, pool of past experiences, and motivation. In learner-centered instruction, it is important for instructors to consider the level of knowledge and skill development attained by the learners prior to instruction (Dick, Carey, & Carey, 2004). Learner needs help to powerfully clarify and validate true needs. It enables educators and practitioners to shape the curriculum development that

bases the content of language courses on the communication needs, wants and interests of the learners (Lepetit & Cichocki, 2002). It ties learning as closely as possible to teaching (Grier, 2005), and it leads educators and practitioners to provide better and more accessible sources for the students of the program concerned (Long, 2005). It is surprising that a small number of researches have been reported in learner needs itself, although its importance and usefulness has been acknowledged in the field of education (Akyel & Ozek, 2010).

Nowadays technology plays a significant role in education, therefore, the government provides tablets for students from Grade 1 in order to learn appropriately. The study of learning styles and learners' needs from using tablet PCs is a point that should be useful to those responsible for education to respond to the learning needs of students which will lead to the development of learners' utmost potential. In addition, learning by using tablet PCs as a new innovation in Thailand is also particularly interesting in how the students learn from using tablet PCs. There is no research conducted in this issue, though the researcher is attracted to investigate the study. In this present study, the instruction will be designed as a plan of instructional lesson from the result of students' learning styles and needs in order to be an instance in using tablet PCs for English language lesson plan. It could be beneficial to all those concerns in managing English materials in tablet PCs to respond to the students' learning styles and needs effectively.

1.3 Purposes of the Study

(1) To investigate English language learning styles of Grade 1 students who use tablet PCs.

(2) To understand the needs of students in learning English by using tablet PCs.

(3) To find out the effective way in the management of classroom instructions, English teaching materials, and tablet PCs' content in response to the students' learning styles and needs.

1.4 Research Questions

To accomplish the purposes of the study, the following research questions were proposed:

- (1) What are the English learning styles employed by Grade 1 students?
- (2) What are the needs of Grade 1 students in learning English by using tablet PCs?
- (3) What would be the effective ways to teach by using tablet PCs to respond to Grade 1 students learning styles?

1.5 Conceptual Framework of the Study

Purposes of the study involve learning styles and learner needs that may lead to great effectiveness using tablet PCs in learning English for grade 1 student. Therefore, it is vital to conceive learning styles and learner needs. As mentioned earlier, learning styles are believed that they can help teachers to understand how students learn best (Ellis, 1989) and help to find ways to encourage students to learn better (Kolb, 1985). Reid (1987) and Moennikia and Babelan (2010) conducted researches in learning styles and they found that different students use different styles of learning. Moreover, Peacock (2001) investigated on 206 EFL students to prove

Reid's hypothesis and found that the result of the investigation confirmed the hypothesis that "all students have their own learning styles". In the present study, the learning styles are categorized into three styles based on perceptual learning styles. They are visual learning styles, auditory learning styles, and kinesthetic learning styles.

For learner needs, Minderhout (2012) states that they are a powerful facilitation that can be incorporated into the teaching materials for instructors and students to use as a companion to a learning journey because they can enable learners to reach learning objectives. The study of learner needs has become an integral part of curriculum design in language learning and materials (Kormos, Kontra, & Csolle, 2002). Learner needs can be assumed that they are an essential factor in determination of language content and learning process. Porter (2004) states that course materials should be designed to meet the needs of learners with the experience of subject matter, language skills, technical know-how, learning preferences, and physical abilities. Tyler (1949) and Schwab (1969), cited in Samawathdana (2009) agree that subject matter is one factor to meet the needs of learners while Mupinga, Nora, and Yaw (2006) say that technical help is the top need of online students. From an importance of learner needs above, the learner needs are investigated in this study and comprised of subject matter, language skills, technical know-how, and physical abilities.

Today we are living in a learning society and technology has progressed in all fields including technology of education. Computer is a type of education technology material that becomes an essential tool in learning because it is a resource or network of various fields of knowledge and everyone can use them equally.

The Thai government recognizes the importance of technology that influences to education strongly. Therefore, the policy has been established by the government to apply technology to learning by using tablet PCs as a tool to access learning sources and seek knowledge by themselves (Pahey, 2011). Investigation about how the learners learn by using tablet PCs and what they need might be necessary for better use of technology in order to implement the government policy.

As dictated by the importance of learning styles, learner needs, and technology materials especially tablet PCs, the researcher is interested in studying the effective ways to use tablet PCs in order to satisfy to learning styles and learner needs as much as possible. The researcher is gathered data from Grade 1 students and from those responsible for applying tablet PCs in accordance with the conceptual framework below.

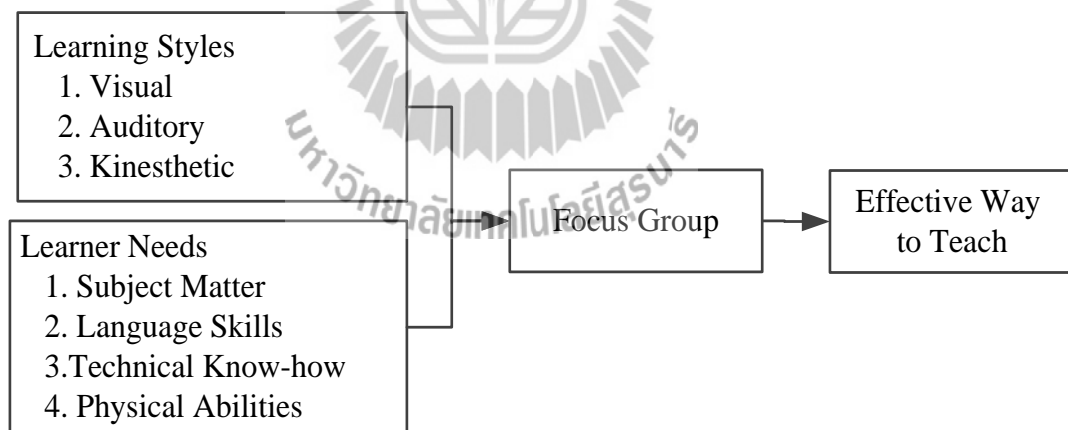


Figure 1.1 Conceptual Framework of the Study

The framework illustrates that the results of learning styles employed by Grade 1 students and needs of Grade 1 students in learning English by using tablet PCs are gathered to create questions for focus group discussion. Therefore, the focus

group discussants discuss and give opinion how to teach English by using tablet PCs effectively based on students' learning styles and needs. Consequently, the result of the discussion could be reliable and support the learning styles and needs of Grade 1 students.

Focus group discussion is an informal discussion among a group of selected individuals about a particular topic (Wilkinson, 2004) . Focus group is group discussion which is managed to examine a specific area of topics. The initial purpose of a focus group is to describe and understand meanings and interpretations of a select group of people to gain an understanding and outlook of a specific issue from the perspective of the participants of the group. Methodologically, focus group discussion involves a group of 6–14 people who have similar experiences or concerns. They gather together to discuss a specific issue with the help of a moderator in a particular setting where participants feel comfortable enough to engage in a dynamic discussion within three hours. The participants are encouraged to talk to each other so that the researcher can gain information about their views and experiences of a topic. Focus groups do not aim to reach consensus on the discussed issues. Rather, focus groups 'encourage a range of responses which provide a greater understanding of the attitudes, behavior, opinions or perceptions of participants on the research issues' (Hennink, 2007).

1.6 Definitions of Key Terms

Learning styles refer to the way learners respond to the use of the tablet in English language learning. The learning styles in this study are comprised of (1) visual learning style; (2) auditory learning style; and (3) kinesthetic learning style.

Visual learning style means learning by seeing. The visual learners can organize their thoughts and remember things by seeing. Pictures and written texts help them learn and they think in images or pictures. Auditory learning style means learning by hearing. The auditory learners benefit from sound and music. They learn best when they hear things. Talking out loud can help them learn. Kinesthetic learning style means learning by movement. The tactile/kinesthetic learners learn by using their bodies, hands, and sense of touch. Writing, drawing, and movement help them to remember important things and they like to demonstrate what they have learned.

Learner needs refer to what learners want from the use of the tablet in English language learning. The learner needs in this study comprise of (1) the content of materials in tablet PCs; (2) the four language skills that consist of listening, speaking, reading, and writing; (3) the technical know-how, the learners' knowledge of using tablet PCs; and (4) the physical abilities, or the learners' movement that occur due to the use of tablet PCs.

Tablet PCs refer to the tablet PC provided by the government to Grade 1 students in the project "One Tablet PC per Child". The tablet PCs contained English materials in compliance to the standard of the Ministry of Education. The specification of tablet PCs consisted of (1) a 7 – inch display screen minimum; (2) a minimum resolution of 1,024 x 768 pixels; (3) a record size not less than 16 GB; (3) a dual core central processing unit of at least 1 GHz; (4) a memory not less than 512 MB; and (5) an the operating system designed specifically for tablet PCs or Android 3.2 system and support Android 4.0

1.7 Limitations of the Study

This present study has been carried out with limitations as follows:

1. The study has been conducted with Grade 1 students in the pilot project “Integrating Technology to Enhance Learning” in academic year 2012.
2. Tablet PCs which were used in the study refer to the tablet PCs provided to Grade 1 students by the former Thai government only.
3. The project “Integrating Technology to Enhance Learning” has been canceled in 2014 due to political reasons; however, the study has to be carried out according to the framework that has already defined. Furthermore, the kind of material, not only tablet PCs provided by the former government but also computers and another technology materials, have been already used widely in learning and teaching.

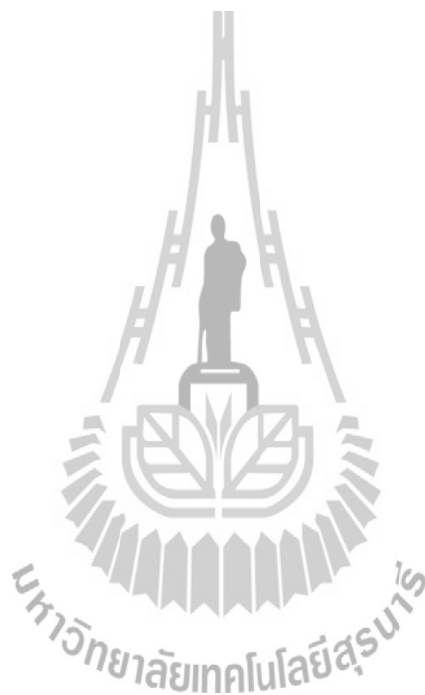
1.8 Significance of the Study

As mentioned previously that English and technology are essential and very important in the world today, learning English by technology has been prevalent for many years. Now the government has allocated a large budget to provide for tablet PCs for students to use in learning. Based on previous studies conducted on learning English language through technology, some of results show that using technology affects learning.

It benefits undertakers and students to have a study to know the arrangement of content, materials, and learning process to respond to the learning styles and learner needs through using tablet PCs which every student will be given individually in the near future.

1.9 Summary

This chapter addresses a description of the background of the study. It is about the importance of technology, learning styles and the needs of Grade 1 students in learning English by using tablet PC. Then terms and purposes of the study are presented as well as the research questions, conceptual framework, limitations, and finally, the significance of the study.



CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Introduction

This study investigates learning styles and needs of grade 1 students in learning English language by using tablet PC. The chapter of literature review presents learning styles, learner needs, constructivism learning theory, and instructional design, policies and strategies on education development of the ministry of education year 2012-2015, tablet for education, and previous studies respectively.

2.2 Learning Styles

2.2.1 Definitions of Learning Styles

The term “learning styles” were presented in various meanings by many views as follows:

Reid (1995) stated learning styles as a person general approach to learning and problem solving.

Kinsella (1995) referred the learning styles to an individual natural, habitual, and preferred ways of absorbing, processing, and retaining new information and skills which persist regardless of teaching methods or content area.

James and Gardner (1995) defined learning style as a complex manner in which, and conditions under which, learners most efficiently and most effectively perceive, process, store, and recall what they are attempting to learn.

Swanson (1995) stated that learning style is a particular set of behaviors and attitude related to the learning context.

Dunn (1993) concluded that learning style is a method of learners to remember and gather complex data.

Grasha (1996) defined learning style as a personal quality that influence a student's ability to acquire information, to interact with peers and the teacher, and otherwise to participate in learning experiences.

Dunn and Griggs (2000) explained with more details that learning style is the way students begin to concentrate on, process, internalize, and remember new and difficult academic information.

Sarasin (1998) defined learning style as the preference or predisposition of an individual to perceive and process information in a particular way or combination of ways.

Cornett (1983) as cited in Oxford (2003) explained that learning style is a general approach - for example, global or analytic, auditory or visual-that students use in acquiring a new language or in learning any other subject.

Ehrman and Oxford (1990) stated that learning styles may be defined as the inherent preferences of individuals on how they engage in the learning process.

Heinich, et al (1996) referred the learning styles to a cluster of psychological traits that determine how an individual perceives, interacts with, and responds emotionally to learning environment.

Learning Styles indicate how a learner perceives, interacts with, and responds to the environment. (Carson & Longhini, 2002)

Kolb (1984) defined learning styles as the ways through which people produce concepts, rules and principles which direct them in new situations (cited in Loo, 2004).

Peirce (2000) cited in Seif (2001) defined learning style as the way a student prefers in learning material.

Skehan (1991) presented that learning styles are learners' customary pre-dispositions towards processing information in a certain manner.

Learning styles might be concluded as personal approach to gather learning information. They affect learners to perceive and process learning and to interact with peers and teachers. They influence learners' learning process and response to learning.

The preference from appropriate learning styles affects learners to have attempting to learn. They can produce concept and principle by themselves. Therefore, the learners can learn efficiently and effectively.

2.2.2 Types of Learning Styles

The learning styles have been identified over the past 30 years (Douglas, 1973). An essential component of the learning style theory is the belief that teachers can best help their students by understanding how they learn best, or knowing students' preferred learning styles (Ellis, 1989). The models of learning styles have been categorized into various styles. Christison (2003) distinguishes the learning styles into three major categories: cognitive learning style, sensory learning style, and personality learning style. They are defined as follows:

1. Cognitive Learning Style

Four types are classified to be under the cognitive style.

(1) Field-Independent / Field-Dependent Learning Styles

Field-Independent Learner : learns more effectively step by step, or sequentially, beginning with analyzing facts and proceeding to ideas (see the “trees” instead of the forest).

Field-Dependent Learner : learns more effectively in context, holistically, intuitively, and is especially sensitive to human relationships and interactions (see “forest” instead of the trees).

(2) Analytic / Global Learning Styles

Analytic Learner : learns more effectively individually, prefers setting own goals, and responds to a sequential, linear, step-by-step presentation of materials.

Global Learner : learns more effectively through concrete experience, and by interactions, with other people.

(3) Reflective / Impulsive Learning Styles

Reflective Learner : learns more effectively when he or she has time to consider options before responding (often more accurate language learners).

Impulsive Learner : learns more effectively when he or she is able to respond immediately and to take risks (often more fluent language learners).

(4) Kolb Experiential Learning Model

The model is further categorized into four learner types,

Converger (Common Sense Learner) : learns more effectively when he or she is able to perceive abstractly and to process actively.

Diverger (Innovative Learner) : learns more effectively when he or she is able to perceive concretely and to process reflectively.

Assimilator (Analytic Learner) : learns more effectively when she or he is able to perceive abstractly and to process reflectively.

Accommodator (Dynamic Learner) : learns more effectively when she or he is able to perceive concretely and to process actively.

2. Sensory Learning Style

Reid (1987) defined this type of learning style into four main areas : visual, auditory, kinesthetic, and tactile. The details are as follows:

“(1) Visual Learning Style

Learners learn best when information is presented visually and in a picture or design format. In a classroom setting, they benefit from instructors who use visual aids such as film, video, maps and charts. They also benefit from information obtained from the pictures and diagrams in textbooks. They tend to like to work in a quiet room and may not like to work in study groups. When trying to remember something, they can often visualize a picture of it in their minds. They may have an artistic side that enjoys activities having to do with visual art and design. Both teachers and learners can integrate this style into the learning environment by:

- using graphs, charts, illustrations, or other visual aids,
- including outlines, agendas, handouts, etc. for reading and taking notes
- including plenty of content in handouts to reread after the learning session
- leaving white space in handouts for note taking
- inviting questions to help them stay alert in auditory environments

- posting flip charts to show what will come and what has been presented

- emphasizing key points to cue when to take notes
- eliminating potential distractions
- supplementing textual information with illustrations whenever possible

- having them draw pictures in the margins
- showing diagrams and then explain them
- having the learners envision the topic or have them act out the subject matter

- using color to highlight important points in text

(2) Auditory Learning Style

Auditory learners like to hear the spoken word through debates, individual conferences and small group discussion. They learn best when information is presented auditory in an oral language format. In a classroom setting, they benefit from listening to lectures and participating in group discussions. They also benefit from obtaining information from audio tape, CD's, MP3, computer, radio and so on.

When trying to remember something, they can often "hear" the way someone told them the information, or the way they previously repeated it out loud. They learn best when interacting with others in a listening/speaking exchange. Both teachers and learners can integrate this style into the learning environment by:

- beginning new material with a brief explanation of what is coming. Conclude with a summary of what has been covered by telling them what they are going to learn, and tell them what they have learned

- reading texts out loud
- having the learners verbalize the questions
- leaving plenty of time to debrief activities, This allow them to make connections of what they learned and how it applies to their situation.

- having the learners verbalize the questions
- developing an internal dialogue among the learners
- making a speech and a presentation
- debating and participating in class discussions

(3) Tactile Learning Style

Tactile learners like touching and moving. They prefer hands-on activities. They learn best when they can be physically active in the learning environment. They benefit from instructors who encourage in class demonstrations, "hands on" student learning experience, and field work outside the classroom. Some learners really increase their learning potential when they are given the opportunity to do something by themselves.

(4) Kinesthetic Learning Style

Kinesthetic learners learn best by experience, by being involved physically in classroom experiences. They remember information well when they actively participate in activities, field trip, and role-playing in the classroom. A combination of stimuli for example, an audiotape combined with an activity, will help them to understand new material. They like learning by doing.

Both teachers and learners can integrate these two learning styles : tactile and kinesthetic, by:

- using activities that get the learners up and moving

- playing music (when appropriate / during activities)
- using colored markers to emphasize key points on flipcharts or white boards

- giving frequent stretch breaks (brain breaks)
- providing toys in order to give them something to do with their hands

- providing highlighters, colored pens and/or pencils
- guiding learners through a visualization of complex tasks
- having learners transfer information from the text to another medium such as a keyboard or a tablet

- preparing a “hands-on” approach to learning
- involving the sense of touch in learning
- moving around to learn new things”

Furthermore, the four styles presented above are also categorized into three styles as Gardner’s theory of multiple intelligences has been translated into a focus on three types of learners, although they are variations to these three main areas. Although people use five senses to gather information about our environment, most people have a preference for one of those senses. According to Sousa (2006) people with a preference for learning by sight are called visual learners; those who use hearing as their preferred method for learning are known as auditory learners, and those who prefer touch or body movement in their learning are kinesthetic learners. Teachers have the responsibility of knowing the learning styles of their students and themselves, since teachers tend to teach most in the learning style they themselves prefer. To further understanding of each style, Clark (2000) describe that auditory

learners may often talk to themselves and move their lips while reading. They may struggle with reading and writing tasks, but do better while talking into a tape recorder or to another person. According to Philp (2008), auditory learners learn most effectively when their speaking and hearing faculties are involved. These learners learn best from lecture and discussion. Research suggests that about 40% of learners favor this learning style.

Clark (2000) defines that the category of visual learners may be subdivided into two areas: visual-linguistic learners who like to learn through written language, and visual-spatial learners who may have trouble with written language but prefer charts, demonstrations, videos, and other visual materials. Philp (2008) says these students are not as likely to participate in discussion, but create their own visual images in response to discussion of the topic. Research suggests that about 40% of learners favor this visual learning style.

