A Study of the Use of ICT Blended Instruction

in the Teaching of English in a Thai University

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Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying subject to the provisions of the Copyright Act 1968.

I hereby certify that the work embodied in this dissertation is the result of original research, the greater part of which was completed subsequent to admission to candidature for the degree.

Duangkamol Campbell

(Signed): ............................................. (Candidate)

Date: February, 2015
Dedication

First of all I would like to dedicate this work to my family, Sisaket Rajabhat University and the University of Newcastle.

Next I would like to dedicate this work to Assistant Professor Kanok Tosurat, Assistant Professor Dr. Prakasit Anupabsandyagon, Dr. Asana Chedchoo, Dr. Lamyai Singsook, Taweewat Kanta, Gary Don Campbell, John Revington, Dr. Margaret Freestone, Graeme Murray and Renee Dorricott.

Finally, I dedicate this work to the Thai and Australian governments for helping me to accomplish my dream of helping others through education and self-improvement.
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# Table of Contents

Declaration .................................................................................................................................................. ii

Dedication .................................................................................................................................................. iii

Acknowledgements ...................................................................................................................................... iv

Table of Contents ....................................................................................................................................... v

List of Tables .............................................................................................................................................. xii

List of Figures ............................................................................................................................................. xiv

Definition of Key Terms .............................................................................................................................. xiv

Abstract ...................................................................................................................................................... xvi

CHAPTER ONE – AN INTRODUCTION TO THE RESEARCH .............................................................................. 1

1.1. Background ........................................................................................................................................... 1

1.2. Rationale for the Study .......................................................................................................................... 4

1.3. Problems of Teaching English in Thailand .......................................................................................... 8

1.3.1 Educational structure ......................................................................................................................... 9

1.3.2 Pedagogy ......................................................................................................................................... 10

1.3.3 Culture ........................................................................................................................................... 12

1.3.4 Instructor preparation ....................................................................................................................... 13

1.3.5 Students ......................................................................................................................................... 15

1.4. Purpose of the Study ............................................................................................................................ 18

1.5. Further Contextual Factors and Implications ..................................................................................... 20

1.5.1 Implications and impacts of the 1999 National Education Act ....................................................... 21

1.5.2 Education administration and management reform ........................................................................... 23

1.5.3 Academic management and teaching organisation ........................................................................... 24

1.5.4 Quality assurance ............................................................................................................................. 26

1.6. Structure of the Study .......................................................................................................................... 28

1.7. Summary ............................................................................................................................................ 29

CHAPTER TWO – LITERATURE REVIEW ................................................................................................. 30
2.1. Introduction..................................................................................................................30

2.2. Teaching English as a Foreign Language (EFL) in Thailand’s Higher Education System.................................................................31
  2.2.1 Globalisation and education ..............................................................................33
  2.2.2 The need for student-centred learning ..............................................................35
  2.2.3 ICT as part of the education system ..................................................................36

2.3. Students’ Participation .............................................................................................38
  2.3.1 Constructivist theory .........................................................................................38
  2.3.2 The language learning process .........................................................................39
  2.3.3 Learning environments .....................................................................................41
  2.3.4 The impact of ICT use on language learning ....................................................43

2.4. Students’ Attitudes ..................................................................................................44
  2.4.1 The definition of attitude ..................................................................................45
  2.4.2 Students’ attitudes toward ICT .........................................................................45
  2.4.3 Students’ attitudes toward learning achievement ...............................................46

2.5. Blended Learning.....................................................................................................47
  2.5.1 Background and definition of blended learning ................................................47
  2.5.2 Blended learning pedagogy ..............................................................................48
  2.5.3 The framework of blended learning ..................................................................49
  2.5.4 Current trends and issues affecting blended learning .......................................50
  2.5.5 The advantages of using ICT-based blended instruction ..................................51
  2.5.6 The disadvantages of using ICT-based blend learning .....................................56

2.6. Addressing the Gap: Why ICT blended instruction is necessary in Thailand ........61

2.7. Summary..................................................................................................................63

CHAPTER THREE - RESEARCH METHODOLOGY .........................................................64
3.1. Introduction..............................................................................................................64
3.2. Research Questions ..............................................................................................65
3.3. Study Procedures..................................................................................................65
4.2.3 Comparisons of the six major programs in English learning achievement.........................97
4.2.4 Comparison of gender in English language achievement............................................105
4.2.5 Summary of students’ English learning achievements .............................................115

4.3. Classroom Participation .........................................................................................116
   4.3.1 Quality of pedagogy related to students .................................................................117
   4.3.2 Quality of ICT used by students .............................................................................118
   4.3.3 Quality of pedagogy related to instructors ...............................................................120
   4.3.4 Quality of ICT used by instructors ..........................................................................120
   4.3.5 Summary of classroom participation .......................................................................121

4.4. Students’ Attitude from the Attitude Survey..............................................................121
   4.4.1 Pre-course/post-course attitude towards learning English ......................................122
   4.4.2 Students gender/ Attitude toward learning English ................................................123
   4.4.3 Major programs / Attitude toward learning English ...............................................125
   4.4.4 Results of open-ended attitude survey ....................................................................126
   4.4.5 Summary of the attitude survey ..............................................................................130

4.5. Summary..............................................................................................................131

CHAPTER FIVE – RESULTS: QUALITATIVE DATA .........................................................136

5.1. Introduction...........................................................................................................136

5.2. English Learning Achievement .............................................................................136
   5.2.1 Comparisons of the F-to-F and BL groups ..........................................................137
   5.2.2 Comparison of the major programs .......................................................................139
   5.2.3 Comparison of male and female students .............................................................140
   5.2.4 Summary of English learning achievement .........................................................141

5.3. Classroom Participation .......................................................................................142
   5.3.1 Quality of pedagogy related to students .................................................................143
   5.3.2 Quality of ICT used by students .............................................................................153
   5.3.3 Quality of pedagogy related to instructors .............................................................158
   5.3.4 Quality of ICT used by instructors ..........................................................................160
5.3.5 Summary of classroom participation ................................................................. 162

5.4. Student Attitudes Attained from Semi-structured Interviews ............................. 162

5.5. Summary ............................................................................................................... 174

CHAPTER SIX – DISCUSSION .................................................................................. 176

6.1. Introduction .......................................................................................................... 176

6.2. Question 1: Does the use of ICT blended instruction affect Students’ English Learning Achievements? ................................................................. 176

6.2.1 Comparison of F-to-F and BL groups in English learning achievement .......... 177

6.2.2 Comparison of the six major programs in English learning achievement .......... 177

6.2.3 Comparison of student’s gender and English language achievement .............. 179

6.2.4 Conclusion on students’ English learning achievement .................................. 180

6.2.5 Consistency of findings on English learning achievement ............................... 181

6.2.6 Contrasting the findings between F-to-F and BL groups in English learning achievement .............................................................................................................. 183

6.3. Question 2: Does the use of ICT blended instruction affect Students’ Classroom Participation, What are the Observable Differences between Students who used ICT blended instruction and those that did not? ........................................ 184

6.3.1 Quality of pedagogy related to students ............................................................ 185

6.3.2 Quality of ICT used by students ........................................................................ 187

6.3.3 Quality of pedagogy related to instructors ......................................................... 189

6.3.4 Quality of ICT used by instructors ..................................................................... 190

6.3.5 Conclusion on classroom participation ............................................................. 191

6.3.6 Consistency of findings on classroom participation .......................................... 192

6.3.7 Contrasting findings on classroom participation ............................................... 203

6.4. Question 3: Does ICT Blended Instruction affect Students’ Attitudes toward Learning English? ...................................................................................... 206