Finally, Clark (2000) defines that kinesthetic learners learn by moving and touching. This category can also be sub-divided into kinesthetic (movement) and tactile (touch). Philp (2008) says this type of learners learn best when physically involved with the environment, such as by playing games or performing demonstrations. Approximately 20% of learners are kinesthetic.

3. Personality Learning Style

Christison (2003) distinguishes two types of learning styles in the style of personality learning style as follows:

“(1) Tolerance of Ambiguity Styles

Ambiguity-Tolerance Learner : learn more effectively when opportunities for experiment and risk, as well as interaction, are present.

Ambiguity-Intolerance Learner : learn more effectively when in less flexible, less risky, more structured situations.

(2) Right Brain / Left Brain Dominance

Right-Brain Learners : tend toward visual, analytic, reflective, self-reliant learning.

Left-Brain Learners : tend toward auditory, global/relational, impulsive, interactive learning.”

The present study concentrates on sensory learning style owing to an evaluative instrument that is currently popular with educational researchers for gaining information about student learning styles (Boonsuk, 2008). Moreover, the instrument based on perception learning style is the better-known learning styles instruments in the ESL (English as a Second Language)/EFL (English as a Foreign Language) field (DeCapua & Wintergerst, 2005) consistent with Gay and Airasian (2003), states that perception learning style is a learning style assessment instrument which is the norm for non-native speakers of English.

2.3 Learner Needs

Identifying and acknowledging learner needs is a powerful facilitation skill that can incorporate instructors and students to be companions to a learning journey. The insights gained can be used to customize instructional strategies that enable learners to reach curricular objectives extremely (Minderhout, 2012). Furthermore, learner needs are important and the study of needs has become an integral part of curriculum design in language learning (Kormos, Kontra, & Csolle, 2002). Therefore,

learner needs are an essential part of designing courses and materials to enable learners to reach the goals of learning.

2.3.1 Definitions of Needs

During the past decades the use of needs analysis has been extended to other fields of applied linguistics; therefore, the definition of needs varies among scholars as follows:

McKillip (1987) described needs as “may be different from such related concepts as wants (something people are willing to pay for) or demands (something people are willing to march for)”.

Berwick (1989) claimed that a need is a gap or measurable discrepancy between a current state of affairs and a desired future state.

Brindley (1989) presented that needs show the gap between what is and what should be.

Witkin and Altschuld (1995) expressed need as a gap between “what is” and “what should be”.

Masuhara(1998), cited in Zheng (2010) described that needs can also be classified into the learners’ needs, the teachers’ needs and the administrators’ needs. It is noticeable that the three kinds of needs are not entirely the same. There is a certain gap between each other. The learners’ needs are independent of teachers and can not be satisfied or taught by teachers. And the learners would not appreciate the teachers’ needs.

Mackay and Mountford (1978) thought that needs of the learners may be roughly divided into academic needs (where English is required for further academic study)and job needs (where English is required in order to perform a particular job).

The learners will have the latter needs in the future but not now. Their answers (if they are asked) to needs will probably be different for students are different and their needs are always changing as well.

Lefrancois (2004) maintained that needs fall into such categories as physiological needs (which include the need for food, drink, sex and the need to maintain body temperature) and psychological needs (the need for affection, belonging, achievement, independence, social recognition and self-esteem).

Noessel (2003) expressed the learners' needs as the representative of the gap between what the learners want to get out of the learning experience and his or her current state of knowledge, skill, and enthusiasm.

From the above definitions, needs are varied and could be assumed that learners' needs are determining language content and learning process of learners. It is also a crucial part to enable language learning process to respond to learner needs. In other words, an effective language learning process should be based on the learners' purpose.

2.3.2 Learners Needs of Course Material

Material is an important medium in the process of teaching and learning, responds to accurate and fast experiences for students. As a result, their behaviors change according to the objectives of teaching. Materials have been used in teaching and developed based on advanced technology, the development of technology materials contained in the tablet PCs for Grade 1 students is also included. The appropriate materials for the learning styles of learners will develop their full potential and achieve the objectives of the study.

To know the needs of students concerning the materials will lead the undertakers to manage exactly the needs of learners' learning styles fitted for teaching effectiveness. Porter (2004) states that all course materials should be designed to meet the needs of learners with differing levels of expertise and experience with the subject matter, language skills, technical know-how, learning preferences, and physical abilities while Tyler 1949 and Schwab 1969 (cited in Samawathdana, 2009), suggest that subject matter is one factor to explore the needs of learners. Mupinga, Nora, and Yaw (2006) summarize the top four needs of online students from their study are technical help, flexible and understanding instructors, advance course information, and sample assignments. In addition, the online learners require the same course management platform for all online courses.

2.4 Constructivism Learning Theory

While E-learning is becoming increasingly popular among students, the issue of learning in E-learning environments must be given thorough attention. Researches agree that constructivism learning theory, which focuses on knowledge construction based on learner's previous experience, is a good fit for E-learning because it ensures learning among learners (Harman & Koohang, 2005).

2.4.1 Technology Meets Constructivism

Inadvertently, technology seems to be coming down on the side of constructivists, who have been trying unsuccessfully to date to change the prevailing societal view of education. As the result computers undermine the didactic, lecture methodology, and instead promote the student as a self-directed learner. These changes in practices with respect to racial integration has eventually led to a change in

racial attitudes, so a change in practices will slowly lead to a change in the educational beliefs of society. Using computers entails active learning, and this change in practice will eventually foster a shift in society's beliefs toward a more constructivist view of education (Collins, 1991).

According to Mann (1994), the use of new technologies in an educational setting has caused the theory of learning and constructivism, to receive new attention. Students in these settings become empowered by gaining access to real data and work on authentic problems. Often, roles are reversed as the teacher and the student learn from one another.

Strommen & Lincoln (1992) make the point that it is not what equipment is used, but how it is used that makes the difference. The key to success lies in finding the appropriate points for integrating technology into a new pedagogical practice, so that it supports the deeper, more reflective self-directed activity children must use if they are to be component adults in the future. In other words, computers and other technology should not be viewed as "add ons" but also tools which are an integral part of a child's learning experience. LeBaron and Bragg (1994) suggest that the role of technology in education is so important, that it will force the issue of didactic versus constructivist teaching. Teachers will no longer have a choice but will be compelled to use a constructivist approach in a technology-rich environment.

2.4.2 The Role of Emerging Technologies

Education is being partially transformed by new technologies. At one time students could learn a small but fixed body of knowledge. However, the enormous amount of information available today, coupled with the fact that the amount of knowledge in the world continues to double at an increasingly quick rate, requires a

transformative approach to education. It is imperative that the student of today learns how to be an information manager, rather than an information regurgitator (Mann, 1994).

In a technology-rich environment one must remember that the educational focus is on learning and instructional goals instead of the technology itself, because technology is merely a tool or a vehicle for delivering instruction (Campoy, 1992). It is not what equipment is used but how the equipment is used which makes it relevant to a constructivist classroom (Strommen & Lincoln, 1992).

2.4.3 E- Learning and E- Learning Design

E-learning or Distance Education is progressively being chosen among students in the higher education institutions. Allen and Seaman (2006) indicated that 3.2 million students in the USA, mostly undergraduates, were taking at least one online course in fall 2005 term. A recent report by Allen and Seaman (2008) indicated that online enrollments have been growing significantly faster than the higher education enrollments in general. The report outlined the following:

1. Almost 3.5 million students were taking at least one online course during the fall 2006 term; a nearly 10 percent increase over the number reported the previous year.

2. The 9.7 percent growth rate for online enrollments far exceeds the 1.5 percent growth of the overall higher education student population.

3. Nearly twenty percent of all U.S. higher education students were taking at least one online course in the fall of 2006. Harman and Koohang (2005) stated that “E-learning is the delivery of education (all activities relevant to instructing, teaching, and learning) through various electronic media”. Koohang (2004) stated that

appropriate instructional design that includes learning theories and principles is critical to the success of E-learning.

Broaderick (2001) stated that “Instructional Design is the art and science of creating an instructional environment and materials that will bring the learner from the state of not being able to accomplish certain tasks to the state of being able to accomplish those tasks.” Instructional design has always relied on instructional models, namely behaviorism, cognitivism, humanism, and constructivism. Much of the attention in the last two decades has been shifted to constructivism because it promotes active learning through knowledge construction (Gagne, Briggs, & Wager, 1992).

The critical issue of including learning theories in e-learning instruction design has consistently been reported in the literature (Egbert & Thomas, 2001). The literature has also consistently documented that constructivism learning theory is an appropriate match for e-learning design (Koochang & Harman, 2005).

2.5 Policies of the Ministry of Education 2012-2015

“The government emphasizes the philosophy of equity and technology application, provide quality basic education for every youth in every area” (Ministry of Education, 2012).

According to that philosophy, the present government has set policies and strategies to propel the development of education as follows (Thailand 2012):

2.5.1 Policies

1. Quality Education for Every Youth

The youth means children from kindergarten until completing upper secondary education. Youth must be provided with equal education opportunity everywhere in cities, rural and outreach areas, administered by public and private authorities. In doing occupations after graduating the upper secondary education, they must be qualified workers; the government guarantees income of 300 baht per head per day.

2. Creating Students to be Professionals

The students mean those in higher, vocational and post upper secondary education. After graduation, they must be professionals with guarantee of the government on income of 15,000 baht per month for bachelor degree graduates. They are targeted to be modern citizens of the world with diverse skills, global competitiveness, living in a knowledge-based society.

2.5.2 Enhancement of Educational Opportunities

There are two areas that involve technology in education.

1. Opportunity to access resources, facilities, to get education equitably, whereby equity is not identified by location because most students live in rural and outreach areas with poverty. The government; therefore, has projects like:

- One Tablet per Child. Smart Thai children will take tablets to schools. The tablets will be distributed to primary children year 1 with free Wi-Fi in public areas.

- Learning Rooms will be built in many areas and teachers paid by the government will teach primary students, educational software and e-books will be installed to replace normal books to create E-learning and knowledge-based society.

- E-Education Programs and contents will be developed to change schools to life-long learning centers and promote efficient education using education systems that really serve the needs.

- Dreamed Primary and Secondary Schools to Excellent Higher Education. There will be a School Board to hire talented principals and teachers with facilities for students like dormitories, school buses, bicycles, etc.

- Powerful Teachers. To develop potentials of teachers and educational personnel, solve debt problems, reduce expenses, increase income, enhance opportunities by training on morality, home accounting, revise debt structure by incorporating informal debts into formal systems and increase sufficient additional income as well as enhance new opportunities.

- International Education Centers

- One School One Nurse to look after children and also teach

- Prototype School in Every District to develop school potentials for excellence using telecommunication

2. Opportunity to Life-long Learning. To promote non-formal and informal education using libraries, museums, galleries, cultural centers.

- Sub-district Internet and Village Internet (Community Learning Centers) an opportunity for people to find their aptitudes, learn anywhere, anytime, to further what they would like to do and for those who would like to change occupations.

- Creative Gathering Places for Students providing computers, Wi-Fi, teachers.

2.5.3 Strategies

1. Vision

Quality student-centered education is provided for everyone with distribution of equitable education opportunities, in cities, rural and outreached areas. Education leads to people's vigour building. Vigorous and knowledgeable people are powerful capitals to fight with poverty.

2. Mission

- To provide quality education for every child, youth, disabled and disadvantaged, equitably everywhere, in cities, rural and outreached areas, by public and private authorities from early childhood until year 6 of secondary education and equivalent;

- To develop Thai students at vocational and higher education levels to be professionals, modern citizens of the world with diverse skills, competitiveness in global markets, living in a knowledge-based society.

2.5.4 Concepts of Education Development

The Ministry of Education aims at developing education under the main concepts of quality and equity including technology application for utmost benefits of students by enhancing educational opportunities as follows:

- (1) Opportunity to access resources and facilities in order to be educated equally;
- (2) Opportunity to access financial sources so that students could learn without dependence on financial status of parents;
- (3) Opportunity to accumulate and cultivate skills. Students could grow up through activity-based learning;

(4) Opportunity for life-long learning. Non-formal and informal education is encouraged by technology application, electronic media, libraries, museums, galleries, cultural centers, and various learning sources.

In addition, the ministry determines strategy on development of ICT application to equalize education to international level with three flagship projects as follows:

1. Knowledge management system to serve application of modern ICT for education such as core knowledge in the form of E-books that learners could learn by themselves with no expense.
2. Capacity building for teachers to conduct education using tablet computers.
3. ICT networks for educational linkages and wireless internet.

2.6 Tablets for Education

Pahey (2011) mentioned about “Tablet for Education” as policies, particularly the education management of the current government announced to the Parliament on August 26, 2554, especially for the development of information technology to expand equity internationally. The policy is very important therefore the government has set a clear point to accelerate the development of information technology for education as a tool to enhance the quality and distribution of educational opportunities. Thus, it is obvious that a policy of using information technology for education is a critical dimension in the strategy towards efficient management of the learning society. In addition, the dimension of the paradigm to lead the transformation of the education management system that focuses on students is also important.

According to the government education policy, the tablet PCs for education have become a crucial technology for education and effectively adjusted to the dimensions of change and develop education in Thailand in the current era of information society. The government aims to use the tablet for all students to learn according to their potential and existing readiness. The first period of "One Tablet PC Per Child" project will focus on about 539,466 Grade 1 students as the important subjects of the pilot group of tablet for education, "One Tablet PC Per Child" project.

2.6.1 Definition of Tablet PCs

Tablet PCs are defined into various meaning as follows:

Rouse (2010) defined a tablet PC is a wireless, portable personal computer with a touch screen interface. The tablet form factor is typically smaller than a notebook computer but larger than a smart phone.

A tablet, or tablet PC, is a portable computer that uses a touch screen as its primary input device. Most tablets are slightly smaller and weigh less than the average laptop. While some tablets include fold out keyboards, only offer touch screen input ("Tablet," 2011).

A tablet computer is a generic term used by equipment manufacturers to refer to any number of tablet or slate shaped devices that can be manipulated by using a touch screen. Additional features may include speakers, microphones and cameras (Bucki, 2012).

From the definitions above, tablet PCs are medium sized touch screen computers with operation systems that can be connected with internet networks.

2.6.2 Potential and Implementation

In the present learning society, materials and technologies for education play an important role in the development of effective learning in modern society. The educational category of computers is rated relatively high potential. This explains why the Thai government prioritized the distribution of the tablets to Grade 1 students according to the “One Tablet PC per Child” project, which is in accordance with government policy as stated. This execution is a new dimension of education to deploy the technology to the study of the pilot school for Grade 1 students in academic year 2012, concordance with the development of appropriate curriculum materials contained in the tablet computer and wireless systems in use with no cost.

The government and the ministry of education policies as mentioned initially realize the idea to bring technology and materials applied to new ways of learning by using the tablet as a tool to access and acquire knowledge in both offline and online resources and provide students with opportunities to learn, practice and create knowledge on their own. Such style of teaching and learning has occurred in other countries. In Thailand, this style has been done in the elementary, secondary, and higher education in some places only. The points discussed could be concluded that the potential of the Tablet PC becomes important and influences at all levels of society (Srifa, 2011).

The use of a tablet creates crucial features as follows (Pahey, 2011):

1. Responds to Individualization

The tablet is a medium that caters to the ability to adapt to the needs of individual learning. Individualization needs follow to help learners to achieve their learning and progress as they wish.

2. Meaningful Interactivity

The tablet is a tool of a meaningful interaction. The learning process requires an active use of the information system. Sometimes learning requires a simulation to learn and solve problems. In such situations, the tablet has a great potential to help students to learn and interact meaningfully.

3. Shared Experienced

The tablet can help students share their knowledge with each other from a variety of communication channels in the form of application of learning to communicate effectively.

4. Flexible and Clear Course Design

A course is designed to be flexible when learning with the tablet. Its design will enhance or facilitate students' learning and develop their intellects, feeling, and emotions. The course designed must be based on principles with flexibility under the clear objectives.

5. Learner Reflection

Tablets can reflect the progressive learning of course content. This will allow students to improve their own learning contents and to evaluate applications and content effectively.

6. Quality Information

The tablet is an efficient tool for the students or users to access content and qualified information. The qualitative data is the obvious answer to define the concept. However, the acquisition of data quality will be based on quantitative data which is an essential element that must be collected to provide completely and accurately.

The conclusions of the study of the Becta ICT Research, which studied the use of tablet PCs for teaching in 12 primary schools in England during the year 2004-2005. The results of the study should be considered and can be applied to the context of education in Thailand as follows:

Contributing to the effectiveness of the study is the use of a tablet PCs for each student and teacher. It was found that the use of tablet PC enhances student motivation and affects positively on academic achievement and encourages self-study. Moreover, the tablet PC promotes research and provides access to extensive knowledge outside the classroom and enhances learning participation of students.

For the curriculum and teaching, it was found that using a tablet PC enhances the use of technology in teaching and promotes the curriculum development or teaching and learning with more information technology.

2.6.3 Courseware and Software Response the Learning of Students of the 21st Century

Kraipet (2011), mentioned that because technology change occurs over time, various computer devices are continuously changing as well. From the present form of a computer, it has changed to a new model known as a tablet for easy portability with touch screens and longer batteries. The connection through the internet is easy and quick. In addition, the software has developed and changed from the initial program to a new format known as "applications" which is ready to be installed any time through network.

To respond to a new era of learning, the contents or courseware will need to be developed in the form of digital documents or electronic components such as books to be e-Books and i-Books and applications needed development for computer - assisted

instruction that can be installed on a new operating system on the tablet. Besides, the courseware or teaching methods respond to modern teaching and learning through the use of social networks even more.

A tablet is a portable computer that responds positively to the development of learning skills for six reasons:

1. visible
2. listenable
3. writeable, recordable, and touchable
4. practicable
5. worldwide resources connectable
6. compact shaped ,convenient to carry and has longer battery

2.6.4 The 21st Century Thai Learners

The Ministry of Education (2008), presented that the desired attributes for 21st century Thai learners can be distilled into eight mutually reinforcing characteristics and their development has been led by the ministry of education as below.

1. Creativity and Innovation

Fostering student innovation and creativity are seen as essential for Thailand's long term competitiveness in all sectors including science and technology and the development of creative industries.

2. Leadership

Taking responsibility and initiative is seen as a key area for student development. This will enable them to make effective contributions to their local communities and the modern workplace.

3. Team Working

An ability to work in teams and adopt different roles and make contributions towards a common goal is a crucial skill for the modern workplace and society.

4. Thinking as skill

Developing thinking as a skill has been a key way to encourage a move away from rote learning and the limitations this has for student development.

5. Critical and analytical thinking

The development of the processes of enquiry and an ability to explore issues and develop solutions are key competencies required in all workplaces and will underpin long-run national research and development.

6. 21st century specialist skills

The modern knowledge economy and the use of ICT's has created new services and industries which require specialist skills and support.

7. Thai Values and Morals

Nurturing and developing a strong set of Thai and moral values is important given the threats placed by Globalization on national language and identity.

8. World Awareness

Awareness of the culture and languages of the world will enable students to work effectively in the global economy as well as promote a greater understanding of Thailand around the world.

The study responds to students' use of ICT. Using a tablet will promote specialist skills of technology among the students. Moreover, the teaching

and learning in accordance with the learner needs also enhances the students' ability to learn to their full potential.

2.7 Previous Studies

Learning style, learner needs and learning by tablets or ICT have been studied across countries in various aspects especially in the enhancement of learning. Learning style is also a factor of students' perception for learning. The study of them may help to manage learning English through the tablet to suit their perception in order to enable them to reach the goal of developing 21st century skills.

The following are the summaries of the studies related to three areas mentioned earlier that have been investigated.