6.4.1 Comparison of pre-survey and post-survey attitudes towards learning English through ICT blended instruction ................................................................. 206

6.4.2 Comparison of major programs on attitudes toward learning English through ICT blended instruction ............................................................................................................................. 211
6.4.3 Comparison of student genders on attitudes toward learning English through ICT blended instruction ................................................................. 213
6.4.4 Conclusion on students’ attitudes towards learning English through ICT blended instruction .................................................................................. 214
6.4.5 Consistency of findings on students’ attitudes toward learning English through ICT blended instruction ................................................................. 215
6.4.6 Contrasting of findings on students’ attitudes toward learning English through ICT blended instruction ................................................................. 217

6.5. Summary ................................................................................................................................. 219

CHAPTER SEVEN - CONCLUSION AND IMPLICATIONS ................................................................. 221

7.1. Introduction .......................................................................................................................... 221

7.2. Blended Learning ................................................................................................................ 222

7.3. Discussion and Implications: the Value of the Research Findings for Entities and Individuals involved in Teaching EFL Pedagogical Practice and for Education Policy. 230

7.3.1 The value of the research findings for teaching EFL pedagogical practice ...................... 232

7.3.2 Implications for policy and practice .................................................................................. 236

7.4. The Value of the Research Findings with regard to Rural Thai Universities’ ICT Implementation Policy ................................................................................................. 240

7.4.1 The importance of this research to pedagogy – improving the learning of English as a foreign language in rural Thai universities ............................................................. 241

7.4.2 The value of the research findings to ICT policies of rural Universities in North-eastern Thailand ......................................................................................... 247

7.4.3 The value of the research findings to Instructors in rural Universities of North-eastern Thailand ......................................................................................... 250

7.5. The Identified Limitations of this Research ........................................................................ 253

7.5.1 Time frame ....................................................................................................................... 253

7.5.2 Standardised TOEIC Testing ......................................................................................... 254

7.5.3 Sample choice .................................................................................................................. 255

7.5.4 An observer ...................................................................................................................... 255

7.6. Recommendations for EFL Pedagogy and Future Research ............................................. 255

7.7. Concluding Remarks .......................................................................................................... 260

REFERENCES ............................................................................................................................. 262
APPENDICES .................................................................................................................. 285

Appendix A: A survey of students’ attitudes towards ICT blended instruction .............. 285
Appendix B: Classroom Observation .............................................................................. 291
Appendix C: Semi-structured Interview ...................................................................... 295
Appendix D: Criteria for evaluating course websites .................................................. 296
Appendix E: SCALES for Assessment Students’ Attitude ............................................. 298
Appendix F: Research Time Line .................................................................................. 301
Appendix G: Descriptive Statistics of Evaluating Website ............................................ 302
Appendix H: The comparison between pre-test and post-test scores of the F-to-F and BL Groups ............................................................................................................ 304
Appendix I: Multiple Comparisons between Major Programs on Total Pre-Test Scores 305
Appendix J: The Comparisons of Six Major Programs in Pre-Test Scores ................. 307
Appendix K: The Comparisons of Six Major Programs in Post-Test Scores ............... 308
Appendix L: Multiple Comparisons between Major Programs in Total Post-Test ...... 309
Appendix M: Multiple Comparisons between the Six Major Programs in the Change of Mean Scores ............................................................................................................ 310
Appendix N: Monthly Visitors of the Course Website ................................................ 311
Appendix O: Research instruments in Thai .................................................................... 312
Appendix P: The print screens of the course website .................................................... 321
Appendix Q: Pre-test and post-test items ...................................................................... 331
Appendix R: Lesson plans ............................................................................................ 332
Appendix S: Student interview responses .................................................................... 334
Appendix T: Student responses to the open-ended attitude questionnaires ............... 335
Appendix U: Research field notes ................................................................................ 336
List of Tables

Table 3.1  Major Program/ Student gender  67
Table 3.2  Research Design  69
Table 3.3  Research Variables  70
Table 4.1  The Comparison of Pre-test Scores between F-to-F and BL groups  93
Table 4.2  The Comparison of Post-test Scores between F-to-F and BL groups  94
Table 4.3  The Comparison of Change in Mean Scores of each Skill between F-to-F Groups and BL  96
Table 4.4  Summary of Multiple Comparisons between Major Programs on Total Pre-Test Scores  98
Table4. 5  Summary of the Comparisons of Six Major Programs in Pre-Test Scores  99
Table 4.6  The Comparison of the six Major Programs Total Pre-test Scores  100
Table 4.7  The Comparisons between Majors Programs Total Test Scores  103
Table4. 8  The Comparison between Major Programs Change in Means Scores  104
Table 4.9  The Comparison of Pre-test Scores and Students Gender  106
Table 4.10  The Comparison of Post-test Scores and Students Gender  107
Table 4.11  The Comparisons of Students’ Gender Regarding the Change in Mean Scores  108
Table 4.12  The Comparison of Pre-test Scores of Male Students between F-to-F and BL Groups

Table 4.13  The Comparison of Post-test Scores of Male Students between the F-to-F and BL Groups

Table 4.14  The Comparison of Male Students Change in Means Score

Table 4.15  The Comparison of Female Students of F-to-F and BL groups Pre-Test scores

Table 4.16  The Comparison of Female Students between F-to-F and BL Groups of Post-test Scores

Table 4.17  The Comparison of Female Students Change in Mean Score

Table 4.18  Comparison of pedagogy related to students of F-to-F and BL Groups

Table 4.19  Comparison of ICT used by student of F-to-F and BL Groups

Table 4.20  Comparison of pedagogy related instructors of F-to-F and BL Groups

Table 4.21  The Comparison of ICT used by Instructors of F-to-F and BL Groups

Table 4.22  Pre-survey/Post-survey Attitude toward Learning English through ICT – based Blended Learning

Table 4.23  Students’ Attitude toward Learning English through ICT – based Blended Learning/ Students gender

Table 4.24  Students’ Attitude toward Learning English through ICT – based Blended Learning/ Major Programs

Table 4.25  Skills Students have Improved

Table 4.26  The Advantage of Learning English through ICT – based Blended Learning
Table 4.27 The Disadvantages of Learning English through ICT – based Blended Learning

Table 4.28 Students’ Suggestions of Learning English through ICT – based Blended learning

List of Figures

Figure 3.1 Visitor Tracking

Definition of Key Terms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description/ Glossary</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL</td>
<td>ICT blended instruction (blended learning): online learning combined with F-to-F traditional class teaching methods</td>
</tr>
<tr>
<td>BL instructor</td>
<td>Instructor or lecturer who taught in BL class</td>
</tr>
<tr>
<td>EFL</td>
<td>English as a foreign language: English being learned as a Foreign Language where there is little or no access to English in the community at large of the learner.</td>
</tr>
<tr>
<td>ESL</td>
<td>English as a second language: English being learned by a student with another first language, within a community where English is the general first language.</td>
</tr>
<tr>
<td>ETS</td>
<td>Educational Testing Service</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and communication technologies is used predominantly to describe computer-based or computer-related devices and other devices that may be used for information and communication purposes (e.g. computer, mobile phone, IPad, talking dictionary)</td>
</tr>
</tbody>
</table>
F-to-F  Face-to-Face: Traditional class, based on textbooks and lectures within a conventional classroom

F-to-F instructor  Instructor or lecturer educating the traditional face to face class

M  Mean

NECTC  National Electronics and Computer Technology Center

ONESQA  Office for National Education Standards and Quality Assessment

SD  Standard Deviation

SPSS  Statistical Package for the Social Sciences, Version 18

SSKRU  Sisaket Rajabhat University

TOEIC  Test of English for International Communication, administered by ETS (Educational Testing Service) used to measure a student’s ability to use everyday English in an international workplace environment
Abstract

Due to economic, vocational and educational changes resulting from globalization, Thailand has acknowledged the need to prepare its people to cope with the changing world and competition in the global market place. Under the Thai National Education Act, the Thai government launched a series of educational reforms with the aim of developing Thailand into a knowledge-based society. One of these reforms focuses on using information and communication technologies (ICT) in the educational system. In addition, the government also encourages students to acquire knowledge and skills in English language and educational technologies to promote life-long learning skills.