Reid (1987) investigated learning styles and cognitive styles by asking 1,388 students both native speakers (NSS) and non-native speakers (NNSS) of English, to identify their perceptual learning style. A self-reporting questionnaire was developed on the basis of existing learning style instruments, with modifications suggested by NNS informants and U.S consultants in the field of linguistics, education and cross-cultural studies. The survey consisted of randomly arranged sets of five statements on each of the six learning style preferences to be measured: visual, auditory, kinesthetic, tactile, group learning and individual learning. The survey, including instructions for administration, was mailed to 43 universities across the United States, the faculties of which had volunteered to participate in this study. A total of 1,234 questionnaires were returned from 39 of the 43 participating intensive English language programs. The individual student variables and the responses from the questionnaires were statistically analyzed. The variables were separated into five categories:

Graduate/Undergraduate and Male/Female, Major Fields, Age and TOEFL Score, Length of Time in the U.S. and Length of Time Studying English in the U.S. and Language Background. Preference means that each set of variables was classified into three ranges: major, minor and negative learning style preferences. The results of the research were as follows:

1. Graduate/Undergraduate and Male/Female

The graduate students indicated a significantly greater preference for visual and tactile learning than undergraduates, respectively; undergraduates were significantly more auditory than graduates. Both of them strongly preferred to learn kinesthetically and tactilely. Males preferred visual and tactile learning significantly more than females.

2. Major Field (Engineering, Medicine, Business, Computer Science, Hard Sciences and Humanities)

In general, responses for both sexes in major fields indicated that kinesthetic learning was a major learning style preference and that group learning was considered a negative learning style preference by students in all major fields except computer science. Visual learning was selected as a major learning style only by students in hard sciences. Students in four major fields preferred auditory learning as a major learning style: computer science, hard science, business and medicine. Engineering and computer science majors were significantly more tactile than humanities major. Students in all fields, except hard sciences, indicated that individual learning was a minor learning style.

3. Ages and TOEFL Scores

The older the student, the higher the preference means for visual, auditory, kinesthetic and tactile learning. The learning style

preferences of students with higher TOEFL scores more closely paralleled those of native speakers of English.

4. Length of Time in the U.S. and Length of Time Studying English in the U.S. The longer students had lived in the United States, the more auditory their preference became. Students who had been in the U.S. more than three years were significantly more auditory in their learning style preference than those students who had been in the U. S. for a shorter period of time. The students who had studied English in the U.S. for more than three years were somewhat lower in their preference means for visual, kinesthetic, and group learning than all other student respondents. In addition, students who had studied English in the U. S. for more than three years were less tactile in their learning style preferences than students who had been studying English in the U.S. for shorter period of time.

5. Language Background (Arabic, Spanish, Japanese, Malay, Chinese, Korean, Thai, Indonesia and English) Reid (1987) analyzed and separated the nine language backgrounds into one of six learning categories: Visual learning: Korean students were the most visual in their learning style preferences. They were more significantly visual than U.S. and Japanese students. Arabic and Chinese students were also strong visual learners. Auditory learning: Japanese speakers were the least auditory of all learners and were significantly less auditory than Arabic and Chinese speakers, who expressed strong preferences for auditory learning. Thai, Malay, and Spanish students identified auditory learning as a minor learning style. Kinesthetic learning: Most ESL students strongly preferred kinesthetic learning as a major learning style. However, Japanese speakers were significantly less kinesthetic than Arabic, Spanish, Chinese, Korean, and Thai speakers. The preference of most ESL

student for kinesthetic learning, has implications for both teachers and students in intensive English language programs. Tactile learning: Native speakers of English were less tactile in their learning style preferences than all NNS language backgrounds and were significantly less tactile than Arabic, Chinese, Korean, and Spanish speakers. The strong tactile learning style preference expressed by most NNSs, coupled with the equally strong preference for kinesthetic learning, has implication for materials development and for teacher training in intensive English language programs. Group and Individual learning: Every language background gave group work a minor or a negative preference mean. English speakers rated group work lower than all other language groups and significantly lower than Malay speakers. English speakers rated individual learning in highest, while Malaysian students, whose preference mean of group learning was the highest among the nine language backgrounds, had the lowest preference mean for individual learning.

Peacock (2001) investigated on 206 EFL students and 46 EFL teachers at Hong Kong university to prove Reid's two major hypotheses. The first hypothesis is that "All students have their own learning styles and learning strengths and weaknesses". The second hypothesis is that "A mismatch between teaching and learning styles causes learning failure and frustration". Peacock used interviews and Reid's Perceptual Learning Style Preference Questionnaire (PLSPQ). PLSPQ includes thirty items to help identify students' learning preferences, using a five-point scale: strongly agree (SA), agree (A), undecided (U), disagree (D), and strongly disagree (SD). The results of the study confirmed Reid's first hypothesis – all students have their own learning styles and learning strengths and weakness – is proven generally true in this study. Also, Reid's second hypothesis – A mismatch between

teaching and learning styles causes learning failure and frustration. – is also shown to be generally true in this study.

Moenikia and Babelan (2010) studied the role of learning styles in second language learning among distance education students to study the role of learning styles on the second language learning of the students of Payame Noor University, Ardabli center, Iran. The participants were 112 students random sampling selected from English language students. The instrument of this research is a learning style questionnaire with 70 items. Ten questions were assigned to each style. Participants choose one of alternatives 1, 2, 3, 4, and 5 for each question. Students' scores in TOEFL exam including 4 sections (listening, writing, structure, reading) were taken as a criterion for second language learning.

Findings of the study showed that students with different learning styles in four skills (listening, writing, structure, and reading) differed from each other. So, students with verbal learning style on speaking, are better than other students, students with verbal learning style have better progress in writing than other students, students with social learning style have better progress in structure than other students, and then, student with verbal and social learning style have higher progress in reading than other students. At least social, verbal and aural learning styles have suitable performance in second language learning.

Akyel and Ozek (2010) investigated a language needs analysis research at an English medium university in Turkey. The purpose of the study was to get a better understanding of the language needs for academic needs of Turkish university students in an English medium university. The participants for the questionnaires were conducted with 2328 students in the 1, 2, 3, and 4th years of 6 different

departments of 5 undergraduate and 1 graduate schools of the university, and with 125 lectures who were randomly selected from different departments in those schools. The participants for the semi-structured interviews were also selected randomly. 14 university instructors working at various faculties and institutions of the university, and 9 students at different undergraduate and graduate schools participated to the interviews. The questionnaire items represented 3 main categories related to the needs of foreign language learning. The students were asked to evaluate the importance of four language skills (reading, writing, speaking and listening) in relation to their academic studies. The semi-structured interviews consisted of 24 questions that were in general parallel to the questionnaire items. They represented four different categories, writing, listening, speaking and reading skills. The items under these categories tapped the students' language learning habits, their language learning strategy use, and any related difficulties. The findings of the questionnaires and interviews indicated that university instructors primarily pointed out English reading and listening as the most important skills for students' academic achievement, students emphasized the importance of speaking and listening.

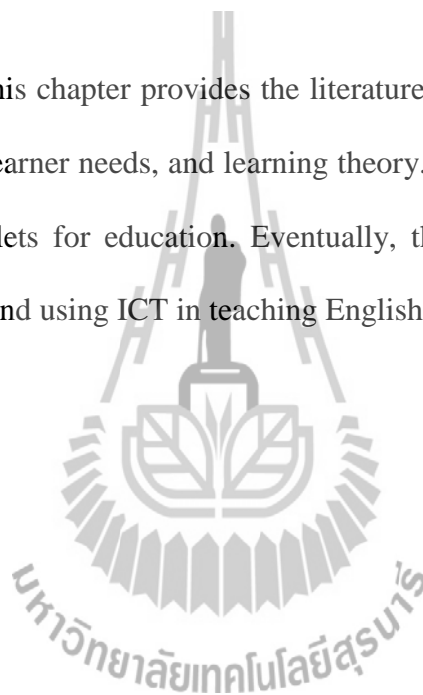
Yanus, et al (2010) investigated the utilization of ICT (Tell Me More courseware) in the teaching and learning of English. This study was designed to investigate students' and English language lecturers' perception of a courseware known as 'TELL ME MORE' regarding the implementation. A total of 85 semester one students from a polytechnic in Malaysia participated in the questionnaires. Apart from that, 4 English language lecturers from the same polytechnic were also involved in a semi-structured interview. The findings showed that majority of the students agreed that TELL ME MORE courseware is easy to use probably because the students

found the language used in the courseware was clear and easy to understand. The findings from the questionnaire found that students can comprehend easily and better due to simple, easy and clear presentation of information. Moreover, students would feel more comfortable and open to accept any mistakes or errors throughout the whole learning process. Overall, it showed that majority of the students perceived the ease of use of the courseware. The findings from the interview revealed that the English language lecturers agreed that the courseware is easy to use because it is a simple courseware and very user-friendly. Apart from that, one of the lecturer also mentioned that the courseware also comes with a manual in which students should be able to refer to if they are having difficulties or problems. Furthermore, the students could also refer to their instructor or lecturer.

The related studies were discussed in the point of learning styles, learner needs, and learning by tablets or ICT. The studies stated that different groups of learners respond to learning styles and the learners have their own learning styles. Another study resulted that the university instructors could identify the important skills for students by needs analysis. The study of utilization of ICT revealed that the lecturers mentioned that the courseware was easy for students and the students said language used in the courseware was clear and easy for them to understand. The present study aims to investigate the learning styles and learner needs of Grade 1 students in learning English by using Tablet PCs. The related studies imply educational perspectives of learning styles, learner needs, and using ICT in learning so it could be support the present study in order to develop research methodology, instruments, and implications.

Regarding the study on using Tablet PCs in learning English for Grade 1 students, no previous research has been conducted with learning styles and needs. Moreover, the background from previous studies and literature review illustrate the importance of learning styles and learner needs as well as the usefulness of ICT materials. Therefore, the present study attempts to investigate students' learning styles and needs in order to find the effective way to teach English to Grade 1 students by using tablet PCs.

In summary, this chapter provides the literature review of the study. It begins with learning styles, learner needs, and learning theory. Next, the policies of Ministry of Education and tablets for education. Eventually, the related studies on learning styles, learner needs, and using ICT in teaching English.



CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The previous two chapters presented in detail of a related background of the study, purposes, research questions, definitions of key terms, significance of the study, and literature review. This chapter establishes the methodology of the present study. It begins with the research methodology and research questions. The following are the participants, instruments, data collecting procedures, and data analysis respectively.

3.2 Research Methodology

This present study uses mixed methods to gather both quantitative and qualitative data. The quantitative part is a survey using questionnaires to find out the Grade 1 students' learning styles and needs. The qualitative method was used to collect the deep and detailed information by using semi-structured interview and focus group interview. The study considers in three main points. First, the learning styles of Grade 1 students by using tablet PCs. This point was investigated by using a questionnaire based on perceptual learning styles. Second, the needs of students in learning English with concern to using tablet PCs was explored through questionnaires and interviews. Using tablet PCs in learning and teaching is a new innovation of education in Thailand. There is no research studied regarding learning

styles and needs of students in using tablet PCs to learn English. The last is to find way or guide lines for the management of teaching by using tablet PCs and especially the materials and content that should be contained in tablet PCs. The conclusion of this point was acquired by focus group discussion. Moreover, it could be lead to be policy proposals from students and stakeholders (tablet PCs' users) for the responsible usage of the tablet PCs.

As the chart below, the samples gave the data of learning styles and learner needs through questionnaires and interview. Then the researchers formed questions to use in focus group discussion from the obtained data to elicit more and specific information involve learning styles and learner needs. The discussants of focus group discussion discussed how to teach English by using tablet PCs to Grade 1 students effectively based on the data obtained from the students.

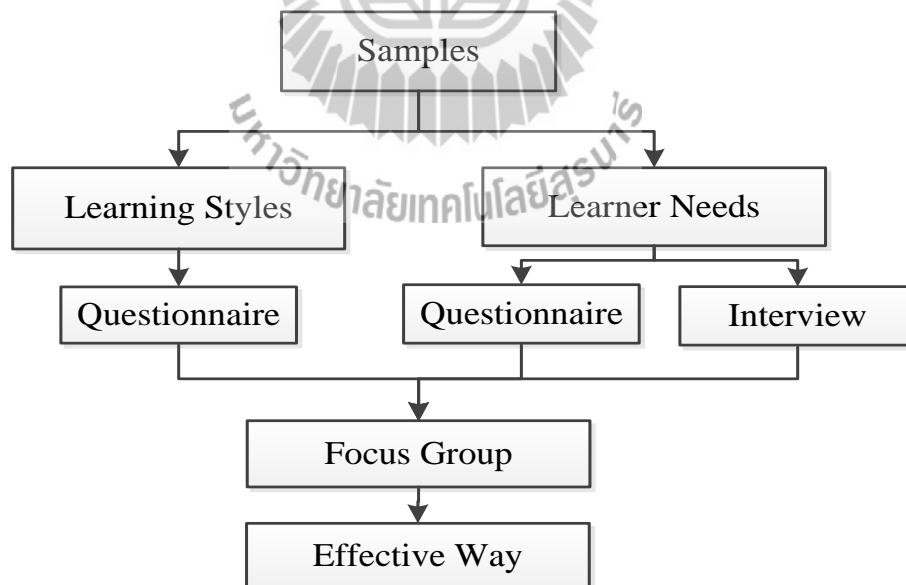


Figure 3.1 Research Methodology

3.3 Populations and Participants

3.3.1 Populations

Populations in this study were Grade 1 students of four schools under the jurisdiction of Office of The Basic Education Commission (OBEC) in the project “Integrating Technology to Enhance Learning”, the project according to the policy of the government phase 1. They were;

- (1) Rachawinit Bangkok School
- (2) Lampang Kindergarten School (Kelangratanusorn)
- (3) Pang-nga Kindergarten School
- (4) Sanambin School.

Detail of the population is described in the table below:

Table 3.1 Populations of the Study

Schools	Number of Classes	Number of Students
Rachawinit Bangkok School	11	475
Lampang Kindergarten School	8	424
Pang-nga Kindergarten School	5	229
Sanambin School	8	298
Total	32	1,426

A decision to investigate students from the four schools is made because they participated in the pilot project according to the Ministry of Education’s policy. They were provided with tablet PCs to use in learning nine months before other schools. Hence, the first reason for selecting the four schools is the completeness of infrastructure to support both online and offline materials. The second reason is the

expertise of teachers and staffs to access online and offline resources for the students. The last reason is the availability of the entire appliances to support and enhance. Thus, the students of these four schools can be appropriate participants.

3.3.2 Respondents for Questionnaires

The respondents were acquired by purposive random sampling and simple random sampling.

1. The researcher selects four schools in “Integrating Technology to Enhance Learning” project by purposive random sampling.

2. The 354 students were selected from the population in step 1 by simple random sampling. The number of samples is based on table of Yamane sample size to be the samples of the study.

Table 3.2 Respondents for the Questionnaire

Schools	Number of Classes	Number of Students
Rachawinit Bangkok School	3	119
Lampang Kindergarten School	2	79
Pang-nga Kindergarten School	2	68
Sanambin School	2	88
Total	9	354

3.3.3 Participants for Interview

Ten percent of the questionnaire respondents were selected to participate in the interview. They were recommended by the teachers based on following criteria in the selection process (1) communication competency; and (2) their interest in using tablet PCs.

3.3.4 Participants for Focus Group Discussion

The participants for focus group discussion consisted of a supervisor, two school directors or vice directors who are assigned by the directors, three teachers who teach by using tablet PCs, one parent, and three government officials from The Bureau of Technology for Teaching and Learning. They were selected by purposive sampling. Details were described as follows:

1. The supervisor selected was a supervisor of Pang-nga Primary Educational Service Area 1 who was responsible for the tablet PCs management of Pang-nga Kindergarten School.

2. The two school directors selected were two Grade 1 teachers who were assigned by the directors of Sanambin School and Pang-nga Kindergarten School.

3. The three teachers selected were the class teachers of Grade 1 students who were participants for the questionnaire. They were two teachers from Rachawinit Bangkok School and one teacher from Pang-nga Kindergarten school.

4. The parent selected was the parent of student from Sanambin School..

5. The three officials from the Bureau of Technology for Teaching and Learning of OBEC were selected through the recommendation of the director of the bureau. They were responsible in the management of using tablet PCs in schools and providing materials and contents contain in tablet PCs.

3.4 Instruments

The research instruments used in the present study consist of: (1) a learning styles questionnaire; (2) a learner needs questionnaire; (3) a semi-structured interview; and (4) open-ended interview. The first three instruments were for Grade 1 students and the last one was for focus group discussion.

3.4.1 A Learning Styles Questionnaire

To investigate English language learning styles of Grade 1 students' learning styles, the first set of questionnaire based on Perceptual Learning Style Preferences was used to obtain the data. The Perception Learning Styles Preferences defined by Reid (1987) as an evaluative instrument that is currently popular with educators for gaining information about student background and learning styles. Many educational researchers have used Reid's categories of learning style to understand the learning process. The questionnaire is in the form of a checklist. However, it is adapted to be suitable for Grade 1 students and written in Thai with illustrations to stimulate the students' attention to do the questionnaire. The questionnaire was divided into three sections. Part one consisted of seven characteristics of visual learning style. Part two consisted of ten characters of auditory learning style and part three consisted of six characters of kinesthetic learning style. Students were asked to check the methods they used to learn with each style.

The followings are the steps to develop learning styles questionnaire, by the researcher.

1. Develop Thai questionnaire by translating questions from the elementary learning styles inventory based on The Perception Learning Styles

Preferences. The text in the questionnaire was adapted to be appropriate and clear with using tablet PCs in English learning.

2. Invite three Thai language experts to check the questionnaires
3. Pilot the questionnaires with ten Grade 1 students who were provided with tablet PCs from the school already
4. Revise the language and content
5. Pilot the questionnaire with another ten Grade 1 students
6. Revise the language, content, and other appropriateness
7. Use the improved version with participants in the study

3.4.2 A Learner Needs Questionnaire

To investigate the learner needs, the questionnaire in a three-point smilegram Likert scale were used. The questionnaire concerns the students' needs in learning English by using tablet PCs. The questions were constructed from review literatures which is composed of subject matter, language skills, technical know-how, and physical ability (Porter, 2004). Further, the management of the platform is incorporated (Mupinga et al., 2006). The questionnaire was contained items of the needs of students from learning by tablet PCs and written in Thai. The questionnaire was divided into four sections. The first part with ten items was the subject matter need, the second part with seven items was the language skills need, the third part with four was technical know-how need, and the last part with three items was the need of physical ability. Students were asked to check the box under the face that best expresses their needs from using tablet PCs in learning English.

In developing learner needs questionnaire, the researcher conducted the following steps.

1. Develop Thai questionnaire on the area of subject matter, language skills, technical know-how, physical ability, and management of the form of the questionnaire.
2. Invite three Thai language experts to check the questionnaire.
3. Pilot the questionnaire with ten Grade 1 students who were provided with tablet PCs from the school already.
4. Revise the language and content.
5. Pilot the questionnaire with other ten Grade 1 students.
6. Revise the language, content, and the other appropriateness and use the improved version with participants of the study.

3.4.3 A Semi-structured Interview

The semi-structured interview in Thai was conducted to obtain the participants' opinions regarding the needs of students from learning English by using tablet PCs. The interview was aimed to elicit more and/or different information derived from the questionnaire and to confirm the answers from the questionnaire. The semi-structured interview used with 10 percent of the questionnaire respondents as recommended by the teachers. The qualifications of interview respondents were the communication competency and their interest in using tablet PCs.

After doing the questionnaires, the respondents were interviewed one-by-one by the researcher for a more in-depth and thoughtful response and a more personal account of the situation (Colton & Covert, 2007). During the interview, audio recording and note-taking were used. The length of each interview was approximately 10 minutes. The interview data was analyzed by content analysis.

In developing a semi-structured interview, the researcher conducted the following steps.

1. Develop a Thai version of semi-structured interview.
2. Ask five experts to determine the content and language.
3. Pilot the guided questions with a group of 5 Grade 1 students.
4. Revise the guided questions.
5. Pilot the revised version with 10 Grade 1 students
6. Improve the questions and use the modified questions with the

interview participants

3.4.4 Focus Group Discussion

The questions used in the focus group discussion were created by the results of students learning styles and learner needs. There were eleven questions that allowed the discussants expressed their opinions concerned using tablet PCs to teach English to Grade 1 students effectively. The focus group discussion was used to elicit information involved in the teaching and materials that should be contained regarding to students' learning styles and needs from the participants in 3.3.4 who were concerned in using tablet PCs.

3.5 Data Collecting Procedures

3.5.1 Procedures for Learning Styles Questionnaire

To collect the data to acquire information of learning styles, the adapted Perception Learning Styles Preference checklist questionnaire was used with all 354 Grade 1 students. They had to check the items they used in learning English with tablet PCs.

3.5.2 Procedures for Learner Needs questionnaire

To collect the data regarding to the needs of students from learning English by tablet PCs, the researcher used the questionnaire consisting of four parts of needs for participants to check what they needed in learning English by using tablet PCs .

3.5.3 Procedures for Learner Needs Interview

To collect the in-depth and more information of what students needed in learning English by using tablet PCs, the researcher used a semi-structured interview to obtain the data. The interview was conducted by the researcher.

3.5.4 Procedures for Teaching Guide by Tablet PCs and Characteristics of Materials

To collect data for a teaching guide by tablet PCs and characteristics of materials, a focus group discussion was conducted. The focus group discussion was organized after analyzing data of students' learning styles and learner needs from questionnaires and semi-structured interview. The participants were invited to participate in the group discussion session with the length approximately three hours and video recording was used. In the session, the researcher was the moderator to inspire the participants to express their ideas, opinions, and attitudes based on the results of students' learning styles and needs in the area of teaching and learning by tablet PCs, materials, and contents that should be contained in the tablet PCs. In conducting the focus group discussion, the researcher had one assistant who served as a note taker and made a diagram of the seat numbers to facilitate the researcher when transcribing the video recording. The information acquired could be a guide in teaching and management of materials contained in tablet PCs to respond students' learning styles and needs.

3.6 Data Analysis

3.6.1 Data Analysis for the Questionnaires

The data obtained from the learning style questionnaire, the percentage of each part was analyzed by frequency and summarized into the percentage of each part. The percentage indicated that students learnt with that style. The criteria of percentage was divided into two degree:

less than 50% = students don't learn with that style

50% or more = students learn with that style

The learner needs questionnaire was determined to find the mean and standard deviation. The data derived to calculate was the items that students needed from using tablet PCs in learning English from using tablet PCs. It meant the items that students checked under the smiley face of each items were analyzed to assume as learner needs.

3.6.2 Data Analysis for the Interview

The audio recorded data obtained from the interviews was transcribed and analyzed by content analysis.

3.6.3 Data Analysis for the Focus Group Discussion

The video recorded data obtained from the discussion was transcribed and analyzed by content analysis.

CHAPTER 4

RESULTS OF QUESTIONNAIRE RESPONSES

4.1 Introduction

This chapter presents the results of learning styles questionnaire, learner needs questionnaire and learner needs interview. A quantitative data analysis was used to analyze the learning styles and needs of Grade 1 students and a qualitative data analysis was used to analyze the interview of students. The interview was conducted to elicit more and/or different information derived from learner needs questionnaire and to confirm the answers of questionnaire regarding learner needs in learning English by using tablet PCs. The contents of the chapter are reported respectively according to the research questions number one and number two as stated in chapter 1, which are: “(1) What are the English learning styles employed by grade 1 students? and, (2) What are the needs of Grade 1 students in learning English by using tablet PCs?.

4.2 Results of English Learning Styles Employed by Grade 1 Student

As it was mentioned previously, each student had different styles of learning. Therefore, the understanding of students' learning styles may help to deal with instruction that responds to students' learning styles. The appropriate style of learning of each student can encourage them to learn better. In this study, learning styles were identified into three categories : visual learning style, auditory learning style, and kinesthetic learning styles.

Table 4.1 Results of English Learning Styles Employed by Grade 1 Student

Learning Styles	Frequency (N = 354)	Percentage
Visual	313	88%
Auditory	323	91%
Kinesthetic	177	50%

As can be seen from the table 4.1, the data obtained reveals that the most frequent learning style by Grade 1 students is auditory with 91% while visual learning style ranks the second style with 88% and the least frequent learning style is kinesthetic with 50%.

Considering each style, table 4.2 to 4.4 reveal in detail which style were used by students fifty percent or more. It shows that students tend to use that style in learning English by using tablet PCs.

Table 4.2 Result of Visual Learning Style

Number of Items Used (Total Number = 7)	Frequency (N = 354)	Percentage
4	41	12%
5	72	20%
6	101	29%
7	99	28%
Total	313	88%

Table 4.2 presents the result of Grade 1 student's using visual learning style in learning English by using tablet PCs. The table shows the number and percentage of students who chose visual learning style more than 50% (4 – 7 items) from the

questionnaire. From the table, the result of using four items of visual learning style is 41 students (12%), five items is 72 students (20%), six items is 101 students (29%), and seven items is 99 students (28%). The data can be interpreted that 88% of students tend to use visual learning style from learning English by using tablet PCs.

Table 4.3 Result of Auditory Learning Style

Number of Items (Total Number = 10)	Frequency (N = 354)	Percentage
5	15	4%
6	31	9%
7	68	19%
8	78	22%
9	72	20%
10	59	17%
Total	323	91%

Table 4.3 shows the result of Grade 1 student's using auditory learning style in learning English by using tablet PCs. The table reveals the number and percentage of students who chose auditory learning style more than 50% (5 – 10 items) from the questionnaire. From the table, the result of using five items of auditory learning style is 15 students (4%), six items is 31 students (9%), seven items is 68 students (19%), eight items is 78 students (22%), nine items is 72 students (20%), ten items is 59 students (17%). The total number of students is 323. The data concluded that 91% of students tend to use auditory learning style from learning English by using tablet PCs.

Table 4.4 Result of Kinesthetic Learning Style

Number of Items (Total number = 6)	Frequency (N = 354)	Percentage
4	85	24%
5	66	19%
6	26	7%
Total	177	50%

Table 4.4 presents the result of Grade 1 student's using kinesthetic learning style in learning English by using tablet PCs. The table reveals the number and percentage of students who chose kinesthetic learning style more than 50% (4 – 6 items) from the questionnaire. From the table, the result of using four items of kinesthetic learning style is 85 students (24%), five items is 66 students (19%), six items is 26 students (7%). The total number of students is 177. The data concluded that 50% of students tend to use kinesthetic learning style from learning English by using tablet PCs. This style is the least used from all three styles.

4.3 Results of Needs of Grade 1 Student in Learning English by Using Tablet PCs

4.3.1 Results from Questionnaire

Learner needs make learners more enthusiastic in learning. Understanding the needs of learners may assist the instructors to construct more suitable lessons to enable learners to attain objectives of learning. In the present study learner needs are consisted of subject matter, language skills, technical know-how, and physical ability. To investigate learner needs, two instruments were used. The first one was a

questionnaire and the second one was a semi-structured interview which constructed by researcher and approved by experts in the field of English, using tablet PCs, and educational assessment. The three – point smilegram Likert scale questionnaire collected the needs of students in four areas as mentioned earlier. Respondents were asked to check the box under the face that best expresses how they feel toward their needs in the area. If the respondents want the tablets PCs to be contained according to statement of each item, they will be asked check the box under smiley face. If may be, they will be asked to check under frown face. If they don't want the statement, they will check under sad face. The data obtained from the questionnaire was calculated for frequency and percentage. The result is reported from high to low order of students' needs.

Table 4.5 Result of Learner Needs – Subject Matter

Items	Frequency (N = 354)	Percentage (100)
1 Contents end up with games and activities.	321	90.68
2 Contents create from the familiarity of students.	294	83.05
3 Contents present in cartoon.	291	82.2
4 Colorful letters.	280	79.1
5 Contents narrate in Thai language.	274	77.4
6 Contents and words with images and animations.	273	77.12
7 Contents with images.	249	70.34
8 Contents with sound effect.	246	69.49
9 Contents describe in English.	214	60.45
10 Dark letters.	207	58.47

Table 4.5 shows learner needs in the point of subject matter. The result reveals that learners' highest need is the contents end up with games and activities up to 90.68%. The second highest is the contents create from the familiarity of students with 83.05%. The third highest is the contents present in cartoon with 82.2%.

Table 4.6 Result of Learner Needs – Language Skills

Items	Frequency (N = 354)	Percentage (100)
1 Listening activities	309	87.29
2 Reading activities	294	83.05
3 With sound in every word/sentence	292	82.49
4 Writing activities	244	68.93
5 Pronunciation as listening	223	62.99
6 Self – reading	204	57.63
7 Native speaker sound	195	55.08

Table 4.6 illustrates that the highest learner needs in the point of language skills is listening activities with 87.29%. The second order is reading activities with 83.05% and the third order is sound with every word and sentence.

Table 4.7 Result of Learner Needs – Technical Know-How

Items	Frequency (N = 354)	Percentage (100)
1 Tablet PCs self – using	302	85.31
2 Quick response tablet PCs	265	74.86
3 Activated multi – pages at once	228	64.41
4 Explain the next step	212	59.89

As we can see from table 4.7, in the point of technical know – how, learners' highest need is tablet PCs self – using with 85.31%. The second order that the learners need is quick response tablet PCs with 74.86%. The third order is tablet PCs can be activated multiple pages simultaneously with 64.41%.

Table 4.8 Result of Learner Needs – Physical Abilities

Items		Frequency (N = 354)	Percentage (100)
1	Practical activities	245	69.21
2	Instruction to work with friends	202	57.06
3	Instruction to move body	186	52.54

Table 4.8 presents learner needs in the point of physical abilities. Learners need practical activities most with 69.21%. The second order is instruction to work with friends with 57.06%. The third order is instruction to move body with 52.54%.

4.3.2 Results from Semi – structured Interview

The semi – structured interview was used to elicit more detail and/or different information derived from questionnaire and to confirm the answer of the questionnaire. The semi-structured interview was used with 10 percent of questionnaire respondents (37 students) by recommendation of class teachers. The qualifications of interview respondents were the communication competency and their interests in using tablet PCs. After conducting the questionnaire, the respondents were interviewed 15 questions one–by–one approximately ten minutes by the researcher about their needs in learning English by using tablet PCs. One student could mention more than one topic that they wanted to learn or more than one idea that they wanted

to present or propose. Percentage of learner needs in each question was calculated from total number of all answers. The report of the interview is as follow:

Question 1 : What topic/content do you want to learn about English?

1.1 Do you want to learn topic/content about yourself such as family, school, pets? You can tell the topics you want to learn.

When the respondents were asked what topics/content they wanted to learn, three main groups of their opinions were found.

First, 22 opinions (31%) from 37 students presented that they wanted to learn about family. It meant the vocabulary about family such as father, mother, brother, and so on.

Second, another 22 opinions (31%) revealed that the students wanted to learn about pets, the vocabulary or kind of pets such as dog, bird, fish, and so on.

Third, ten opinions (14%) expressed that the students wanted to learn about school, the vocabulary about school whether places, objects, or person such as student, teacher, classroom, canteen, and so on.

In addition, there were 17 ideas (24%) for topics and contents that the respondents wanted to learn, two opinions wanted to learn about tourist attractions and conversation. Moreover, there was an opinion on the topic of science, social, arts, Thai language, mathematics, occupation, community, house, sea, objects, human, weather, and exercise.

1.2 Do you want to learn topic/content about history, stars, etc? You can tell the topics you want to learn.

The respondents expressed in two major groups. The first was the topics about sky and space with 15 opinions (30%). The second with 10 opinions

(20%) was the topic on history. There were five opinions (10%) on science, four opinions (8%) on social and another four opinions (8%) on forest. The next topic was mathematics with three opinions (6%) and another three opinions (6%) on other countries. Furthermore, there were two opinions (4%) on dinosaurs, one opinion (2%) on animal and one opinion (2%) on the important religious day. The last idea with two opinions (4%) was they did not want to learn any topic.

Question 2 : What characteristic of the topic/content do you want it to be? How are the picture and voice?

2.1 What kind of picture do you want to see ; real image, cartoon, animation, etc?

When the respondents were asked about the picture, 29 opinions (32%) were stated that they wanted animation and 25 opinions (27%) liked to learn with real image. Approximately the same number, 24 opinions (26%) wanted to learn with cartoon picture and 11 opinions (12%) stated they wanted to learn with slide. There was one opinion(1%) expressed that he/she could learn with any kind of pictures but they should be beautiful.

2.2 What kind of the voice do you want to hear; Thai's voice, native speaker's voice, with translation, any other sound?

When the respondents were asked about the voice they wanted to hear from tablet PCs, they expressed the same number on two issues. There are 21 opinions (29%) wanted to hear Thai people speak Thai language and another 29% wanted to hear other sound such as a birdsong, and sound of waterfall. 19% of respondents' opinions wanted to hear native speaker's speaking. However, 12 opinions (16%) wanted to hear the translation from English to Thai. Another 2

opinions (3%) wanted to hear cartoon sound. The last was 3 opinions (4%), they said that they could learn with any kind of voice.

2.3 What kind of story do you want to learn ; short story, long story , tale, etc?

For the kind of the story the students wanted to learn from tablet PCs, there were 22 opinions (31%) wanted to learn from a true story. 20 opinions (28%) wanted to learn with a long story while nine opinions (13%) preferred to learn with a short story. There were 13 opinions (18%) wanted to learn from tales and four opinions (6%) wanted to learn from movies. Three opinions (4%) stated that they wanted to learn with drama, cartoon, and any kind of contents.

Question 3 : Would you like a story with activity? If yes, what kinds of the characteristic?

Almost of students, 36 students (97%) wanted to learn with activity in English from tablet PCs whereas only one student (3%) did not want to learn with activity from tablet PCs.

3.1 Please describe an activity that you like.

When the respondents were asked in a detail of activities, they answered in a variety. The major reviews were matching games with 16 opinions (29%). The minor reviews with 12 opinions (22%) liked to fill the words in the blanks. Six opinions (11%) wanted to learn with drawing and painting games. There were three opinions (11%) in two kinds of activity, guessing number game and any game working with friends. Five kinds of each activity which presented with two opinions (18%) were tracing, fill the letters, word ordering, running game, and any kind of games. Another one opinion in each activity (9%) was answering the question,

watching cartoons, listening to songs, moving activity, and a rat and mouse catching game.

3.2 If tablet has activity you dislike, please describe it.

This question asked which the activity the respondents dislike. The result was 29 students (78%) answered that there was no activity they did not like. Another five students (13%) expressed that they did not like the activity with a long explanation. Three of the following activities that the remaining three students (9%) did not like were movie, painting, and activity that student could not understand from listening.

Question 4 : Do you understand English from the tablet?

4.1 How do you understand, you knew the words before, guessed from the picture, translation, etc?

When the respondents were asked how they understood the words in tablet PCs, the majority 23 opinions (52%) answered that they knew the words before. Another 14 opinions (32%) said they could guess from pictures. There were four opinions (9%) understood from the subtitle translation. Three of the following reasons that the remaining three students (7%) stated were he/she could not understand, could spell by him/herself, and he/she had a high ability in reading.

4.2 Why didn't you understand, didn't know the words, hadn't heard the voice, etc?

For the reason why they did not understand what they had heard from tablet PCs, were as follows; ten students (27%) said they had not studied the words. Nine students (24%) expressed that they did not know the words. Another seven students (19%) said they did not understand because it was a native's voice. Five

students (14%) said because there was no translation while the remaining six students (16%) stated that they could understand everything they had heard from tablet PCs.

Question 5 : Do you like to repeat the words and sentences from tablet PCs? Do you want repetition activity? Why or why not?

For this question, 16 students (43%) liked to repeat the words and sentences from tablet PCs. The similar number (43%) wanted to have repetition activity whereas five students (14%) disliked the repetition activity.

As for the repetition activity in tablet PCs, 20 students answered. 16 students (80%) expressed that repetition activity could help them practice to pronounce accurately. Two of them (10%) said that it was fun to repeat from tablet PCs. The last one student (5%) who liked to have repetition activity said that he could gain knowledge from the activity. Another one student (5%) who disliked the activity stated that she preferred to listen from the teacher.

Question 6 : Would you like to practice speaking as in tablet PCs?

Most of the respondents (86%) wanted to practice speaking and pronunciation as in the tablet PCs while 11% did not want to practice. The last one respondent said he did not want to practice if it was the words he has practiced before.

Question 7 : Would you like the story with the text for reading or not?

All of the respondents stated that they wanted to learn from the text for reading. However, one of them said that he wanted to read by himself for all text, did not want to listen to anything.

Question 8 : Do you want reading activity such as answer the questions, fill in the blank, dictation, etc?

For this question, most respondents, 36 students said they wanted reading activity, another one said he did not want any reading activity. They liked many kinds of activity such as answer the questions, fill in the blanks, write down the words, all kinds of game, and add more games.

Question 9 : Is the tablet easy to use?

9.1 Can you use it by yourself?

When the respondents were asked that tablet PCs was easy to use. All respondents confirmed that it was easy to use. Some respondents said that teachers gave just a few words of advice and then they could use by themselves from turning on until turning off.

9.2 Was the tablet easy/difficult to turn on?

The majority of the respondents, 24 students, said that they had to wait for a while. Another nine students stated that they had to wait for a long time. The minority, four students, said that the tablet PCs could run quickly.

9.3 Could you find the content immediately?

When the respondents were asked about speed to search for content, 20 respondents said that they had to wait but not for long. Nine respondents complained that they had to wait for a long time. Four respondents said sometimes fast sometimes slow. Three of the respondents stated that there were many steps to find the content. However, one of them said that he could find the content immediately.

9.4 At which step did you have to wait for a long time?

17 students expressed that they had a long wait when turning on tablet PCs whereas 13 students said they has a short wait. Another six students said it was

slow when they accessed application and content. The last one student accepted that it was slow when he turned off the tablet PCs.

Question 10 : Did the tablets work immediately after your order?

21 respondents revealed that the tablet PCs responded to the order slowly. 15 respondents stated that it could respond quickly while another one said sometimes fast sometimes slow.

Question 11: What characteristic of tablet would you prefer, larger monitor, louder sound, longer life battery, or anything else?

20 respondents wanted bigger monitors for tablet PCs whereas 14 respondents said the original was already good. The last three respondents wanted the monitor in heart shape. About the sound, 30 students expressed that it was already clear while another 7 students said the sound was too loud. The next issue was the long life battery. 20 students stated that battery life was long enough to use in one day while another 17 students said it should be longer.

Question 12 : Would you like body moving activity?

For the question about body moving activity, 27 students revealed that they wanted to learn by body moving from tablet PCs whereas another nine students said they did not want body moving activity. Only one student said it did not matter whether there was body moving activity.

Question 13 : Would you like to work with friends such as group work, pairs work?

Most of the respondents, 35 students, wanted to work with friends. Another two students said they wanted to work alone because they might find a boring pair.

Question 14 : Is there anything else that you like about tablet? Is there anything you want to be contained in the tablet?

For the first question, 35 students expressed that they liked tablets PCs. One student said he was quite disliked it and the last one said he felt indifferent with tablet PCs. They liked tablets PCs for many reasons as follows:

- using tablet PCs is fun (23%)
- the contents are enjoyable (20.5%)
- tablet PCs have contents (13%)
- the games are enjoyable (7.7%)
- there are contents with songs and tales (7.7%)
- there are contents with beautiful illustrations (7.7%)
- tablet PCs are up to date (5.2%)
- contents have variety of activities (5.2%)
- activities are enjoyable (2.5%)
- they can get many skills (2.5%)
- tablet PCs respond to be smart student (2.5%)
- they can drill from tablet and get better understand English (2.5%).