The aim of this study is to evaluate the effectiveness of introducing ICT into the compulsory, first year English syllabus in Thai higher education through Blended Learning pedagogy. This researcher seeks to advance Thai university students’ English achievement through a greater understanding of the influence of ICT and its impact on students’ English language achievement, students’ participation within English classes and student attitudes towards learning English. The use of ICT blended instruction may provide Thai students with more modern - or less traditional pedagogy than is currently used. This study investigates the expansion of the range of texts and contexts through which these students may experience and subsequently learn English.

This mixed method study was conducted using a pre-test, post-test design. Participants were 278 students attending a rural University in North-eastern Thailand, who were arranged into blended learning and face-to-face classes. A course web site was developed for course instruction. This site and social network tools such as Skype, Twitter and Facebook were utilised by the blended learning class for communications and language acquisition. Data was collected from the pre-test and post-test instruments, class room observation check lists, questionnaires, semi-structured interviews and researcher’s field notes in order to compare ICT blended instruction and traditional face to face instruction.

Results of the data analysis revealed ICT blended instruction as showing a significant, positive difference in student’s English learning achievement when compared with the English learning achievement of students participating in traditional F-to-F classes.
Furthermore, this study establishes that ICT blended instruction can affect a significant, positive difference in student’s behavioural participation within the classroom when compared with student’s behavioural participation within the traditional F-to-F classroom. Finally, this research has identified a significant, positive difference in students’ attitude after learning English through ICT blended instruction.

Positive outcomes in learning achievement, participation and student attitude reveal the value ICT blended instruction may afford to the teaching of English language within Thailand. These encouraging results for English pedagogy may be directly transferable to the pedagogy of other academic spheres within Thai education and may inspire further investigation in these directions. As identified by the Thai government through the National Education Act, English language and ICT skills are steps toward a knowledge-based society; advances in the delivery of these skills to the population will potentially benefit an entire Nation. This study also recognises the essential requirement for ICT proficient instructors in order to transfer these skills to the populace. The positive outcomes observed in this study may fortify administrators resolve in implementing English language and ICT policy and encourage educators to pursue additional training in ICT enhanced education and contemporary, blended pedagogy.
CHAPTER ONE – AN INTRODUCTION TO THE RESEARCH

1.1. Background

As a consequence of economic changes resulting from globalisation, Thailand realised the need to prepare its people to cope with progress and competition in the global marketplace. Under the Thai National Education Act 1999 and major policies developed by the National Information Technology Commission, the Thai government launched a series of educational reforms with the aim of developing a knowledge-based society (Wiriyachitra, 2001). The Thai National Education Act aimed to implement a transition from instructor-centred to learner-centred instruction for all subjects including the compulsory Basic English unit, which is studied by all first year university entrants (National Electronics and Computer Technology Center [NECTC], 2011). Another of these reforms focused on developing and harnessing information and communication technologies for the advancement of the educational system (Chetchumlong, 2010; Phornphacharaphong, 2012). This shift was associated with an investment in improving English communication standards to meet the needs of globalisation (Kripanont & Tatnall, 2011). Thai educational policy is based on the belief that proficiency in English and competence in the use of information and communication technology will prepare the Thai workforce for engaging broadly in the global economy (Banados & Jauregi, 2008; Charungkaitikul, 2011).

The Thai government’s policies aim to encourage students to acquire skills in English and educational technologies in order to enable them to search for knowledge and achieve their lifelong learning potential (Bacsich & Salmon, 2010; Kanthawongs & Kanthawongs, 2013; Wing & Pratt, 2013). Lifelong learning should be an important agenda for the curriculums of schools of the future (Klamma, Chatti, & Duval, 2007). Educational
institutions should prepare students not just to pass examinations but also to be life-long learners as learning often occurs outside of formal education institutions. Sustainable education is driven by a broad understanding of education and learning that includes people of all ages and backgrounds and at all stages of life (Stracke, 2013). It takes place within all possible learning spaces, formal and informal – in schools, workplaces, homes and communities (Commonwealth of Australia, 2010). Lifelong learning refers to post-education or continued education offered to people in the workforce (Commonwealth of Australia, 2010). The National Information Technology Commission’s ICT 2011–2020 policy framework for Thailand’s telecommunications development involves the integration of broadband to help advance education reforms, social interaction, economic development and environmental awareness (NECTC, 2011; Pavasajjanant, 2014).

School curricula should move from being heavily reliant on timetables, syllabuses, and lesson plans to relationships between learning at school and learning in non-school contexts. Attention should be given to the process of adjusting to the non-school environment of everyday life after leaving the education system (Gates, McCambridge, Smith, & Foxcroft, 2009). Similarly, citizens of the 21st century must also be prepared for lifelong learning because learning is no longer confined to institutional contexts. Hence, educational outcomes leading to wellbeing in the knowledge economy are different to those of the industrial age and should encompass high-order cognitive, affective, and social skills (Kirtikara, 2010; Siritongthawon, Donyaprueth, & Dimmitt, 2006). A number of projects have been conducted to develop descriptions and frameworks for students’ success in the knowledge economy, and to emphasise the importance of Information and Communication Technology (ICT) skills (Law, Pelgrum, & Plomp, 2008; Prapaisit & Hardison, 2009). The role of ICT is envisaged not simply as a technical skill or as a means of improving learning
effectiveness, but also as a way of transforming the goals and processes of education (McMillan, 2008).

A number of researchers have supported the implementation of innovative computer technologies in the area of teaching English as a foreign language/second language (EFL/ESL). Several of these studies observed that language students and instructors at most academic levels are being encouraged to use ICT techniques in their learning and teaching (Chetchumlong, 2010; Garrison & Kanuta, 2004; Shin, 2011; Tantrakul, 2000; Vonganusith, 2008).

Similarly, Kajder (2003) and Suwannasom (2010) noted that progressively more face-to-face (F-to-F) courses in science, mathematics and English are being successfully taught through the integration of ICT. Mature aged students at university level are engaging in online learning, and have demonstrated satisfactory attitudes toward ICT (King, 2002). In relation to language acquisition and the relationship between the utilisation of ICT and students’ achievement, other studies Sturken and Cartwright (2001), and Tamrackitkun (2010) reveal that students’ reading achievements improved when ICT was used to assist them to develop language skills. Zhang, Shelley, and Heshan (2008), Kajder (2003), and Nykvist (2008) have found that the use of ICT produced positive effects on students’ language achievement. Therefore, based on previous studies, it appears that technology is a powerful tool for enhancing students’ learning outcomes but technology should not replace F-to-F teaching. Instead, it should be implemented and treated as a complementary teaching aid.

The lack of research on ICT blended instruction (BL) in Thailand supports this study of a course website and the implementation of ICT blended instruction for teaching
English as a foreign language in a Thai university. Blended learning is learning which combines traditional F-to-F classroom methods with computer-mediated activities. In this study’s context, it is important to note that, for tertiary English courses where class sizes are large, ICT may, at minimal cost, provide students with access to nationwide and worldwide resources, support student-centred learning and increase interaction and broaden communication opportunities. With these potential advantages, there is a strong argument to investigate whether ICT blended instruction enhances first year Thai tertiary students’ English language achievement, participation and attitudes towards learning English. Therefore, the three research questions examined in this study are:

1. Does the use of ICT blended instruction affect students’ achievement?

2. Does the use of ICT blended instruction affect students’ classroom participation, what are the observable differences between students who use ICT blended instruction and those that do not?

3. Does ICT blended instruction affects students’ attitudes towards learning English?

1.2. Rationale for the Study

Announced officially in 1999, the National Education Act was the most radical education reform in Thai history. Implemented between 1999 and 2010, this reform involved four main areas: schooling, curriculum, instructor development, and administrative improvement. The Act focused on students’ learning and development. An independent, learner-centred approach was adopted to replace the traditional teacher-centred approach of rote learning, currently the predominant instructional approach practiced throughout Asia. Instructor education was to be improved and expectations for instructors’ professional development were detailed. The minimum school leaving age was increased from 13 to 15 years and all
Thai students were to be provided a twelve-year basic education (Kirtikara, 2010). Lower levels of English competence inhibit Thailand from being able to keep pace with rapid social and economic change (Suwanbenjakul, 2002; Tantrakul, 2000; Wiriyachitra, 2001). Consequently, as an aspect of these sweeping innovations, the advancement of the use of technology in teaching English as a second language is an important aspect of Thai educational reform.

In 2005, The Office of Quality Assurance was instituted; its task was to assess education at every level. Schools were given more autonomy, and families and local communities were to have a greater voice in school policy and administration (Runapongsa, Krukam, & Jausakul, 2010). As part of the National Education Act, governmental higher education institutions were expected to have most of their new programs linked to overseas institutes. In the new curriculum, English is a compulsory subject starting from primary education (at six years of age) through to graduate levels. Instructors would be offered continuous training with some form of training available every two years. Several projects for training English instructors in new methodologies to improve their English proficiency were developed. Thai TESOL (Teaching English to Speakers of Other Languages) was another professional development project, which focused on distance learning. Under this project English lessons were broadcast via satellite television to schools, which was especially for those schools in remote areas (Chanchaowon, 2010).

This reform of English language teaching and learning was achieved in part through the development of the English curriculum. Changes included the use of English scores from the Ministry of University Affairs’ proficiency test for acceptance into higher education to place students according to their level of proficiency. As a result, low scoring students are required to take a remedial course in their first year for no credit, students who retain an
average proficiency take the first compulsory English course and students with high proficiency in English are placed in the second- or third-year compulsory courses and are permitted to take other advanced English courses to make up their required credits (Bacsich & Salmon, 2010). The English department in each Thai university determines whether students enrolled in English Majors should take the same compulsory language courses as students from other faculties. University students who take English as their foreign language subject must take at least four compulsory English courses. Foundation courses 1 and 2 are integrated language and study skills courses; the others are English for Academic Purposes and English for Specific Purposes (Kittidhaworn, 2001). All Thai university students must sit the National English Proficiency Test before graduating from university. This is not an exit exam and students can take it at any time and any number of times. The results are taken to demonstrate their proficiency in listening, speaking, reading and writing skills. The results do not appear in the transcripts of students’ results but can be used in employment applications and for further education in Thailand (Kirtikara, 2010).

Developing ICT skills is a significant need in the Thai educational system. Self-Access Learning Centres (SALC) has been established in many universities to facilitate learner independence (Latchem & Jung, 2010). The objectives of the centres are to provide multimedia and learning facilities tailored to the students’ individual needs and interests, making knowledge available which the student can integrate into their study (Siritongthawon et al., 2006). This process can be used as a tool for training students in strategies of learning, by utilising web-based processes to encourage life-long education that will lead to the development of their careers and improvements to their quality of life (Suanpang & Petocz, 2006). The Internet is now commonly accessible and is utilised within Thai universities with
many university courses requiring students to work on their own computers (Chanchaowon, 2010).

Currently, Internet enables the acquisition of information via web applications, which are accessible worldwide. This technology makes it possible for English language teachers offer a series of exercises plus self-assessment tests with answer keys and taped scripts providing practice with simple versions of exercise types found in international exams (Walder, 2012; Voranoglulari, Lopez, Gansrigler, Pessanha, and Williams, 2008). These tools can clearly contribute to learner training. Therefore, social networking websites are becoming tools where by instructors and students can communicate or post information. English skills and utilisation of ICT are essential components of professional education in developed and developing countries (Lim, Fadzil, & Mansor, 2011; Vonganusith, 2008). Facebook is the second-most popular form of social media in the world, and the most popular in Thailand (Phuwijit & Meepong, 2012; Wiriyachitra, 2001; Xian Tang, 2008). Clearly, increasing students’ knowledge of ICT is necessary to develop the Thai educational system.

The Thai educational reforms aim to improve ICT infrastructure and integrate its use into learner-centred English tuition. Based on the National Information Technology commission 2011–2020 (NECTC, 2011), previous studies and the changing world, information and computer technologies are integral components of broader curricular reforms which will change how students learn and how instructors teach (NECTC, 2011; Nonkukhetkhong, 2006). Consequently, institutions, instructors and students can prepare for the ways in which education is being changed by ICT (Phornphacharaphong, 2012). Therefore, this study researches how ICT blended instruction may a more efficient and effective approach in terms of providing flexibility and resources for rural Thai University
students’ language acquisition, participation and global connectedness (Ono & Ishihara, 2011; Wongsuriya, 2012; Haslett, Skellern, Chilcott, & Longman, 2011). The study asks where students gain more positive attitudes, self-confidence and self-esteem, through the incorporation of BL. These are aspects of quality pedagogy, which may lead to the pursuit of lifelong learning.

1.3. Problems of Teaching English in Thailand

There are several challenges in teaching and learning English as a foreign language in Thailand. The Ministry of Education (2010) understands that the standards of teaching and learning English as a foreign language (EFL) are not high enough for students to be able to graduate from high school and to pass the CUAS (Central University Admission System) test. The CUAS test incorporates sections containing the O-NET test (Ordinary National Education Test), GPA (Grade Point Average) which varies with each school’s standard, the PAT (Professional Aptitude Test), and the GAT (General Aptitude Test) that covers reading, writing, analytical thinking, problem solving, and English communication. Most bachelor degree courses at universities are programmes of four years full-time attendance. The training commonly involves students actively contributing to the lessons.

Most school instructors have gained their qualifications from government administered Rajabhat Universities, which are found in over half of the provinces and are typically instructor-training colleges (Office for National Education Standards and Quality Assessment [ONESQA], 2009; Chulachat, 2002). The Thai government has long realised the importance of the English language, as a major core subject in schools and English has become a compulsory subject at varying levels. The period from 2001 to 2006 saw the greatest improvements in English education in Thailand, coinciding with an uptake in
computer utilisation by instructors and students and an increase in native-English speaking instructors practising in regional universities (ONESQA, 2009). Native-English speaking instructors have been actively sought after by Thai education departments and are employed throughout the country to develop students’ oral expression and introduce authentic foreign culture (Ouairat, 2009). English is now a compulsory subject in schools and universities, but instructors’ use of traditional pedagogy and traditional Thai educational norms may be inhibiting the anticipated results of these policy innovations. Reviewing the literature related to teaching English as foreign language, there are potentially five obstacles to the effective teaching of English in Thailand.