In addition, the respondents suggested some points they would like to get from tablets PCs. They wanted more games. They wanted games with activities to practice English skills and gain more English knowledge. One of the respondent said that he wanted more practice speaking and pronunciation.

Question 15: Is there anything you dislike and don't want to be contained in the tablet?

24 respondents revealed that they liked everything in tablet PCs. There were two opinions expressed that they did not like mathematics because it was difficult. Four opinions stated that tablet worked slowly especially in the process of turning on. Three students said that the contents were described as a long time and it was boring.

Two opinions said tablet had just few games, however, it was surprising to find that there was one student who did not like a game because it was boring when learning. Another one said she did not like English. One student said she did not like writing and another one said the tablet contained too little content. The last one said the tablet PCs run unsmooth, visuals did not come together with sound.

The result from the interview confirmed the result from a questionnaire in many points. The students liked contents with games and activities, created from their familiarity and presented as cartoon. They liked listening and reading activities and they thought tablet was easy to use.

However, some findings from the interview were different. They liked to practice pronunciation as listening because it could enhance speaking skill and one of them said it was fun to repeat what they have heard. The next point was the content, the students preferred to learn from true story than cartoon. The last point was physical ability, the finding from the questionnaire found that the students preferred practical activities than working with friends, but the interview found that they preferred to work with friends. In addition, the result from the questionnaire found that the students liked to move body less than the result from the interview.

This chapter presented the results of this study which was interrelated to with the stated research questions 1 and 2. The results of the study contained Grade 1 students learning styles and learner needs in learning English by using tablet PCs. The study found that the most frequent learning styles were auditory, visual, and kinesthetic style respectively. For learner needs, students needed contents end up with games and activities, listening activities, tablet PCs that easy use by themselves, and practical activities.

CHAPTER 5

FOCUS GROUP RESULTS

5.1 Introduction

This chapter presents the findings of the focus group discussion that leads to the effective way to teach English by using tablet PCs. The focus group discussion is presented in description. The effective way to teach by using tablet PCs is derived from suggestions of the discussants of the focus group discussion. Therefore, this chapter responds to the research question number 3 as stated in chapter 1 which is “what would be the effective ways to teach by using tablet PCs to respond to Grade 1 students learning styles?”.

5.2 Focus Group Discussion

Focus group involves a group of people who came from similar social and cultural background or who have a similar experiences or concerns (Hennink, 2007). So, the membership of a focus group need to select by purposive sampling based on the similarity of the group members. Bringing people with common interests or experiences together makes it easier for them to carry on a productive discussion (Greacen Associates, 2007).

One of the purposes of the study is to find the effective way to teach English by using tablet PCs. Therefore, the researcher considered the people who were involved in the handling and using of tablet PCs from beginning to learners. The

starting point began with supplying tablet PCs, preparation of contents, the practitioners by the ministry until the operation in the educational area. In addition, the administration by school administrators, Grade 1 English teachers, Grade 1 students and parents were taken into consideration. The results from the focus group discussion were based on learning styles and needs of Grade 1 students which the researcher created the focus group questions. It led to the effective way with actual performance. Therefore, the researcher selected the school administrators, Grade 1 teachers, Grade 1 parents, the supervisors of the educational area, and the technology educators of the Office of Basic Education Commission (OBEC).

After gathering students' learning styles and needs data from Grade 1 students, the researcher discussed the results in the form of focus group discussion with ten discussants who concern using tablet PCs of Grade 1 students. The discussants (D) consisted of:

1. the representative of school administrator (D1)
2. teacher who is responsible using tablet PCs in school (D2)
3. grade 1 teachers (D3)
4. the representative of school administrator (D4)
5. grade 1 teacher (D5)
6. supervisor who is responsible using tablet PCs of the educational area (D6)
7. parents (D7)
8. technology educator of the office of basic education commission (D8)
9. technology educator of the office of basic education commission (D9)
10. technology educator of the office of basic education commission (D10).

The focus group discussion was used to elicit information involved in teaching, managing, and contents in tablet PCs. Each discussant was asked 12 questions to get detail information. The interview was recorded digitally, translated, and transcribed into English. The findings of the discussion are as follows:

Question 1 : Does the current technology included tablet PCs support education?

How?

The result of the discussion found that all of the discussants agreed that tablet PCs supports learning. This is the data from the discussion:

Discussant 1 (D1) explained that

“Based on my experience, students were excited to use tablet PCs and they paid attention in learning and using it. Moreover, tablet is a tool with various kinds of learning material. It could help me in teaching and was easy to prepare material for students. The tablet can support students’ learning.”

Also D2 to D12 agreed that tablet PCs supports students’ learning with these following reasons:

D2 appended more issues about using internet for learning via tablet PCs. He presented that students can learn from both on-line and off-line depended on management of teachers and school. Moreover, he expressed that tablet PCs were helpful for small schools in remote area with unavailable learning materials. D3 and D4 agreed with D2, especially D3, she gave more reason that contents in tablet PCs were fun and interesting.

D5 and D6 had the same opinion that technology supported learning while D7 said student was excited to use tablet. The same as D8, D9, and D10, they affirmed that technology supported students’ learning. D8 said that technology in

education was unavoidable. Tablet PCs helped students familiarization with technology and they could have a skill in technology. Moreover, students could access the contents easily via tablet or at least they were encouraged to have an interest in using technology. D9 expressed that technology was an aftermath to be used in education so it was unavoidable to use. D10 confirmed that technology supported students' learning.

Although all discussants had a consensus that technology supports students' learning, some of them shared ideas of limitation of using tablet PCs in teaching and learning. D3 expressed that tablet built a burden to teacher especially technical problems from many students at the same time and D4 had the same opinion as D3 about the technical problem.

D5 and D6 viewed that tablet PCs did not meet the point of value in using in class. Furthermore, D5 expressed that tablets required frequent and long charging therefore it spent time in learning while D7 said it was difficult to control using when students were at home because they liked to spend time with playing games, not lessons.

Question 2 : Before the allocation of tablet PCs to the students, have your child/students expressed interest or English expression? How?

The result of question 2 discussion divided into two big issues, difference and not difference. Both groups expressed their opinions as follows:

D1 said that students' learning by tablet PCs made students more interested in learning than with textbooks and teachers. D2 gave his opinion that students could learn more quickly and D4 agreed with D1 that students interested to use tablet in all subjects. D6 said that students were more outstanding in speaking

English at school. D7 and D8 had a corresponding opinion that with tablet PCs, the students were enthusiastic to learn whereas D9 expressed that tablet PCs stimulated students to learn.

On the other side, no difference before and after using tablet PCs in English class. D3 gave reason that students were already interested and had a good basic knowledge in English and D5 agreed with her on all aspects. D10 added this issue that he lived in Bangkok so he saw students in a big city were already familiar with tablet PCs, therefore, he concluded that there was no difference in students' interest in English before and after using tablet PCs.

The results of learning styles questionnaire found that:

- students learn English through tablet PCs by visual 88 %
- students learn English through tablet PCs by auditory 91 %
- students learn English through tablet PCs by tactile 50 %

The questions based on the result of learning styles questionnaire are:

Question 3 What percentage of English materials in tablet PCs should be provided to respond through visual learning?

Question 4 What percentage of English materials in tablet PCs should be provided to respond through auditory learning?

Question 5 What percentage of English materials in tablet PCs should be provided to respond through tactile learning?

These three questions were discussed at the same time to facilitate the discussants to discuss.

When the discussants were asked about the percentage of each learning style, the result of this question were found as follow:

D2, D3, D4, D6, and D7 had the same opinion that the material in tablet PCs should be provided to respond through visual, auditory, and tactile learning in equal proportion. D2 and D3 expressed that the material should be animation with sound and narration and D3 presented additional comment that students' body action would comply automatically with the materials in tablet PCs and D6 totally agreed with D3. Another opinion from D1, D9, and D10 was the percentage according to the researcher was appropriate whereas D8 said it should be 100% of visual. However, D5 presented that she concentrated how to split the material from whole lesson to teach in each step in class.

Question 6 : Which learning styles are unnecessary to respond students in learning English by using tablet PCs?

When the discussants were asked to discuss the topic of unnecessary learning styles provided in tablet PCs, they gave their opinions as follows:

D1, D2, D4, D7, D8, D9, and D10 had the same opinion that visual, auditory, and tactile were necessary to contained in tablet PCs in order to support students' learning. D 8 said learning requires whole sensory and D9 gave his opinion that it depended on weighting each style to support students' learning. In addition, D10 agreed with D9 and he added his idea that besides weighting each style, materials design was another factor to respond learning.

Another three discussants, D3, D5, and D6 had different opinions. They expressed that tactile learning is unnecessary because students concentrated on tablet PCs though movement that could damage of it.

Question number 7 – 11 involve learner needs. The four learner needs contained in the present study are subject matter, language skills, technical know-how, and physical abilities and the result was mentioned earlier in 4.3.

Question 7 : How to organize materials in tablet PCs to respond each students' need?

When this topic was discussed, the result could be divided into four groups regarding learner needs as follow:

For the subject matter, D1, D3, D5, and D7 had the same opinion that it should be vocabularies and contents around them because they were familiar with it so it was easy for them to get the goal of learning whereas D8 disagreed. He argued that the students could learn something apart from them because world cultures were one of the indicators and standards of English curriculum. However, he agreed with D2 and D9 that the contents should correspond with Grade 1 curriculum and pictures and animations encouraged students to understand easily while D4 stated that the subject matter should respond to learner needs result. D3, D4, and D5 had the corresponding opinion that the contents should be split into several subtopics in order to teach suitably. D10 gave a different idea that tablet PCs facilitates teachers in teaching, not the main tool, so the content should not be core content.

For the topic of language skills, D2, D3, D9 and D10 had the same opinion that the materials should support all four skills and correspond with Grade 1 curriculum while D3 agreed with D2 and added that the materials contained in tablet were already appropriate while D4 still stated that the materials should respond the language skills regarding the learner needs result.

For the technical know-how, D1 gave her opinion that the letters in the content and the monitor should be bigger. D2 agreed with D8 that the tablet body and application should be easy to use with clear commands and properly positioned buttons. D3 and D4 commented that the stability of tablet PCs should be improved. D6 viewed the different opinion. She said from her experience, she found that the problem of using tablet PCs was technical problem so it should be improved to support another three learner needs that were already suitable. In addition, D10 focused on technical know-how. He agreed with D3, D4, and D6 that tablet should have stability. He gave another idea that the materials in tablets should have interactive materials that respond to learner needs such as learning through games.

For the physical abilities, D1 stated that movement activities should be contained in the materials and D2 said physical abilities could be the less whereas D3, D4, D5, and D10 had the same opinion that physical abilities were unnecessary because students always paid attention to their own mission and had not enough time to take an interest in their friends while D9 said it depended on how teachers organized their teaching with physical movement.

Question 8 : Do you think there are any needs that do not require updates, changes, and additions in the English material? Why?

All the discussants had a consensus that all learner needs should be contained in the material because they all supported students' learning.

Question 9 : How to approach English teaching by using tablet PCs to meet learner needs?

The result of the discussion of this topic found that majority had the same idea in using tablet PCs to meet learner needs and other details as follows:

D1, D2, D5, D6, D7, D9, and D10 gave same idea that teaching by using tablet PCs should enhance the main teaching by teachers. D1 added more idea on the tablet body that it's stability should be improved whereas D2 appended his idea that tablet should be used to help students to revise their lessons and to study in advance in case they needed it. D5 commented that it would be better if the materials in tablet PCs were activities, not contents, according to learner needs while D10 had another idea that using a tablet could be a reward for students. For example, they were allowed to use it if they finish their jobs on time so students were enthusiastic to study.

D3 expressed her opinion that tablet PCs should be used in conclusion of teaching while D4 said tablet PCs could be used at all stages of teaching. And D8 gave his idea that tablet PCs were sources for teachers to teach and facilitate the teachers in remote areas to find materials for students.

Question 10 : Any issues we have not discussed?

When the discussants were asked whether they had another topic to discuss, some of them presented interesting comments as follows:

D3 discussed about teachers and school administers that they should give priority for using tablet PCs by hold a knowledge exchange meeting among teachers in order to help and support each others while D8 said the users should try and adjust themselves to use tablet PCs for maximum benefit. In addition, D9 appended that besides tablet PCs, facilities such as big screen and plugs should be provided in classroom.

Question 11 : Do you have any additional comments?

The result of the discussion gave additional comments about facilities and management of tablet PCs as follows:

D3 said from talking with D4 and D5, they prefer a computer PC with internet connection and a projector than tablet PCs for all students because it was more useful with lower budget.

D5 added that classroom with facilities depended on decision of the school administrator but actually teachers were the most important person who could organize teaching to get maximum benefit.

D9 expressed that government and ministry policies should be contained with stakeholders' opinions. In addition, he said that tablet PCs could support English learning and the environment with facilities could support as well.

D10 explained about instability of tablet PCs that it was caused by the low price of it because government provided limited budget for purchasing.

In summary, the focus group discussion was conducted to find out two topics. The first topic is the approach to use tablet PCs in teaching English for Grade 1 students effectively. The researcher presents in the form of lesson plan that the agreement gathers from results of students' learning styles and learner needs. The data used to construct the lesson plan is derived from the discussion in focus group. The second topic is the effective way to manage classroom instructions, English teaching materials, and tablet PCs' content in response to the students' learning styles and needs. The result of the topic will be presented regarding the discussion in 5.4, the effective way to teach by using tablet PCs to respond to grade 1 students learning styles and learner needs.

5.3 An Effective Way to Teach by Using Tablet PCs to Respond to Grade 1 Students Learning Styles and Learner Needs

This section discusses how effective teaching English by using tablet PCs should be. The information to discuss is acquired from the focus group discussion and it is divided into two issues, (1) teacher, who uses tablet PCs in teaching English to Grade 1 students, and (2) materials or contents in tablet PCs. Both discussed issues are based on the results of students' learning styles and learners' needs. Besides, the views of the focus group discussants, based on their expertise, are included in the finding.

5.3.1 Teachers

In the discussion, the 10 discussants viewed the way to teach effectively by using tablet PCs according to teachers' class management in various points as follow.

Teachers should conduct instruction based on all three learning styles, however, weighting each style should be considered. The first two styles, visual should be used equally to auditory with kinesthetic the least as a result derived from students.

Tablet PCs can be used in any stages of lesson plan dependent upon teachers' determination of what is appropriate with the instruction. Contents in the tablet PCs contained learning units with activities to enhance learning in each unit, therefore, the teachers can choose some part or all of the content into the lesson plan. Nevertheless, keep in mind that learning unit should not be core contents, teachers' instruction is the most important in class for Grade 1 students. Using tablet PCs for a reward to students is also a good motivation for them to study in class. Teachers may allow them to use the tablet PCs when they finished their assignment in time.

Teachers could change their attitudes that tablet PCs are provided for only students but the tablet PCs can be teachers' sources for preparing teaching. As mentioned earlier, contents contained in tablet PCs are learning unit and consequently teachers can bring some part or all content into class. Moreover, tests and activities are also contained in tablet PCs, so teachers can use these as well in the instruction.

While technology is all around, teachers need to realize the importance of it and adjust themselves in order to use tablet PCs or another technologies in teaching and learning for maximum benefit because the best teachers are those who make a success in teaching. Moreover, school administrators need to support the teachers to use technology by providing facilities such as big screens, chargers, plugs, and rooms that teachers can alternate to use in order to achieve maximum benefit to students according to the aims of education policy.

5.3.2 Materials

Conclusion from the focus group discussion stated about materials or contents in tablet PCs into three issues, (1) characteristic of the materials, (2) process of learning units, and (3) tablet PCs body.

Likewise teachers' learning management, materials should respond by all three learning styles to students in appropriate proportion so that the visual and auditory learning styles are still emphasized. The main characteristics of materials should be animation with sound and narration. Translation is another one of crucial importance to encourage students to understand what they have learnt. Moreover, the discussion indicated that the materials in tablet PCs should be activities to enhance learning and achievement, not core contents in teaching in class.

Process of the materials can attract students during learning. The materials should conducive to learning through games because it meets the need of students. Moreover, students should use the materials by themselves to revise lessons and to study in advance. The materials should be interactive, reflect students' practicing or any others requirements.

The body of the tablet PCs should be improved in three points, regard to the focus group discussion. It should be larger size with clear command buttons. The applications should be easy to use with less steps. The last weak point is battery, it should keep more power in order to have more stability and students can use it for longer periods.

This chapter illustrated the effective way to teach English to Grade 1 students by using tablet PCs. The results from focus group discussion showed that there were two points to consider in effective teaching. The first one was teachers, they needed to change their attitudes to accept technology in teaching and adjust themselves to be knowledgeable in technology. The school administrators needed to provide resources to support teaching and learning. The last point was the materials, they should respond to students learning styles and needs.

CHAPTER 6

CONCLUSION, DISCUSSION, AND RECOMMENDATIONS

6.1 Introduction

As a last chapter of the study, it is presented to summarize the findings and recommendations of the present study in response to research questions 1- 4. The summary includes the purposes of the study, the samples, the research methodology, the research instruments, and the results. The followings are recommendations of the study and suggestions for further research are presented in the final section.

6.2 Conclusion

The present study has been conducted for (1) investigation English learning styles of Grade 1 students who use tablet PCs, (2) understanding the needs of students in learning English by using tablet PCs, and (3) finding out the effective way in the management of classroom instructions, English teaching materials, and tablet PCs' contents in response to the students' learning styles and needs.

The samples of the study were (1) Grade 1 students of four schools under the jurisdiction of OBEC in the project “Integrating Technology to Enhance Learning” (2) those involved using tablet PCs for Grade 1 students, in this case, the stakeholders were supervisors of the school area, school administrators, teachers, parents, and officials from The Bureau of Technology for Teaching and Learning of OBEC.

The research procedures were divided into three parts. The first part was the procedure of using learning styles and learner needs questionnaires with students. The second part was the students' interview on the area of learner needs. The third procedure was focus group discussion to find effective teaching methods in learning English by using tablet PCs. In the first part, all 354 samples answered the learning styles and learner needs questionnaires then the second part, 37 students were selected to attend a semi- structured interview. In the third procedure, after gathering learning styles and learner needs information, the researcher invited those involved using tablet PCs for Grade 1 students to participate in focus group discussion. The participants were encouraged to discuss according to information based on the results of students' learning styles and learner needs that the researcher gathered from the questionnaires and the semi-structured interview. The discussion was conducted in the area of teaching and learning English by tablet PCs, materials, and contents that should be contained in the tablet PCs.

The results of the present study are presented according to research questions further below.

Research Question 1 : What are the English learning styles employed by Grade 1 students?

In response to Research Question 1, the research finding revealed that Grade 1 students learn English by using tablet PCs with auditory style, visual style, and tactile/kinesthetic style respectively. They use auditory learning style with 91%, visual style with 88%, and tactile/kinesthetic style with 50%. The percentage is obtained by students themselves choose their learning styles in using tablet PCs to learn English fifty percent or more in each learning style of questionnaire.

Research Question 2 : What are the needs of Grade 1 students in learning English by using tablet PCs?

Regarding Research Question 2, the research findings consist of two parts, the first part is the finding obtained from the questionnaire and the second part is the finding obtained from interview as below.

1. Finding from questionnaire

The result of learner needs in subject matter has found that the preferences of learners are contents ended up with games and activities with 90.68%, contents created from familiarity of students with 83.05%, and contents presented in cartoon form with 82.20%

The result of learner needs in language skills received that the learners are satisfied to learn with listening activities with 87.29%. The following need is learning with reading activities with 83.05% and the last preference is learning with sound in every word/sentence with 82.49%.

The result of learner needs in technical know-how has found that the learners need self – using tablet PCs with 85.31%, it means the tablet PCs are easy to use. Another one need is quick response tablet PCs with 74.86%.