1.3.1 Educational structure

The first obstacle is how large class sizes (over 50 students per class) affect interactions between instructors and students. Thai classes (in schools and universities) are quite large, with 45–60 students in each class (Chulachat, 2002; Dowling, Godfrey, & Gyles, 2003). The large classes make it difficult for instructors to focus on and assist students with their individual learning needs through F-to-F interaction and communication. Providing sufficient time to offer an effective English language programme to individual students is quite demanding, and this affects instructor workloads and increases pressure due to the need to comment on students’ assignments and exercises. This problem leads to less time for instructor–student interaction and communication and promotes mediocre English language achievements (Chetchumlong, 2010).

The Thai educational structure starts in preschool with children from 3 to 5 years old, then kindergarten for those 5 to 6 years old, primary school for students 7 to 12 years old and middle school for 13 to 15 year-olds. Students are required to finish middle school to
be able to leave school at 15 years of age. After students have finished middle school they may attend a high school, which are for students who are 16 to 18 years of age, or they may participate in vocational education (ONESQA, 2009).

At the age of 18, the most important step for students is to enter university with all students completing the national entrance examination, (Wiriyachitra, 2001). Students achieving high entrance examination scores may choose any major university that will accept their score. Those students attaining a lower score or students failing the examination may decide to study in an Open University such as Ramkamhang University. Some students may find employment and continue their studies through distance learning facilities such as Sukhothai Thammamgrat Open University. Another option for students is to study at a private university, which is more expensive than the public universities, or at a local/provincial university servicing students in their area and providing a higher level of education, specifically Rajabhat Universities. Technical colleges and vocational colleges are also options. In Thailand, there are 40 Rajabhat Universities teaching undergraduate and postgraduate students. These universities are intended to provide higher education to students of regional provinces.

1.3.2 Pedagogy

The second identified obstacle to the effective teaching of English in Thailand is that, in general, traditional Thai pedagogy relies on students learning by rote, an instructor-centred rather than learner-centred approach. Thai university educational design is based on students listening to instructors’ lectures and taking notes. Student’s earlier educational experiences relied on instructors writing on the blackboard for students to copy or read as classwork or for homework as an assignment. Instructors often explain exercises on the blackboard, while
more affluent schools may provide handout sheets, handbooks or exercise books which may be more convenient for students to study (Sanprasert, 2010). Mostly, students learn by rote and sit exams that are focused on what has been learnt and memorised, exams are usually comprised of multiple-choice questions.

This system is detrimental to students’ problem solving and writing skills and students are then challenged when they seek further study that requires writing and expressing thoughts or conducting research in higher level education or when they employ English in a work environment (Nonkukhetkhong, 2006). As indicated by Prapaisit and Hardison (2009), Thai instructors avoid the use of English in their classes because of their own low proficiency, language anxiety and a focus on studying English grammar for exam purposes. The problem areas of English teaching in Thailand are the same as the obstructions that have arisen in other Asian contexts (Jung & Latchem, 2013; Nunan, 2003).

The economic benefits of globalisation are the apparent driving force behind English teaching, and the push to improve instructors’ English proficiency and training (Siritongthawon et al., 2006). Additionally, the gap between curriculum policy and classroom practice in terms of teaching principles can be referred to as the gap between ‘rhetoric and reality’ (Kirtikara, 2010; Maynard, 2013). Other obstacles identified are the lack of sufficient instructor training, an inadequacy of teaching resources, and the cost of in-service instructor education (Limsuwat, Kewom, & Yenang, 2009).

For these reasons, the shift from an instructor-centred to a learner-centred approach has not progressed smoothly. Thus, the reforms require an understanding of the language learning process in order to establish attainable goals and compatible methodologies. These reforms must be considered in view of constraints on achievement, such as the lack of interaction with the target language outside the classroom (Cooner, 2009; Kemwimuttiwong,
2012). To sum up, the English language curriculum in Thai schools and universities is not meeting the demand of higher education or the workplace in relation to English language proficiency. Therefore, the reforms need reinforcement.

1.3.3 Culture

Thai culture compels students to be unquestioning and submissive entities in a hierarchical system (Sanprasert, 2010). Thai students are compelled to wear a uniform from preschool through to university. Many school students have the same hairstyle and carry the same school bags. All students studying in traditional classes are obliged to greet their instructor in unison, as has always been the tradition. This educational culture has conditioned students to be conformist within the educational and wider communities. This is very different from most western cultures, which teach students to be different from one another and to express their individualism. The Thai educational system has taught students to be passive, obedient and respectful to their instructors, parents, and seniors and may be described as a hierarchical system.

The Thai educational system has deteriorated over the years and has not been active in educational reform. Educational disciplines have focused on remembering textbooks and competition for grades and diplomas (Boonnoon, 2012). It has been a system that believes students are finished with education once they receive their degree (Wongsuriya, 2012). Therefore, education in the past has been of limited value to the country because it has been about studying from textbooks rather than encouraging creative thinking. According to Voranoglulari et al. (2008) within the Thai educational system, students are usually passive and often wait to be “spoon fed” by instructors. Similarly, a previous study into implementing education reform in the teaching of English as foreign language from an
instructor’s perspective notes that instructors urgently need help because they want to change from an instructor-centred pedagogy to a student’s-centred pedagogy, but they do not know how to accomplish this goal as there is no model, no help, and very little material support. A significant number of instructors revealed that they could not meet the standards set and a number of students did not think that learning English was useful to their future goals (Prapaisit and Hardison, 2009).

1.3.4 Instructor preparation

English instructor qualification, training and preparation are not up Most English Foreign Language (EFL) instructors employ the traditional teaching methods with which they are most familiar. For instance, English instructors generally employ a textbook based grammar–translation approach where lessons and assessments mostly focus on grammar structures, vocabulary and preparing students for university entrance examinations (Siritongthawon et al., 2006). Communicative language teaching is a new concept in the Thai educational system, therefore it is important to correctly implement the practice in classrooms teaching English (Albirini, 2006; Suwannasom, 2010).

Thai instructors are attempting to implement the new student-centred approach, but there are contextual factors that directly impact on the implementation of the learning reform policy (Bunnag, 2009; Fracisco et al., 2009). Even though instructors play a major role in the reforms, they were an untouched resource in the initial decision-making process. The policy of implementing student-centred education requires both instructors and students to develop new teaching and learning strategies (Phornphacharaphong, 2012). However, there are not enough supportive professional training and development institutes with sufficient facilities and learning resources available; therefore, most instructors have not been sufficiently
taught in how to apply the learner–centred approach effectively. This has limited the communicative activities available to students. Consequently, instructors who practise traditional educational methodologies find it difficult to manage and incorporate the activities required in the new classroom where students participate in constructing their learning directions (Kripanont & Tatnall, 2011).

These new classroom learning activities are dependent on individual instructors’ beliefs and understanding. However, only some instructors have applied the learner-centred approach in their classrooms. Educators and supervisors need to consider both students and instructors if new learning styles are to improve communicative skills (Methinee, 2007). Thai instructors who teach English subjects are often concerned about their own English proficiency, and they identify insufficient training and inadequate resources and professional support as problems (Prapaisit and Hardison, 2009). Tellingly, a significant percentage of English instructors felt that the reforms were difficult for effectively teaching English (Wiriyachitra, 2001). This reveals that one of the barriers in English classes is founded on the lack of training in a learner-centred teaching approach for instructors (Ourairat, 2011).

In general, English instructors in Thailand feel inadequately prepared to teach English as a foreign language and are further hindered through a lack of information regarding research into language teaching and learning (Tantrakul, 2000). Considering this, Thai English instructors struggle to confidently transfer effective theory into classroom practice. This situation is exacerbated by several factors, including the need to cater for individual student needs; variations in students’ backgrounds, economic limitations, and the problems faced by rural schools, large class sizes, and limited learning materials (Ourairat, 2011). These are compounding difficulties that instructors face in the communicative curriculum and in engaging with the learner-centred approach.
Consequently, instructors face many obstacles in English language teaching and learning in Thailand. Most instructors report heavy teaching loads, high student–instructor ratios, insufficient English language skills and a lack of English cultural knowledge compounded by under-resourced classrooms and limited educational technology compared to universities in developed countries (Suanpang & Petocz, 2006). Thai university entrance examinations, which rely on rote teaching and learning styles, exacerbate these obstacles to learning (Biyaem, 2005). Other problems associated with learning English are that the language is spoken less than 50% of the classroom time, there is a lack of expert advice, and students’ personal economic situations make effective teaching difficult (Nonkukhetkhong, 2006; Suanpang & Petocz, 2006; Sue, 2006). In addition, schools lack skills in the presentation of English language and there is a shortage of information and communication technology (Suwannasom, 2010; Vonganusith, 2008). In particular, there is a need for instructors to develop technological literacy including basic computer skills, the professional use of technology, and the application of technology in instruction (McShane, 2006; Methinee, 2007; Suanpang & Petocz, 2006). In brief, instructors need to be trained sufficiently in English language and ICT skills to use modern digital technologies and resources to facilitate student-centred approaches. To address this, the government should consider setting aside economic stimulation funds to improve the quality of English and technology application skills for the education system.

1.3.5 Students

The fifth obstacle identified is that Thai students need to overcome several barriers in learning English as foreign language. These include, but are not limited to: an unfamiliar alphabet, grammar, pronunciation and syntax, plus idiomatic usage and infrequent opportunities to use English in their daily lives. Also, the generally ingrained passive nature
of Thai students means they are often too shy to speak English with classmates because of embarrassment when expressing themselves in this new language. This indicates that English lessons rarely extend beyond the classroom. Thai culture makes it likely that students will be too shy to experiment and speak English outside the classroom and therefore it is difficult for them to have conversations in real life (Siritongthawon et al., 2006).

Another difficulty Thai students need to overcome is a reluctance to take responsibility for their own learning, as most students are conditioned to be passive students from their earliest education experiences (Sanprasert, 2010). Consequently, many students lack interest and see little value in learning English. This is a substantial impediment to building a coherent curriculum based on a learner-centred philosophy.

Learning and teaching English in Thailand has not been widely successful. There are several factors that confront students such as different cultures and different background knowledge, the economic status of students, hesitancy about learning English and using the language in daily life (Chanchaowon, 2010). In addition, the different grammar, alphabet and forms of writing combine to make learning difficult. Mostly, student’s extraneous motivation to learn English is secondary to passing the proficiency and entrance tests to a university. There is infrequent contact with native English speaking people and this may affect the students’ attitude and motivation. Therefore, Thai students learning English as foreign language have limited vocabulary exposure to the language so they lack proficiency (Nonkukhetkhong, 2006; Siritongthawon et al., 2006). Consequently, even though Thai students have to learn English as a foreign language in formal education from primary school through to university, the quality of English proficiency in a Thai classroom is low in comparison with other Asian countries (Sanprasert, 2010; Wiriyachitra, 2001). In order to tackle these difficulties Vonganusit et al. (2008) suggest that, as technology plays a
significant part in most students’ daily lives these days, students would enjoy learning English through technology by having fun, and this in turn will make them less challenging to teach.

Globalisation has converted many students into digital natives; they are much more autonomous when using new technologies. ICTs play a very important role in counties where English is not a first language as it provides an opportunity to see language in context, that is, language that native speakers actually use. ICT can be integral to the learning process; students can study in both F-to-F and online environments to expand their learning experiences (Vonderwell, 2013). ICT integration can enhance student learning (Barker and Wendel, 2001). Most instructors affirm that ICT assists in their teaching practices and when employed by students it encourages independent study (Vonganusith et al., 2008). Furthermore, instructors’ and students’ future employment will depend on the development of ICT use in EFL education. To improve students’ English learning achievements, instructors must be aware of and consider the factors that affect students. The learning process should encourage students’ aspirations to learn English, improve their attitudes toward English, and provide them with adequate learning environments, both F-to-F and online.

The hurdles to overcome in establishing learner-centred or autonomous learner strategies in Thai education are significant. However, the degree of autonomy may vary from one context (or school) to another, though in most cases students usually focus on their grades and not necessarily on learning (Fracisco, Gavriel, & Predro, 2009). As education is the primary root of Thai society, it should lead to a happy and healthy populace, encouraging a better society, embracing educational knowledge and creating a moral and ethical society (Ourairat, 2009). Thus, the Ministry of Education should be encouraged to recognise these
problems and develop understanding and knowledge on how to reform the learning and teaching models before requiring institutions and their populations to change. As such, the Thai educational system has identified the challenges ahead, which need to be overcome to make students ready for participation in the global marketplace and that doing so requires further educational reforms.

Reform remains a challenge in the Thai educational context and needs support from policy makers, through professional development and an expanding role for ICT and communication infrastructures to embrace the future of English language learning and teaching in Thailand. To sum up, the Thai educational system is based on instructor-centred strategies and has taught students to remember information instead of preparing them to be creative thinkers and independent learners.

1.4. Purpose of the Study

This study investigates the effectiveness of implementing blended learning (BL) in tertiary English instruction at a regional Thai university and involves six first year Major classes studying the compulsory English course: Foundation of English 1. The study’s aim is to increase these students’ English language proficiency, to improve their attitudes towards learning English and to explore student participation (see the research questions on page 4). The study employs a mixed methods approach. Researching the use of ICT blended instruction through information and communication technologies may provide Thai students with a more authentic pedagogy than is currently available. This study may expand the range of texts and contexts through which these students may learn English.

This aligns with the previous studies of Bonk & Graham (2006), Gonzalez (2009), and Vonganusith et al. (2008) that all bring to light university instructors’ increasingly
positive experiences of teaching within blended learning environments. In recent years university administrators have realised the value of incorporating ICT, making teaching more professional and offering higher quality learning experiences (Kanthawongs & Kanthawongs, 2013; Khan, 2012). At the same time, pressure from students who use online resources for many of their everyday activities, and from employers who require future professionals to be skilled information technology users, have also promoted the uptake of eLearning (Chiu, 2012; Windish, 2013). In this context, the present research takes a relational approach to investigate if students think ICT is good for their learning experience, how students engage in learning when ICT is involved, and how their perception of the learning situation affects their use of ICT. Associations between these elements are also explored.

There are four main purposes of the study: 1. To develop the use of ICT blended instruction in the teaching of English. 2. To compare students’ English learning achievement, by contrasting blended learning with the traditional method. 3. To explore students’ changes in attitude toward learning English through blended learning and 4. To explore students’ participation in learning processes. The information gathered through this study is expected to support the efforts of teaching English through blended learning. The study uses a representative sample of first year students from diverse groups of students enrolled at a rural university in the North-eastern of Thailand, varying in gender and Major programs. This diverse sample should provide additional insight into the learning achievements, attitudes and types of participation related to the research hypotheses.