The last point of the learner needs is physical abilities. The result found that the learners prefer practical activities with 69.21% and they like instruction to work with friends with 57.06%.

2. Finding from interview

The information gained from the semi-structure interview revealed that students like to learn in an area of matter around them such as pets and school. A minority said about another topic such as tourist attractions, conversation, and another

subject. On the issue related to image, they prefer animation and both real and cartoon image. In case of sound, they prefer content narrated by Thai people than native speaker. They also like to learn with Thai translation of every word and sentence. Moreover, they like other sounds such as waterfall and birds' singing. For story of contents, they prefer true stories to tales. They like both long and short stories and also movies. In the point of activities, most of the students like various kinds of them such as matching games, filling in the blanks, drawings, paintings, and any kind of games. In addition, they like to repeat and practice as they listen to tablet PCs.

Research Question 3 : What would be the effective ways to teach by using tablet PCs to respond to Grade 1 students learning styles?

Regarding the focus group discussion, agreement of effective teaching by using tablet PCs is able to conclude into two areas, the first is teachers and the last is materials.

In the area of teachers, the discussion can concluded that teachers should conduct teaching and learning with all three styles but weighting each style should be considered. Using tablet PCs can be located in any step of teaching depends on teachers' consideration. Furthermore, tablet PCs can be teachers' resources and the last point is that teachers should adapt themselves to keep up with technology which will play a crucial role in teaching and learning in the future.

In the area of materials, the agreement viewed into three issues, characteristic of the materials, process of learning units, and tablet PCs body.

The materials or contents should be animation with sound and translation. The contents should be activities to enhance learning and achievement. The materials should conducive to learning through game and should be used by themselves to

revise lesson and to study in advance. Moreover, the materials should be interactive, reflect students' practicing or any others immediately.

Body of the tablet PCs should be larger size with clear command buttons. The applications should be easy to use and battery should keep more power in order to use it longer.

6.3 Discussion

As the results of learning styles and learner needs earlier presented, this section discusses the research results. The discussions are based on the research questions presented in Chapter 1.

6.3.1 The Discussion on the Research Question 1: What are the English learning styles employed by Grade 1 students?

According to the result of the learning styles employed by Grade 1 students, it revealed that they learn English with tablet PCs by auditory style and visual style with arithmetic mean score of 91% and 88% respectively while the least frequent style is kinesthetic with 50%. The students learn the most frequent by auditory and visual style, it could be because the styles respond to their perception and affect their learning. This finding was relevant to many studies. Ryan (2014) studied the effect of auditory integration training on the working memory of adults with different learning preferences. The study revealed that participants with an auditory learning preference showed highest change of working memory scores. Khamkhien (2012) investigated the demystifying Thai EFL learners' perceptual learning style preferences and the finding indicated that Thai EFL learners preferred auditory learning most. Corbit (2013) explored the preferred foreign language learning styles of MFLP (Modified

Foreign Language Program) and non-MFLP students of postsecondary Spanish and found that both MFLP and non-MFLP students had a preference for visual over auditory and tactile/kinesthetic stimuli.

Many studies come to same conclusion that learning styles contribute learning. Skehan (1991) and Daychapratoomwan (2005) compared the students' English reading comprehension and attitude towards English reading before and after being taught through reading instruction based on student's learning style. The results revealed that student's reading English comprehension and student's attitude towards English reading were increased after being taught through reading instruction based on students' learning styles. Promsoud (2010) compared English vocabulary knowledge of prathom sukka 5 students before and after they were taught through multi-sensory approach, she found that students' vocabulary knowledge increased after learning through multi-sensory approach. Jeral (2010) also supported the contribution of learning styles. She studied the influence of visual, auditory, and kinesthetic learning opportunities and found that student benefit from being able to choose activities to demonstrate their learning. Moreover, Khamkhien (2012) investigated the demystifying Thai EFL learners' perceptual learning style preferences and Yassin (2015) studied the learning styles ESL students, they found that learning styles affected learning outcome positively. Furthermore, they agreed that matching teaching styles to students' learning styles impacted to improvement of students' academic success.

6.3.2 The Discussion on the Research Question 2 : What are the needs of Grade 1 students in learning English by using tablet PCs?

As the result of learner needs, it presented that Grade 1 students have several needs in learning English by using tablet PCs. For example, they want contents with games and activities, contents created from students' familiarity and presented in characteristics of cartoon. As mentioned earlier that learner needs is a powerful facilitation skill enhance instructors and students to be companions in learning, therefore, learner needs are another one factor that helps to promote learning. Knowing the learner needs from the study may causes teachers conduct instruction to meet learners and many studies realized the importance of learner needs as well. Pothisuwan (2005) said that adults will be motivated to learn well if the learning meets their needs and interests of past experience. Kaur (2007) examined the English language needs of 15 Malay administrative staff in two departments in University Sains Malaysia in an ESP (English for Specific Purposes) course. He found that needs analysis guided design for ESP course and ESP learners indicated that the course content suited their needs and contributed to a positive learning experience for the learners who are adult students from a non-native English speaking background. Kaewpet (2009) presented a framework for investigating learner needs: needs analysis extended to curriculum development of Thai engineering students who will study ESP in an English as a foreign language (EFL) environment. His review literature indicates that learner needs will have to be addressed if the course is to be successful and he stated that need analysis research which further involves curriculum development is required.

6.3.3 The Discussion on the Research Question 3 : What would be the effective ways to teach by using tablet PCs to respond to Grade 1 students learning styles?

The discussion in this part focused on how to teach effectively by using tablet PCs to respond Grade 1 students learning styles. The results of the focus group discussion indicated that effective teaching by using tablet PCs depended on two factors, teachers and materials.

1. Teachers

(1) The Importance of Teachers

Education is the process that makes humans improve their quality of life to be able to live in society with happiness, support the country in suitable way, according to change in every way and the people who take an important role in education are teachers. That is because teachers' role is to create the experience of learning and improve learners in overall, in order to have knowledge, skills and academic experiences that lead to better quality of live. Along with becoming good members of society. Therefore, to develop educational quality must rely on quality teachers, too (Preawpairporn, 2011). Teachers were discussed as a major factor to teach effectively by using tablet PCs. When teachers takes an important role in the teaching process, they need to realize their role of teaching, they are the knowledge providers, manage the teaching process to achieve objectives, lead learners to new experiences, facilitate the learners in search of knowledge by themselves, and support the growth and development of learners.

Teachers at the present time, in the age of technology, are vital to the management of teaching. Inevitably they must adapt themselves to be able to teach in

21st century. The use of innovation and technology in teaching process are counted as common tools of teachers in this new age. Teachers not only have to adapt themselves to keep up with technology but they must also prepare learners to be ready in adapting to live in the 21st century society. It can be summarized that teachers must use a learner centered policy. Teachers have to support students to be self-developed to fulfill their potential, according to necessity of living in society of new age and support them to have the lifelong learning habits because the knowledge and technologies are changing quickly. Teachers should teach learners to have learning habits and steadily learn and train them the way to learn more than in content because there are ample of contents available in this new age. Also, information and contents are changing rapidly, which makes the memorization of content become something that is worth little to use and of little benefit. Teachers must have vast knowledge, able to use appropriate technology in teaching process and able to draw attention from students. Therefore, teachers in 21st century must have the knowledge about the changing world in present day in order to bring the knowledge to pass onto students and use up to date technologies to be a medium in teaching so that the students can get the most benefit.

(2) Teachers in the age of ICT

Using ICT to be a part of teaching and learning can influence the change in roles of teacher and learning process. There are new teaching methods that rely on technology such as computers, which are the versatile tools that affect teachers to adjust paradigm, use different ways of teaching than in the past and change an attitude to be appropriate to teach in present time.

Skills of 21st century appear within the framework of 21st century learning. It consists of 3 main skills that must improve people in new generation as follow: 1) Life and Career Skills 2) Learning and Innovation Skills 3) Information, Media, and Technology Skills. All the skills are linked to all 10 core subjects. This indicates that teachers are in need to have the capability in all those skills in order to be able to manage lesson plan that mixes the knowledge from core subjects with all those skills (Mokkaramunee, 2013). Therefore, teachers in the age of ICT need to adapt their roles from knowledge providers into learner helpers and be a medium between learners and those they want to learn. Teachers must focus on the importance of knowledge management in order to achieve the purposes in becoming a body of knowledge and organization that pass on knowledge. The roles of teachers in the age of ICT should consist of following characteristic (Kuachenghoy, 2010).

- 1) Learner centered, teachers are the supporters for students in search of knowledge.
- 2) Support lifelong learning process. Train students to have learning habit, critical thinking, and solving problems with logic.
- 3) Manage information and learning. Be guidance on choosing the appropriate media to use.
- 4) Create opportunity for students by knowing information technology enough to guide students' learning process.

Apart from the change in teaching roles, teachers must also develop themselves to have the important skills for the learning process in 21st century as interestingly mentioned by (Laohacharatsang, n.d.) as follow:

1) Content: Teachers must, very well, have knowledge and skill in the subject they are teaching. Otherwise it is difficult for the students to understand what they have learnt.

2) Computer (ICT) integration: Teacher must have information skill to support teaching and learning because using technology can motivate the attention of students. If the activities effectively design it will enhance the knowledge and skills they need to learn.

3) Constructionist: Teachers have to understand the concept that learner able to create the body of knowledge by themselves, by connecting their own knowledge to apply to practice in learning activities. Therefore, teachers should use this idea to develop and plan the learning activities for students to gain the substantial knowledge and skills as they need.

4) Connectivity: Teachers must be able to arrange activities to link among learners, students and teachers, teachers within same or different institute, between institutes and institute and community in order to create the environment that benefits to learning. Also to get students to perform in practice and that will make direct experience to students.

5) Collaboration: Teachers have roles in manage learning activities as cooperation between students and teachers, and among students in order to train the teamwork skill, learning by their own and other important related skills.

6) Communication: Teachers must have communication skill in description, able to provide the example, chosen of media and presentation. Along with provide appropriate environment conducive to leaning.

7) Creativity: Teachers must design the creative activities of learning, provide the environment that conducive to self-learning of students rather than be an only knowledge provider in class.

8) Caring: Teachers must rejoice with students, must show their love and care sincerely for students in order to make them trust in them. Resulting in the creation of learning in a relaxed alertness state. This is the best condition for students to learn.

From all mentioned above, it can be assumed that learning is the result of students' doing what happens within themselves. Teachers are only planners and helpers to ensure that the activities achieved the objectives and gain their skills as planned. Therefore, all skills mentioned above are all important for teachers nowadays inevitably. Especially, the skill in ICT that teachers need for development of teaching materials, resource management, and learning environment management to suit the styles of the students based on the current technology to the new era of relentless .

As it is known that learning materials have high impact for teaching and learning in every level of education. Materials help to motivate learners to pay attention and can see the relationship in what they are learning. Materials incite students' interest because they use senses of eyes, ears and movements to learn with learning materials which make students memorize and commemorative. Apart from that it also encourages thinking process and problem solving within limited time. Therefore, learning with materials affects better learning quality because materials can build clear understanding to learners and they can create natural form in their mind.

2. Materials

(1) Importance of Learning Materials

As it is known that learning materials have high impact for teaching and learning in every level of education. Materials help to motivate learners to pay attention and can see the relationship in what they are learning. Materials incite students' interest because they use senses of eyes, ears and movements to learn with learning materials which make students memorize and commemorative. Apart from that it also encourages thinking process and problem solving within limited time. Therefore, learning with materials affects better learning quality because materials can build clear understanding to learners and they can create natural form in their mind.

Since learning materials are important and they can encourage learning, using materials has become vital in teaching and learning process that leads to learning achievement. It can continually develop the thought of learners and also able to change the thought and attitude of learners. Finally, it makes students able to apply experience in learning in their real life. Apart from this, materials also help to support teachers in teaching by allowing teachers to adjust activities in various methods, help teachers to solve limitations of teaching such as making complex things into simple tasks, make the big things become small, etc. Thus, materials are something that help in teaching and learning, which makes the teaching process become efficient.

(2) Application of ICT Materials

When the world is changing into technology era, the teaching and learning process is also changing as we use ICT learning materials in teaching.

Computer and Internet have very important roles because computer technology and communication systems can be accessed at very fast rate. Both technologies can be called Information and Communication Technology (ICT), and have been widely applied in education especially in management of learner centered teaching, it is important to use ICT materials to make learners participate and interact with the materials. They should be designed for students to construct knowledge by themselves, analyze data, examine and summarize as a body of knowledge. Teachers should design learning processes to guide students to perform by themselves which makes them remember and gain important skills such as self-learning, critical thinking, etc. The ICT learning materials are able to respond in support of the skills.

Applying the ICT materials into teaching and learning have been used extensively because ICT materials are powerful and high efficiency tools with verity of forms according to progress of present technology. This ICT material can help in individual learning. The learners are able to interact with materials, no limitation of learning location, able to respond to learners in various ways and everyone learn equally with the same quality material (Mokkaramunee, 2013). The ICT materials can be applied in teaching as follow(2009):

- 1) E-Learning: The lesson online is available to learn via online. It offers fast, convenience and accessible learning anywhere and anytime with internet availability. Now it has been developed to use both online and offline.

- 2) Computer-Assisted Instruction (CAI): Learning via computer helps students to think, perform and solve because there is feedback that allows learners to be aware of learning achievement.

3) Web: Learning via website is using the website as a main channel to study which is available in many subjects. It is available in contexts to read, picture as illustration, sound or video to make teaching easier to understand.

4) E-Book: Electronic books allow learners to access books easier because there is no need to carry many books around. With only a tablet, it is like carrying many books at one time.

Materials that categorized into instant experience to teach in a particular subject and arrange activities for learners to involve themselves via materials is not only interactive at present time, but also encourages learners to gain necessity skills for 21st century. Even though the One Tablet Per Child project has been canceled, the kind of learning materials are still extensively used and tend to be used increasingly due to its efficiency.

6.4 Applications of the Present Study

The present study provided various benefits of Grade 1 students in learning English by using tablet PCs as follow:

1. The result of the study showed that Grade 1 students of schools in the “Integrating Technology to Enhance Learning” pilot project, mostly learnt English from tablet PCs by auditory and visual style. Both styles were calculated and resulted in a very similar percentage. Therefore, those who provided or prepared contents in tablet PCs, as well as teacher, should create, supply materials or learning process that students have to learn via auditory learning style and visual learning styles.

2. The result of the study showed that Grade 1 students of schools in the “Integrating Technology to Enhance Learning” pilot project had first 3 needed in

subject matter which was the content with activities at the end of content, matter around them contents, and content presented in cartoon. Therefore, those who provided or prepared contents in tablet PCs, as well as teacher, may create or supply materials that consist of the kind of the result presented above in order to respond to learner needs.

3. The result of the study showed that Grade 1 students of schools in the “Integrating Technology to Enhance Learning” pilot project had first 3 needed in language skills which were listening activities, reading activities and contents with sound in every word/sentence. This could be seen that the learner needs in language skills were mostly related to auditory learning style. Therefore, the materials provider or preparation of content for tablet PCs, including teachers, should supply or create materials with various activities to support learners’ skills as learners need.

4. The result of the study found that Grade 1 students of schools in the “Integrating Technology to Enhance Learning” pilot project required tablet PCs to be easy to use by themselves without frequent asking teachers and should have a quick responsive interface. Therefore, the suppliers of tablet PCs should have a very delicate inspection for each tablet PC since students commented that tablet PCs were in good condition to use but only few of them had problems.

5. The result of the study showed that teachers in English language had to adapt into new age, increase their technology and information skills which had an increasingly involved role in teaching and learning. Teachers should adjust their attitude to be able to accept and understand the value and use ICT media in managing teaching and learning because the ICT materials has been increasingly used and the materials are improving with no boundary. The teachers in English language subjects

should adjust by keeping themselves up to date with technologies and skills in using those materials in order to be technology information leader for students.

6. Lesson plan constructed from students' learning styles and focus group discussion could be guideline for Grade 1 teachers in English language subject to used tablet PCs in teaching and learning. From the summary of focus group discussion showed that tablet PCs can be used in every step of teaching, dependant on the type of content, activities, and discretion of teachers.

6.5 Implications of the Present Study

1. This study revealed the learning styles that Grade 1 students used to learn English language from tablet PCs. The result would help those who are responsible for providing the materials into tablet PCs, to be able to provide contents according to students' learning styles. Therefore, the learners can learn easily in their natural way which influences achievement of the learning, as well as materials would be suitable and according to true learning styles.

2. This study showed learner needs from using tablet PCs in two points, contents and tablet PCs' specification as follow:

2.1 On the point of contents, those who are responsible in providing contents would create or improve contents according to the learner needs, whether it is about the stories, picture and text, sound, type and number of activities, and language skills. If providers are able to supply right type of materials to meet learner needs, learners will learn with satisfaction and happily which will be affecting in the achievement of learning objectives.

2.2 On the point of tablet PCs' specification, the learners needed tablet PCs that are easy to use by themselves without frequently asking teachers, had fast responsive interface and multitask capability. If those who are responsible for providing tablet PCs able to set the properties of tablet PCs responded to learner needs, learning would be as teachers planned. Teachers would not take time consumed in helping students to use tablet PCs because of the difficulty of use. Therefore, students are able to keep learning up to lesson schedule at ease and they can gain valuable benefit from tablet PCs. If there is new budget allocation for the tablet PCs, it should adjust the specification of the tablet PCs to match the learner needs.

2.3 The learning styles that found from using tablet PCs in learning English might be the same way that students learnt from other subjects by using tablet PCs as well. Because they were same type of materials, the senses that used in learning might be similar. Thus, other subjects might also supply materials according to learning by visual and auditory learning style as well as in English language materials.

2.4 The providers of multimedia, CAI or other similar kind of ICT materials may bring the learning styles found from using tablet PCs to be part of consideration to design of application or materials. Because this type of ICT materials are similar to those in tablet PCs so it is possible that other students who used these type of materials learn in similar way to Grade 1 students in learning English by using tablet PCs. It will make the materials to be consistent with students learning styles and students will be able to learn with full ability.

2.5 This research revealed that the teachers of English language had to adapt themselves into technology because nowadays technology and computer were widely used in teaching and learning. Teachers need to change by gaining both theory and practice in technology in order to have skills to be leaders in ICT for students. Moreover, teachers need to change attitude to accept innovative technology and computer because they are expanding without limit. The innovative technology and computer will also happen greatly and use in every subject. Therefore, the summary about the teachers in English language can be guidelines for teachers in other subjects to increase knowledge and technology/ICT skills and change the attitude to accept and understand the value in using of update materials technology to enhance the achievement and characteristic of student according to 21 century's skills.

2.6 Teachers can use tablet PCs or other ICT materials in various way as follow:

- Use as offline or stand alone by display on one computer.
- Use as online by display on multiple computers at the same time.
- Use as supplementary. Learners can study coupled with usual class, which learners may choose whether they want to learn from supplementary.
- Use as complementary. Learners have to use with usual class with content and assessment.
- Use as comprehensive replacement. Use as a main lesson, substitute lesson, interactive lesson in class with pre and post test. Also have the content, exercise and management of teaching and learning.

6.6 Recommendations

6.6.1 Recommendations for the Present Study

1. Tablet PCs could refer to another kind of electronic instructional media such as contents in computer PC and Computer Assisted Instruction (CAI) that should keep characteristic in order to respond to students' learning styles and learner needs derived from the study.

2. At the present time, using technology in teaching and learning is inevitable so teachers need to adjust themselves in order to use technology to keep pace with students

3. Even though the government has been canceled the One Tablet Per Child Project, the contents of other electronic media such as internet and CAI are similar in tablet PCs, hence, teachers should give priority in using electronic media since these kinds of materials have advantages. They can present contents concretely, students can study by themselves, variety of media, and all the time keep up to date.