This study examines the possibility of a shift from instructor-centred to student-centred instruction and supports an autonomous-learner approach instead of the traditional instructor-centred approach. This autonomous-learner approach could be a way of
supporting the Thai National Education Act 1999 and the National Information Technology Commission 2011–2020 (NECTC, 2011). This study aims to promote students to be an active part of the digital age; it aims to promote the creation of students prepared for and capable of dealing with worldwide communicative interaction. More importantly, the results of this study may benefit the faculties of institutions to better understand which ICT initiatives they could retain to develop a greater student and instructor engagement level associated with the implementation of technologies in education.

1.5. Further Contextual Factors and Implications

The 1999 National Education Act serves as a basis for educational reform within Thailand. The Act identifies the need for a quality workforce to enhance national competitiveness in the international business environment and to counter an overall continuous decline in national competitiveness. Although implementation and management of the Act has involved eight National Education Development plans, higher education systems have suffered through inefficient management structures (ONESQA, 2009). There are not equal opportunities for all students in the Thai educational system. Nearly 44% of higher education institutions are located in and around Bangkok, and almost 70% of higher education students are from families with middle class and above socio-economic backgrounds (Suanpang and Petocz, 2006, p. 415). Limitations in national public investment in education have been decreasing with regard to higher education during the implementation of the development plans (ONESQA, 2009; International Monetary Fund [IMF], 2009).

Thailand has been investing in the implementation of information communicative technologies (ICT) since its emergence in the 1990s. ICT was integrated through education,
in particular higher education, workforce development, and lifelong education (Albiri

ni, 2006; Chaves, 2010). As a consequence of the new policy of providing 12 years’ free basic education to each student under the 1999 National Education Act, Thailand has experienced a large increase in high school graduates. Investment in the higher education of a large number of these students is recognised as being a major key to improving Thailand’s worldwide competitiveness (Makura, 2014; IMF, 2009). The demands of globalisation on the development of Thailand’s workforce through higher education may, to a greater extent, be met by ICT integration (NECTC, 2011; Siritongthawon et al., 2006).

This integration of ICT can be promoted through the National Education Act and the National Information Technology Commission 2011–2020. Also, ICT will be essential to the Thai educational system for solving problems associated with the increasing numbers of students seeking further education, the introduction and expansion of distance learning, institutions wanting adequate learning materials and the shortage of English native speakers as English instructors (Forcier & Descy, 2002; Hallinger & Pornkasem, 2001; Kemwimuttiwong, 2012; Pelgrum, 2007). At some point, ICT may become one of several solutions to the implementation of Thailand’s national education reforms.

1.5.1 Implications and impacts of the 1999 National Education Act

The restructure of the higher education administrative system was achieved through the merging of the Ministry of Education, the Ministry of University Affairs and the National Education Commission into a single entity, the Ministry of Education. The structure of the new Ministry of Education comprises five major offices. A unit within the Office of the Minister oversees nine public organisations including the Office for National Education Standards and Quality Assessment (Siritongthawon et al., 2006). Thailand has set national
education standards and has undertaken a systematic implementation of quality assessment, extensive resource mobilisation and investment in higher education, redirecting missions of higher education towards social participation, student-centred learning and lifelong learning objectives. The conceptual framework to achieve these objectives was then developed and it was recognised that transitional management was crucial (Charmonman, 2013; ONESQA, 2009). Participation of the public and various stakeholders was brought about through public seminars and workshops. The higher education system now consists of sub-degree and degree levels and comprises public institutions, private instructions, specialised education institutions and area-based institutions, with unified policy formulation and standards.

Administration and management of the education system takes place at three levels: at the national level, in educational service areas, and at individual institutions (Albirini, 2006; Kripanont & Tatnall, 2011). In summary, the groundwork on the reform started with an in-depth analysis of the 1999 National Education Act, and its implications for Thai society and education.

The higher education reforms are aimed at achieving the following goals:

- a central and unified mechanism of policy formulation, integration, planning, budget allocation, and evaluation
- a higher education system with improved access and participation, achieving academic excellence, requisite standards and quality assurance
- management with autonomy and flexibility
- mobilisation of resources from various sectors
• balanced development of Thai graduates with attributes of mental strength, intellect and ethics (ONESQA, 2009).

1.5.2 Education administration and management reform

The traditional missions and functions of higher education are teaching, research, the provision of academic services to society, and the promotion of arts and culture. The first new reforms restructured the education administration, giving it the role of a watchdog, which acted as a social beacon and builder of societal awareness. The second reforms position the administration as a pivotal and important instrument in professional advancement, promoting lifelong learning. Human resources must be continuously developed. Lifelong, continuous education must be promoted and improvement of access and equity are to be further pursued (Charmonman, 2013; Sisaket Rajabhat University [SSKRU], 2012). During the age of internationalisation, keeping Thai higher education’s refinement and improvement of home-grown capability and knowledge must be concurrently pursued so that Thais will maintain an optimum balance of local and global recognition (Charungkaittikul, 2011; Pelgrum, 2007).

The new management context is the major consideration in setting the vision and direction of universities. A priority for the restructured education administration must be the budget for funding of student loans, introduced during the eighth plan (1997–2001). Student loan funding needs to be increased to accommodate projected growth in numbers of higher education students. Quality higher education is costly; it is beyond the means of a large percentage of the Thai population and therefore loans are available for students of both public and private institutions. Loan conditions are based on family earnings, and loan repayment models need to be revised (IMF, 2009). There is a strong correlation between
international competitiveness and the quality of higher education institutes. International
competitiveness derives mainly from a qualified and professional workforce and accumulated intellectual property derived from research and innovation (Kanokpermpoon, 2011).

1.5.3 Academic management and teaching organisation

Thailand’s higher education reforms endeavour to promote individual students, learner-centred education, learning innovation, information technologies, analytical skills, critical thinking and learning motivation (ONESQA, 2009). Management in higher education institutions is placing more importance on research, and the accumulation of knowledge and technology for the development of the nation (Kanokpermpoon, 2011; Kirtikara, 2010; Wiriyachitra, 2001). In Thailand, teaching and research capabilities are rarely applied to the ‘national innovation system’ due to the lack of available learning systems, limiting access to knowledge that has been developed in industrialised countries (Pornpun, 2008; Siritongthawon et al., 2006). The role of universities in learning systems should be to generate new knowledge and to raise the skills of the population to build up human capital and to help absorb ideas from developed countries (Albirini, 2006; James, 2008). One main concern is to link universities’ research and teaching with the overall goal of closing the technology gap (NECTC, 2011).

Higher education systems in developing countries are in need of additional resources to catch up academically with developed countries, yet public spending has to be limited. Universities in developing countries find themselves in a different position from universities in developed counties; they tend to be underfunded and unable to purchase and apply the latest research equipment, and faculty and staff tend, on average, to be less qualified.
In developing countries higher education institutions are generally ranked far below the academic standards set by the universities of first world countries. They place more emphasis on undergraduate teaching to improve the skills of their population (Kripanont & Tatnall, 2011; Ololube, 2006). Universities in developing countries such as Thailand have to improve their teaching and research capabilities in order to be able to meet the future needs of their societies (Suanpang & Petocz, 2006; Vonganusith, 2008).