6.6.2 Recommendations for Further Research

1. Similar research should be conducted with other subjects to get an entire overview in order to instruct and prepare materials to respond to students' learning styles and learner needs.

2. There should be further research by using different electronic media because tablet project has been canceled.

3. Researchers should investigate grade 1, 4, 7, and 9 as they are the first year of each grade level so that the teaching can meet learning styles and learner needs for entire grade level.



REFERENCES

- Akyel, A. S., & Ozek, Y. (2010). A language needs analysis research at an English medium university in Turkey. *Procedia Social and Behavior Sciences*, 2, 969-975.
- Allan, E., & Seaman, J. (2006). Making the grade: Online education in the United States. *The Sloan Consortium*, Retrieved October 19, 2008.
- Allen, E., & Seaman, J. (2008). Online nation: Five years of growth in online learning. *The Sloan Consortium*, Retrieved October 19, 2008.
- Anderson, T., & Elloumi, F. (2004). *Theory and practice of online learning*. Athabasca, CA: Athabasca University.
- Berwick, R. (1989). *Needs assessment in language programming: from theory to practice*. In R.K. Johnson (Ed.), *The second language curriculum*. Cambridge: Cambridge University Press.
- Boonsuk, Y. (2008). *English language learning styles of Pondok school students in southern Thailand*. (Master Degree), King Mongkut's University of Technology North Bangkok, Bangkok.
- Brindley, G. (1989). *The role of needs analysis in adult ESL programme design*. In: Johnson, R.K. (Ed.), *The second language curriculum*. Cambridge: Cambridge University Press.
- Broaderick, C. (2001). What is instructional design? , Retrieved October 19, 2008.
- Bucki, J. (2012). Definition of Tablet Computer. from <http://operationstech.about.com/od/glossary/g/Definition-Of-Tablet-Computer.htm>

- Caladine, R. (2008). *Enhancing E-Learning With Media-Rich Content and Interactions* New York: Hershey.
- Campoy, R. (1992). The role of technology in the school reform movement. *Educational Technology and Society*, 32, 17-22.
- Carson, J. G., & Longhini, A. (2002). Focusing on learning styles and strategies: A diary study in an immersion setting. *Language Learning*, 52(2), 401-438.
- Christison, M. A. (2003). Learning styles and strategies. In: Nunan, D. (Ed.), *Practical English Language Teaching*. New York: McGraw-Hill.
- Clark, D. (2000). Visual, auditory, and kinesthetic learning styles (VAK). Retrieved from <http://www.skagitwatershed.org/~donclark/hrd/styles/vakt.html> website:
- Coates, H., James, R., & Baldwin, G. (2005). A Critical Examination of the Effects of Learning Management Systems on University Teaching and Learning. *Tertiary Education and Management*, 11(1), 19-36.
- Collins, A. (1991). *The role of computer technology in restructuring schools*: Phi Delta Kappan.
- Colton, D., & Covert, R. W. (2007). *Designing and constructing instruments for social research and evaluation*. San Francisco: Josey-Bass.
- Corbit, W. K. (2013). *Learning Styles, Strategy Use and Metacognitive Awareness in Foreign Language Reading by Modified Foreign Language Program Post-Secondary Students of Spanish*. (Doctor of Philosophy), Indiana University.
- Daunnin, P. (2001). *The Production of Computer assisted Instruction on Lesson English Entitle Article for Pratomsuksa V Students*. (Master Degree), Khonkaen University.

- Daychapratoomwan, J. (2005). *Reading Instruction Based on Student Learning Styles to Enhance English Reading Comprehension and Reading Attitude of Mathayom Suksa 6 Students*. (Master of Education), Chiang Mai University.
- DeCapua, A., & Wintergerst, A. C. (2005). Assessing and validating a learning styles instrument. *System*, 33, 1-16.
- Department of Academic Ministry of Education. (1998). *Concepts, standards and indicators in basic education in the productivity factor*. Bangkok.
- Dick, W., Carey, L., & Carey, J. O. (2004). *The systematic design of instruction* (6th ed.). Boston: Allyn & Bacon.
- Douglas, B. H. (1973). Affective variables in second language acquisition. *Language Learning*, 24, 231-244.
- Dreyer, C., & Nel, C. (2003). Teaching Reading Strategies and Reading Comprehension within a Technology-enhanced Learning Environment. *System*, 31, 17.
- Duannin, P. (2001). *The Production of Computer Assisted Instruction Lesson on English Entitle Article for Pratomsuksa V Students* (Master), Khonkaen University, Khonkaen.
- Dunn, R. (1993). Learning styles of the multicultural diverse. *Emergency Librarian*, 20(4), 24-32.
- Dunn, R., & Griggs, S. A. (2000). *Practical approaches to using learning styles in higher education*. Westport: Greenwood Publishing Group.
- Egbert, J., & Thomas, M. (2001). The new frontier: A case study in applying instructional design for distance teacher education. *Journal of Technology and Teacher Education*, 9(3), 391-405.

- Ehrman, M., & Oxford, R. (1990). Adult language learning styles and strategies in an intensive training setting. *The Modern Language Journal*, 74, 311-327.
- Ellis, R. (1989). Classroom learning styles and their effect on second language acquisition: a study of two learners. *System*, 17, 249-262.
- Faculty of Education. (2009). ICT and Educational Reform. Retrieved 3 August, 2015, from <http://gilfkaevarity.wordpress.com>
- Gagne, R., Briggs, L., & Wager, W. (1992). *Principle of instructional design*: Fort Worth: Harcourt, Brace, Jovanovich College Publishers.
- Gay, L. R., & Airasian, P. W. (2003). *Educational research* (6th ed.). New Jersey: Prentice Hall.
- Grasha, A. F. (1996). *Teaching with style*. Pittsburgh: PA:Alliance.
- GreacenAssociates. (2007). *Guideline for the Use of Focus Group*. California: State Justice Institute.
- Grier, A. S. (2005). Integrating needs assessment into career and technical curriculum development. *Journal of Industrial Teacher Education*, 42, 59-66.
- Harman, K., & Koohang, A. (2005). Discussion Board: Learning Object. *Interdisciplinary Journal of Knowledge and Learning Object*, 1, 67-77.
- Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E. (1996). *Instructional media and technologies for learning* (5th ed.). New Jersey: Prentice-Hall.
- Hennink, M. M. (2007). *International focus group research: A handbook for the health and social sciences*. Cambridge: Cambridge University Press.
- Hubackova, S., & Ruzickova, M. (2011). Experience in Foreign Language with ICT Support. *Procedia Computer Science*, 3, 5.

- James, W. B., & Gardner, D. L. (1995). Learning styles: Implications for distance learning. *Journal Articles*, 67, 19-31.
- Jeral, K. M. (2010). *The Influence of Visual, Auditory, and Kinesthetic Learning Opportunities*. (Master of Science in Education), Southwest Minnesota State University.
- Kaewpet, C. (2009). A Framework for Investigating Learner Needs: Needs Analysis Extended to Curriculum Development. *Foreign Language Teaching*, 6(2), 209-220.
- Kaur, S. (2007). ESP COURSE DESIGN: MATCHING LEARNER NEEDS TO AIMS. *English For Specific Purposes World Journal*, 14(1).
- Khamkhen, A. (2012). Demystifying Thai EFL learners' perceptual learning style preferences. *3L: Language, Linguistics, Literature*, 18(1), 61-74.
- Kinsella, K. (1995). Understanding and empowering diverse learners in ESL classrooms. In J. M. Reid (Ed.), *Learning styles in the ESL/EFL classroom*. Boston: Heinle & Heinle
- Kocoglu, Z. (2009). Exploring the Technological Pedagogical Content Knowledge of Pre-service Teachers in Language Education. *Procedia Social and Behavioral Sciences*, 1, 4.
- Kolb, D. A. (1985). *Learning style inventory: self-scoring test and interpretation booklet*. Boston: McBer and Company.
- Koohang, A. (2004). A study of users' perceptions toward e-learning courseware usability. *International Journal on E-Learning*, 3(2), 10-17.

- Koohang, A., & Harman, K. (2005). Open source: A metaphor for e-learning. *Informing Science: The International Journal of an Emerging Transdiscipline*, 8, 75-86.
- Kormos, J., Kontra, E. H., & Csolle, A. (2002). Language wants of English majors in a non-native context. *System*, 30, 517-542.
- Kraipet, K. (2011). Tablet and education for students in the 21st century. In R. U. University (Ed.).
- Kuachenghoy, K. (2010). *What Is Should Be Teachers' Role In IT Age?* Retrieved from <https://www.13nr.org/posts/375929>
- Laohacharatsang, T. (n.d.). C Teacher. Retrieved 3 August, 2015, from <http://sornorinno.blogspot.com/2010/09/c-c-teacher.html>
- LeBaron, J., & Bragg, C. (1994). Practicing what we preach: creating distance educational models to prepare teachers for the twenty-first century. *American journal of distance education*, 8, 5-19.
- Lefrancois, G. R. (2004). *Theories of human learning*. Beijing: Foreign Language Teaching and Research Press.
- Lepetit, D., & Cichocki, W. (2002). *Teaching languages to future health professionals: A needs assessment study*. In H.M. Long (Ed.) *Second language needs analysis*. Cambridge: Cambridge University Press.
- Long, M. H. (2005). *Second language needs analysis*. Cambridge: Cambridge University Press.
- Mackay, R., & Mountford, A. (1978). *English for Specific Purpose: a case study approach*. London: Longman.

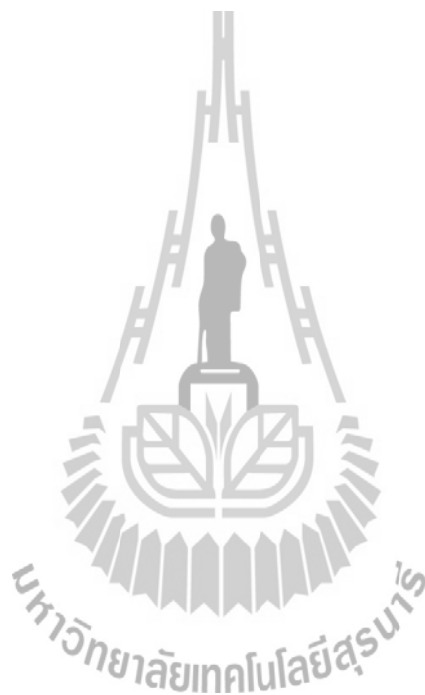
- Mahimaung, S. (2005). *A Study On Learning and Teaching English Problems in Rajabhat Institutes Elementary Demonstration Schools*. (Master), Rajabhat Suansunanta Institute, Bangkok.
- Mann, C. (1994). New technologies and gifted education. *Roeper Review*, 16, 172-176.
- Martin, A., & Rader, H. (2003). *Information and IT Literacy Enabling Learning the 21st Century*. London: Facet Publishing.
- Mckillip, J. A. (1987). *Need Analysis: Tools for the Human Service and Education*. Thousand Oaks, CA: Sage Publications.
- Minderhout, V. Identifying learner needs.
from http://www.pcrest3.com/fgb/efgb4/3/3_2_6.htm
- Ministry of Education. (2008). *Towards a learning society in Thailand*. Bangkok: Office of the Permanent Secretary.
- Ministry of Education. (2012). *Policies and strategies on Education Development of the Ministry of Education*. Bangkok: Federation of Agricultural Cooperatives of Thailand Publishing.
- Mokkaramunee, R. (2013). *Thai Teachers and ICT*. Paper presented at the The Conference of the Teachers Council of Thailand 2013, Thailand.
- Mupinga, D. M., Nora, R. T., & Yaw, D. C. (2006). The learning styles, expectation, and needs of online students. *College teaching*, 54 / No. 1, 185-189.
- Noessel, C. (2003). Identifying Learner Needs. from <http://www.interaction-ivrea.it/theses/2002-3/c.noessel/need.htm>
- Oxford, R. L. (2003). Language learning styles and strategies:an overview *Learning styles & strategies*.

- Pahey, S. (2011, November 24, 2011). Tablet for Education: The Opportunity and Challenge. from <http://www.addkutec3.com>
- Philp, R. (2008). Engaging the 'tween and teen brain. *Learning and the Brain*, 141-148.
- Porter, L. R. (2004). *Developing an Online Curriculum: Technologies and Techniques*. London: Idea Group Inc.
- Pothaworn, A. (2009). *A Study of Learning Styles of Indicators of Success of Rajamangala University of Technology Srivijaya Student for Calculus 2 Subject with Differences Mathematics Learning Achievement*. (Master Degree), Rajamangala University of Technology Srivijaya, Trang.
- Pothisuwan, C. (2005). *Adult education: Western philosophy and practice*. Bangkok: Kasetsart University.
- Prasertsang, T. (2009). *The Effect of Using E-learning Packages in English Subject Entitle Weather and Season for Pratomsuksa 5 Students of Sanambin School*. (Master), Khonkaen University, Khonkaen.
- Preawpairporn, S. (2011). The Role and Duty of Teachers. Retrieved 31 July 2015, from <https://www.gotoknow.org/posts/463906>
- Promsoud, K. (2010). *Using Multi-sensory Approach to Promote English Vocabulary Knowledge and Writing Ability of Prathom Suksa 5 Students*. (Master of Education), Chiang Mai University.
- Raenark, S. (2003). *The effects of learning styles on English achievement of mattayom suksa 5 students in the school under the department of general education, Petchabun*. (Master Degree), Rajabhat Institute Petchabun, Petchabun.

- Reid, J. M. (1987). The learning styles preferences of ESL students. *TESOL Quarterly*, 21, 87-111.
- Reid, J. M. (1995). *Understanding learning styles in ESL/EFL classroom*. New Jersey: Prentice Hall.
- Rouse, M. (2010, December 2010). Tablet PC.
from <http://searchmobilecomputing.techtarget.com/definition/tablet-PC>
- Ryan, T. E. (2014). *The Effect of Auditory Integration Training on the Working Memory of Adults with Different Learning Preferences*. (Doctor of Philosophy), Capella University.
- Akyel S, A., & Ozek, Y. (2010). A language needs analysis research at an English medium university in Turkey. *Procedia Social and Behavior Sciences*, 2, 969-975.
- Samawathdana, R. (2009). *A study of the needs, problems, and wants of students studying in the bilingual program at Winit Secondary School*. (Master Degree), Mahidol University.
- Sarasin, L. C. (1998). *Learning style perspective: Impact in the classroom*. Madison: Atwood Publishing.
- Seif, A. (2001). *Educational psychology: Learning and education*. Tehran: Agah.
- Skehan, P. (1991). Individual differences in second language learning. *Studies in Second Language Acquisition*, 13, 275-298.
- Sousa, D. A. (2006). *How the brain learns* Thousand Oaks: CA: Corwin Press.
- Srifa, P. (2011). *Tablet towards technology and information research : from theory to practice*. Paper presented at the Open the World of Tablet, Thaksin University.

- Strommen, E., & Lincoln, B. (1992). Constructivism, technology, and the future of classroom learning. *Educational and urban society*, 24, 466-476.
- Swanson, L. (1995). Learning styles: A review of the literature. In T. C. G. School (Ed.), *ERIC document reproduction service*.
- Tablet. (2011, March 10, 2011). from <http://www.techterms.com/definition/tablet>
- Taeporamasamai, S. (2008). *Problems and Needs in the Production and Use of Instructional Media of the English Language Teacher in the Lower Secondary Level, Amphoe Muang Changwat Khon Kaen*. (Master), Khon Kaen University, Khon Kaen.
- Tanyeli, N. (2009). The Efficiency of Online English Language Instruction on Students' Reading Skills. *Procedia*, 4.
- Thammabut, M. (2009, June 15, 2009). Learning Styles.
from <http://portal.edu.chula.ac.th/girl/blog/view.php?Bid=1245038152800790>
- Watson, W. R., & Watson, S. L. (2007). An Argument for Clarity: What Are Learning Management Systems, What Are They Not, and What Should They Become? *Tech Trends*, 51(2), 28-34.
- Wilkinson, S. (2004). Focus groups: A feminist method. *Feminist perspectives on social research*.
- Wintergerst, A. C., DeCapua, A., & Verna, M. A. (2003). Conceptualizing learning style modalities for ESL/EFL students. *System*, 31, 85-106.
- Witkin, B. R., & Altschuld, J. W. (1995). *Planning and Conducting Needs Assessments : A Practical Guide*. Thousand Oaks, CA: Sage Publications.
- Yang, S. C., & Chen, Y.-J. (2007). Technology-enhanced Language Learning: A case study. *Computers in Human Behavior*, 23, 20.

- Yassin, B. (2015). The Academic Effects of Learning Styles on ESL Students in Intensive English Language Centers. *ELT and Applied Linguistics*, 3(1), 17.
- Yunus, M. M., Hashim, H., Embi, M. A., & Lubis, M. A. (2010). The Utilizing of ICT in the Teaching and learning of English: Tell Me More. *Procedia*, 7.
- Zheng, Y. (2010). On needs analysis and college teaching in China *Journal of Language Teaching and Research*, 1, 477-479.



APPENDIX A



แบบสอบถามเรื่องรูปแบบการเรียนรู้



คำชี้แจง

ให้อ่านข้อความแต่ละข้อแล้วพิจารณาว่า ข้อความนั้นตรงกับพฤติกรรมของนักเรียนหรือไม่
ถ้าตรงให้ทำเครื่องหมาย ✓ ในช่องว่างหน้าหมายเลขข้อ

ตอนที่ 1

- ___ 1. ฉันสะดวกคำศัพท์ที่เรียนจากแท็บเล็ตได้
- ___ 2. ฉันชอบอ่านเรื่องในแท็บเล็ตมากกว่าชอบฟัง
- ___ 3. ฉันจดจำสิ่งที่เรียนจากแท็บเล็ตได้ ถ้าฉันนึกภาพสิ่งนั้นขณะเรียน
- ___ 4. เมื่อมีเวลาว่าง ฉันจะอ่านเรื่องต่าง ๆ ในแท็บเล็ต
- ___ 5. ฉันชอบเรียนทั้งจากภาพนิ่ง และภาพเคลื่อนไหวที่มีอยู่ในแท็บเล็ต
- ___ 6. เมื่อได้ฟังการสนทนาในแท็บเล็ต ฉันนึกภาพออกว่าพวกเขาคุยกันเรื่องอะไร
- ___ 7. ฉันจะจำได้ดีถ้าได้เขียน เต็มคำหรือตัวอักษร วาดหรือเลือกภาพให้ตรงกับเนื้อเรื่องที่เรียน
จากแท็บเล็ต



ตอนที่ 2

- ___ 1. ในการเรียนภาษาอังกฤษจากแท็บเล็ตนั้นฉันจะจำได้ดีที่สุดถ้าได้ฟัง
- ___ 2. เสียงดนตรีและเสียงเพลงในแท็บเล็ตทำให้ฉันเรียนรู้ได้ดีขึ้น
- ___ 3. ฉันปฏิบัติตามคำสั่งที่ได้ฟังจากแท็บเล็ตได้ดี
- ___ 4. ฉันจำในสิ่งที่ได้ยินจากแท็บเล็ตได้ดี
- ___ 5. ฉันชอบพูดคุยกับเพื่อนถึงสิ่งที่เรียนจากแท็บเล็ต
- ___ 6. ฉันจะเข้าใจได้ดีขึ้นถ้าได้อ่านออกเสียงตามที่ได้ยินในแท็บเล็ต
- ___ 7. ฉันเข้าใจเรื่องในแท็บเล็ตด้วยการฟังมากกว่าการอ่าน



- ___ 8. ถ้ามีการอธิบายภาพในแท็บเล็ตจะทำให้ฉันเข้าใจได้ดี
- ___ 9. ฉันชอบร้องเพลงหรือเปล่งเสียงออกมาเป็นจังหวะตามที่ได้ยินในแท็บเล็ตให้ตัวเองฟัง
- ___ 10. ถ้าฉันได้พูดกับเพื่อนหรือครูถึงเรื่องราวที่เรียนจากแท็บเล็ตฉันจะเข้าใจและทำกิจกรรมได้ดีขึ้น

ตอนที่ 3

- ___ 1. ฉันไม่ชอบนั่งนาน ๆ เพื่อเรียนจากแท็บเล็ต
- ___ 2. ฉันชอบเล่นเกมแก้ปัญหาต่าง ๆ ที่มีในแท็บเล็ต
- ___ 3. ฉันชอบให้มีกิจกรรมที่ต้องเคลื่อนไหวร่างกายจากการเรียนโดยใช้แท็บเล็ต
- ___ 4. ฉันชอบแสดงท่าทางหรือเคลื่อนไหวร่างกายเหมือนที่ได้เรียนจากแท็บเล็ต
- ___ 5. ฉันชอบเขียนหรือบันทึกสิ่งที่เรียนจากแท็บเล็ตลงในกระดาษหรือสมุด
- ___ 6. ฉันชอบกิจกรรมการเรียนโดยเคลื่อนไหวร่างกายมากกว่านั่งอ่านในห้องเรียน





Learning Styles Questionnaire

How Do I Learn?



Place a check (✓) in all blanks that describe you.

Part 1

- ___ 1. I can spell vocabularies from tablet.
- ___ 2. I like to read rather than listen from tablet.
- ___ 3. I can remember something I have learnt from tablet if I picture it in my head.
- ___ 4. When I have free time, I like to read from tablet.
- ___ 5. I like to learn with pictures and videos from tablet.
- ___ 6. When I listen conversation from tablet, I can understand what they are saying.
- ___ 7. I can remember better when I write, fill word or letter in the blanks, draw or choose pictures I learn from tablet.



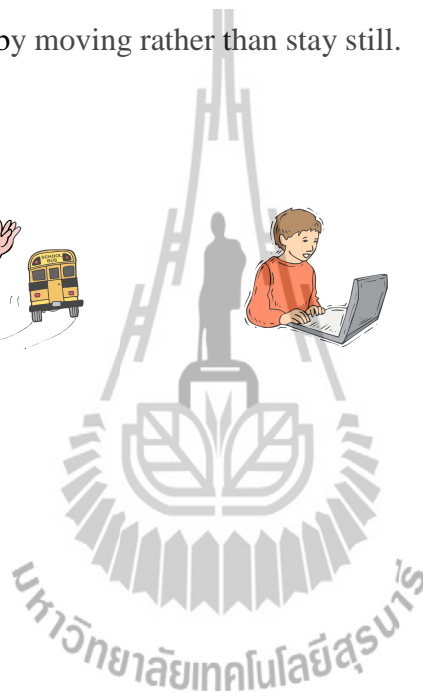
Part 2

- ___ 1. In learning English with tablet I remember best if I hear something.
- ___ 2. Songs and music from tablet help me learn things better.
- ___ 3. I can follow direction from tablet well.
- ___ 4. I can easily remember when I listen from tablet.
- ___ 5. I like to talk to my friends about what I learn from tablet.
- ___ 6. I understand better when I read out loud.
- ___ 7. I understand from listening rather than reading
- ___ 8. It helps when teacher explains pictures in tablet for me.
- ___ 9. I like to sing or hum what I learn from tablet.
- ___ 10. I remember better if I talks to friends or teacher what I learn from tablet.



Part 3

- ___ 1. It is hard for me to sit for a long time to learn from tablet.
- ___ 2. I like putting together puzzles.
- ___ 3. I like movement activities in learning from tablet.
- ___ 4. I like to act things out to show what I learn from tablet.
- ___ 5. I like to write or note what I learn from tablet.
- ___ 6. I like to learn by moving rather than stay still.



APPENDIX B

Learner Needs Questionnaire

Put ✓ in a box that match your needs.

☺ = need

☹ = may be

☹ = don't need

Needs	Need Level		
	☺	☹	☹
<u>1. Subject Matter</u>			
1.1 Contents create from the familiarity of students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Contents and words with images and animations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 Contents with images.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4 Contents present in cartoon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5 Contents narrate in Thai language.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6 Contents describe in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7 Contents with sound effect.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8 Dark letters.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.9 Colorful letters.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.10 Contents end up with games and activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Needs	Need Level		
	☺	☹	☹
<u>2. Language Skills</u>			
2.1 With sound in every word/sentence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2 Native speaker sound	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3 Listening activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4 Pronunciation as listening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5 Self-reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6 Reading activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7 Writing activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>3. Technical know-how</u>			
3.1 Tablet PCs self-using	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2 Explain the next step	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3 Quick response tablet PCs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4 Activated multi-pages once	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>4. Physical Abilities</u>			
4.1 Instruction to move body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2 Practical activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3 Instruction to work with friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

แบบสอบถามเรื่องความต้องการของผู้เรียนในการเรียนภาษาอังกฤษจากแท็บเล็ต

คำชี้แจง ให้นักเรียนใส่เครื่องหมาย ลงในช่อง ที่ตรงกับความต้องการของนักเรียน



หมายถึง ต้องการ




หมายถึง เฉย ๆ



หมายถึง ไม่ต้องการ

รายการการประเมิน	ระดับความต้องการ		
1. ด้านเนื้อหา (Subject Matter)			
1.1 เนื้อหาเป็นเรื่องราวใกล้ตัว เช่น ครอบครัว โรงเรียน	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 มีภาพนิ่งและภาพเคลื่อนไหวประกอบคำศัพท์และเนื้อเรื่อง	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 เป็นภาพจริง	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4 เป็นภาพการ์ตูน	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5 มีเสียงอธิบายเป็นภาษาไทย	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6 มีเสียงอธิบายเป็นภาษาอังกฤษ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7 มีเสียงอื่น ๆ ประกอบเนื้อเรื่อง	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8 ตัวอักษรสีเข้ม	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.9 ตัวอักษรสีสดใส	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.10 มีเกมหรือกิจกรรมท้ายเรื่อง	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

รายการการประเมิน	ระดับความต้องการ		
			
2. ด้านทักษะภาษา (Language Skills)			
2.1 มีเสียงให้ฟังทุกคำ ทุกข้อความ ทุกประโยค	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2 เป็นเสียงเจ้าของภาษา	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3 มีกิจกรรมจากการฟังเช่น เกม ตอบคำถาม	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4 ได้ออกเสียงตัวอักษร ศัพท์ ข้อความ ตามที่ได้ฟัง	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5 มีข้อความหรือเนื้อเรื่องให้อ่านเอง	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6 มีกิจกรรมจากการอ่าน เช่น เกม ตอบคำถาม	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7 มีกิจกรรมการเขียน เช่น เติมคำ เติมตัวอักษร เรียงประโยค	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. ด้านเทคนิคการใช้แท็บเล็ต (Technical know-how)			
3.1 นักเรียนใช้แท็บเล็ตเองได้ในทุกขั้นตอนตั้งแต่เริ่มต้นจนจบเนื้อหา	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2 มีการบอกวิธีการใช้ในขั้นตอนต่อไป	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3 แท็บเล็ตตอบสนองต่อการสั่งการรวดเร็ว	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4 แท็บเล็ตเปิดใช้งานได้หลายหน้าพร้อม ๆ กัน	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. ด้านทักษะทางร่างกาย (Physical Abilities)			
4.1 มีคำสั่งที่ต้องเคลื่อนไหวร่างกาย เช่น ยืน เดิน โบกมือ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2 มีกิจกรรมที่สั่งให้ปฏิบัติจริง เช่น วาดภาพ เขียนคำศัพท์	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3 มีกิจกรรมที่สั่งให้ปฏิบัติร่วมกับเพื่อน เช่น จับมือกัน กระโดด	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX C

Learner Needs Interview

Name.....

School.....

1. What topic/content do you want to learn about English?

1.1 Do you want to learn topic/content about yourself such as family, pets, school, etc? You can tell the topics you want to learn.

.....
.....
.....

1.2 Do you want to learn topic/content about history, space, etc? You can tell the topics you want to learn.

.....
.....

2. What characteristic of the topic/content do you want it to be? How are the picture and voice?

2.1 What kind of picture do you want to see ; real, cartoon, animation, etc.?

.....
.....

2.2 What kind of the voice you do you want to hear ;Thai’s voice, native speaker’s voice, with translation, any other sound?

.....
.....

2.3 What kind of the story do you want to learn ; short story, long story, tale, etc?

.....
.....

3. Would you like a story with activity? If yes, what kind of the characteristic?

3.1 Please describe an activity that you like.

.....
.....

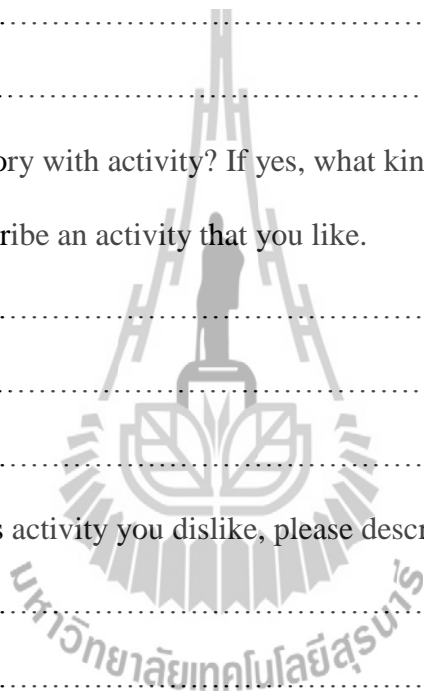
3.2 If tablet has activity you dislike, please describe it.

.....
.....

4. Do you understand English from the tablet?

4.1 How do you understand, you knew the words before, guessed from the picture, translation , etc?

.....
.....



4.2 Why didn't you understand, didn't know the words, hadn't heard the voice, etc?

.....
.....

5. Do you like to repeat the words and sentences from the tablet PCs? Do you want repetition activity? Why or why not?

.....
.....
.....

6. Would you like to practice speaking as in the tablet PCs?

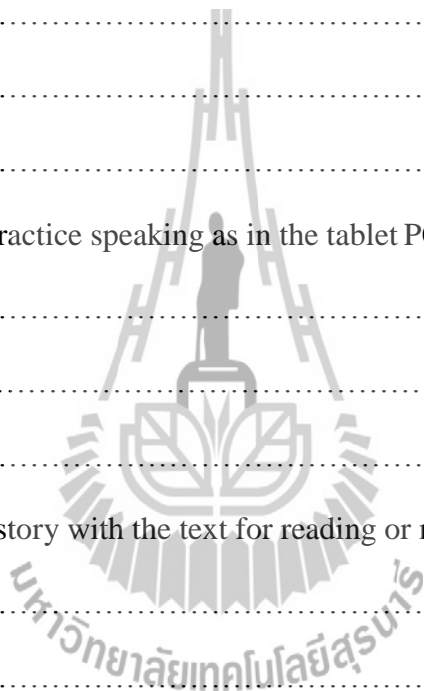
.....
.....
.....

7. Would you like the story with the text for reading or not?

.....
.....
.....

8. Do you want reading activity such as answer the questions, fill in the blanks, dictation, etc?

.....
.....
.....



9. Is the tablet easy to use?

9.1 Can you use it by yourself?

.....
.....

9.2 Was the tablet easy/difficult to turn on?

.....
.....

9.3 Could you find contents immediately?

.....
.....

9.4 At which step did you have to wait for long time?

.....
.....

10. Did the tablets work immediately after your order?

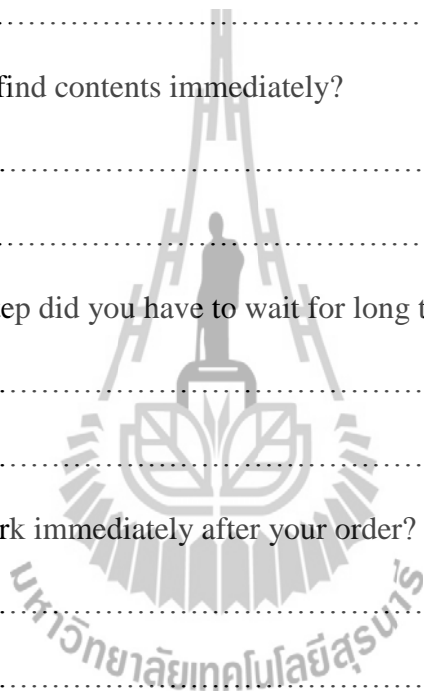
.....
.....

11. What characteristic of tablet would you prefer, larger monitor, louder sound, longer life battery, or anything else?

.....
.....
.....

12. Would you like body moving activity?

.....
.....



13. Would you like to work with friends such as group work, pairs work?

.....

.....

.....

14. Is there anything else that you like about tablet? Is there anything you want to be contained in the tablet?

.....

.....

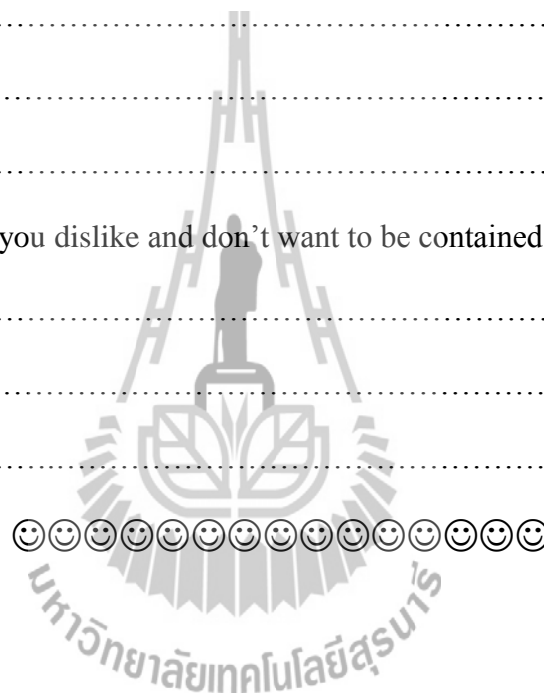
.....

15. Is there anything you dislike and don't want to be contained in the tablet?

.....

.....

.....



แบบสัมภาษณ์ความต้องการของนักเรียนชั้นประถมศึกษาปีที่ 1 ในการเรียนภาษาอังกฤษจากแท็บเล็ต

ชื่อ.....

โรงเรียน.....

1. นักเรียนอยากเรียนภาษาอังกฤษเกี่ยวกับเรื่องอะไรบ้าง

1.1 อยากเรียนเรื่องใกล้ตัว เช่น ครอบครัว โรงเรียน สัตว์เลี้ยง หรือเรื่องอื่น ๆ หรือไม่
ยกตัวอย่างให้ฟังได้หรือไม่ว่าอยากเรียนเรื่องอะไรบ้าง

.....

.....

.....

1.2 อยากเรียนเรื่องไกลตัว เช่น ประวัติศาสตร์ ดวงดาว หรือเรื่องอื่น ๆ หรือไม่ ยกตัวอย่าง
ให้ฟังได้หรือไม่ว่าอยากเรียนเรื่องอะไรบ้าง

.....

.....

.....

2. นักเรียนอยากให้เรื่องที่เรียนมีลักษณะอย่างไรบ้าง ภาพเป็นอย่างไร เสียงเป็นอย่างไร

2.1 อยากให้ภาพเป็นอย่างไร ภาพจริง ภาพการ์ตูน ภาพนิ่ง ภาพเคลื่อนไหว ฯลฯ

.....

.....

.....

2.2 อยากให้เสียงเป็นอย่างไร เป็นเสียงคนไทย เสียงเจ้าของภาษา มีคำแปลเป็นภาษาไทย
ทุกคำ มีเสียงประกอบอื่น ๆ ฯลฯ

.....

.....

.....

2.3 อยากให้เนื้อเรื่องเป็นอย่างไร เนื้อเรื่องสั้น เนื้อเรื่องยาว เป็นนิทาน เป็นเรื่องจริง ฯลฯ

.....

.....

.....

3. อยากให้เนื้อเรื่องที่เรียน มีกิจกรรมหรือไม่ ถ้ามี กิจกรรมลักษณะอย่างไร

3.1 กิจกรรมที่นักเรียนชอบมีลักษณะอย่างไร

.....

.....

.....

3.2 กิจกรรมที่นักเรียนไม่ชอบมีหรือไม่ เป็นอย่างไร

.....

.....

.....

4. นักเรียนเข้าใจภาษาอังกฤษที่ได้ฟังจากเทปเส็ตหรือไม่

4.1 เข้าใจเพราะอะไร เพราะรู้จักคำนั้นมาก่อน คาดเดาจากภาพ มีคำแปลให้ฟังหรืออ่าน
คาดเดาจากเรื่องที่ฟัง ฯลฯ

.....

.....

.....

4.2 ไม่เข้าใจเพราะอะไร ไม่รู้จักคำหรือประโยคนั้น ไม่คุ้นกับสำเนียงพูดที่ได้ยิน ฯลฯ

.....

.....

.....

5. นักเรียนชอบออกเสียงตามคำหรือประโยคที่ได้ยินจากแท็บเล็ตหรือไม่ อยากให้มีกิจกรรมออกเสียงตามหรือไม่ อยากให้มีเพราะอะไร ไม่อยากให้มีเพราะอะไร

.....

.....

.....

6. นักเรียนอยากฝึกพูดเหมือนที่ได้ยินจากบทเรียนในแท็บเล็ตหรือไม่

.....

.....

7. นักเรียนอยากให้มีเนื้อเรื่องให้อ่านหรือไม่

.....

.....

8. นักเรียนอยากให้มีกิจกรรมจากการอ่านหรือไม่ เช่น ตอบคำถาม เติมคำ เขียนคำศัพท์

.....

.....

.....

9. แท็บเล็ตใช้ง่ายหรือไม่

9.1 นักเรียนสามารถใช้ได้ด้วยตนเองหรือไม่

.....

.....

9.2 ตอนเปิดเครื่องเป็นอย่างไร

.....

.....

9.3 เจอเนื้อเรื่องเร็วหรือไม่

.....

.....

9.4 ต้องรอในขั้นตอนใดนาน ๆ หรือไม่

.....

.....

.....

10. แท็บเล็ตทำตามคำสั่งของนักเรียนได้รวดเร็วหรือไม่

.....

.....

.....

11. นักเรียนอยากให้แท็บเล็ตมีลักษณะเป็นอย่างไรบ้าง เช่น จอใหญ่กว่านี้ มีปุ่มคำสั่งมากหรือน้อยกว่านี้ เสียงดังมากกว่านี้ ใช้ได้นานมากกว่านี้ ฯลฯ

.....

.....

.....

.....

12. นักเรียนอยากให้มิกิจกรรมที่ต้องเคลื่อนไหวร่างกายหรือไม่ เช่น มิกิจกรรมที่สั่งให้ลุก ยืน เดิน

.....

.....

.....

13. นักเรียนอยากให้มีกิจกรรมที่ต้องทำกับเพื่อนหรือไม่ เช่น จับคู่กันทำงาน เล่นเกมเป็นกลุ่ม

.....

.....

.....

.....

14. มีเรื่องอื่น ๆ ที่ชอบและอยากให้มีในแท็บเล็ตในวิชาภาษาอังกฤษที่อยากจะบอกคุณครูอีกหรือไม่

.....

.....

.....

.....

15. มีอะไรที่ไม่ชอบและไม่อยากให้มีในแท็บเล็ตในวิชาภาษาอังกฤษที่อยากจะบอกคุณครูหรือไม่

.....

.....

.....

.....



CURRICULUM VITAE

Ampanida Pakarat was born in Udonthani on September 6, 1970. She received B.Ed. (Elementary Education) from Srinakarinwirot Maharakham University, Thailand in 1991, and M.A. degree in the same field from Khon Kaen University, Thailand, in 1996. She has been teaching at Ban Makkhang School since 2009. Her research interest includes educational technology enhance learning and tablet PCs.