Thai universities mainly produce undergraduate students in the areas of social sciences and humanities. These teaching activities are still affected by the ongoing transformation of the elite education system to a mass system as the recently introduced policy of free schooling is leading to a growing number of students. Concurrently, the quality of teaching needs to be upgraded to international standards and its focus should be broadened to include science and technology fields to meet private sector business demands.

There are over 600 higher education institutions and 130 educational degree-granting institutions in Thailand (Hallinger & Pornkasem, 2001; Phornphacharaphong, 2012). Networking these institutions will make available quality academic programs for the production of professional human resources and an extensive, diversified, nationwide education service promoting human resource development and lifelong education (Na-Songkhla, 2011; NECTC, 2011). Collaborative research and support among institutes needs to be promoted through proper incentives and Internet connectivity of these institutions would enhance cooperation by easing communication barriers.

Science and technology programmes in most Thai universities are suffering from a lack of equipment and out-dated curricula. Research and development has started to advance, facilitated through the technology policy, but it has not been implemented in a structured way. The majority of research projects are composed of applied research that
adapts existing knowledge from developed counties and endeavours to generate results that are appropriate in the Thai context (Pavasajjanant, 2014; Schiller & Ingo, 2007). Tertiary students in Thailand are only just starting to shift from being basic ICT students to being ICT users. Thus ICT should assist both instructors and students by supporting an environment of engagement, reflection, deeper learning and more interactive communication (Wang & Shen, 2009). Therefore to investigate the effectiveness of utilising ICT in the learning process is essential in the Thai educational context.

**1.5.4 Quality assurance**

Quality assurance is one of the most important factors in any teaching and learning program, but in Thailand it has not been fully practised in the past. At present, English language proficiency is evaluated through National Standardised Tests to ensure the quality of English language teaching and learning. One of the standardised tests is the National English Assessment test used in schools. Another standardised test is given to students before they leave university. Assessment and development through national standardised testing is expected to improve the quality of English language learning uniformly throughout the country. This scenario requires the dedication and collaboration of educators as well as the private business sector and organisations with English speaking backgrounds such as the British Council (Wongsuriya, 2012). It is envisaged that by the end of this decade many Thais may effectively and fluently utilise English language within the business, governance, and science and technology domains. More importantly, Thais will be able to use English to promote Thailand (Wiriyachitra, 2001).

The aim of developing educational areas is focusing on the nature of the learning process occurring at all levels. The substantial change being implemented is ‘the learner-
centred approach’ which includes concepts of self-education and lifelong education (Kirtikara, 2010). This change requires instructors to change their traditional roles from ‘tellers’ to ‘facilitators’ and students to change from ‘materials users’ to ‘students self-learning’. In this approach, both instructors’ and students’ roles are altered and the goal of the learning process is to develop students to their optimal level. There are two key components of the learner-centred classroom: firstly placing more responsibility on the students to manage their own learning; and secondly, instructors accept roles as facilitators of knowledge to help students with how to learn rather than being the source of knowledge (Nonkukhetkhong, 2006). Instructors may find that using online resources for classes may be easier for facilitating this learning pedagogy than F-to-F teaching (Kirtikara, 2010).

The reform of the teaching/learning of English in Thailand is following this trend, focusing on developing students’ communicative competence through student-centred, self-learning progressing to lifelong learning. Students are central to the learning process and students’ needs and interests are primary and resolving the problems associated with the implementation, implications and impacts of the 1999 National Education Act and other problems associated with teaching English in Thailand is very important (Ourairat, 2009). Finding solutions to these problems is necessary to develop Thai participation in the global economy. Consequently, there are several aspects of the Thai education system that are in urgent need of attention. These include the move to a learning-centred approach, the improved use of ICT, and improved teaching of English (Sanprasert, 2010; Santipaporn, 2010; Siritongthawon et al., 2006). From practical evidence and previous studies in the area, it appears that an investigation of the introduction of blended learning to English teaching, which is a new approach in Thailand, is a worthwhile endeavour, which may be beneficial to future generations and advantageous to national development.
1.6. Structure of the Study

This dissertation, organised into seven chapters, is designed to assess the effectiveness of ICT Blended Instruction in the delivery of English as a Foreign Language courses within a rural University of North-eastern Thailand. Chapter one introduces a general background to the study; briefly drawing attention to the Thai government's rational for implementing English language and ICT enhanced education broadly across the Thai education system. This chapter then continues to embrace the rational for this study and the inherent problems associated with the teaching of English in Thailand.

Chapter two presents the Literature Review and is defined around five central areas: theories relating to the teaching and learning of English as a foreign language, ICT in teaching English, blended learning, constructivist learning, and attitudes in an academic context. The main focus is on conclusions and notions advanced in prior research and how these may be relevant in the Teaching of English as a Foreign Language in Thailand. Research Methodology (Chapter three) describes the systems of enquiry employed in this research and the research design. Other topics covered include population and sampling, variables and research instruments. This chapter also presents the methods of data collection and analysis.

The Results of the study are presented in Chapters four and five. Chapter four presents a thorough analysis of the quantitative data, including information tables and statistics. The data, relating to learning achievement, participation, and attitude, was obtained from English learning achievement tests, attitude questionnaires, and observations of classroom practice and participation. Chapter five provides full analysis of the qualitative
data collected from the researcher’s field notes, semi-structured interviews and website evaluation.

Chapter six, the Discussion section, provides a summary of the key findings and discoveries of the research and analysis. Responses to the specific research questions are also presented. Chapter seven, the Conclusion and Recommendations, recommends actions based on the findings regarding the implementation of ICT blended instruction for teaching English as foreign language. The limitations of the research are also considered and recommendations for future research into utilising ICT within the field of education are presented. There is also a discussion of the value of the present research for instructors, faculties and university policy makers.

1.7. Summary

This chapter has explained the main reasons for conducting this research. The major problems inhibiting learning and teaching EFL in Thai universities were identified and the study’s broad and specific contexts were described. This study focuses on the potential effects of ICT blended instruction (BL) on university students’ achievement, attitudes and participation within a mandatory university English course. It investigates whether a blended learning method of teaching benefits students. The next chapter, Chapter two, reviews the relevant literature related to the use of ICT and BL in tertiary EFL teaching in rural Thailand.
CHAPTER TWO – LITERATURE REVIEW

2.1. Introduction

This chapter reviews relevant research literature and outlines theories related to the integration of ICT with teaching and learning English as a foreign language in the context of this study. The research on the need for student-centred learning in the Thai education system is reviewed and so is the literature on changes to the teaching of English, which have occurred as a result of globalisation. Lastly, this section reviews previous international, regional and Thai studies into the role of ICT in EFL.

This chapter review significant factors related to learning English as a foreign language and the use of ICT blended instruction that might support student-centred learning. The chapter includes seven sections: Section 2.2 reviews Teaching English as a Foreign Language in Thailand’s higher education system by applying two sub-topics: the need for student-centred learning, and, ICT as part of the educational system. Section 2.3 covers Student Participation reviewing the literature relating to language learning processes, constructivist theory, and the notion of the learning environment and the impact of ICT use on language learning. Section 2.4 discusses Attitude theory and includes the definition of attitude, attitudes toward learning English, and attitudes toward ICT and blended learning. Section 2.5 reviews Blended Learning by applying six sub-topics: background information and definition of blended learning, blended learning pedagogy, and the framework of blended learning, current trends and issues affecting blended learning and the advantages and disadvantages of using ICT instruction. Section 2.6 identifies the gap in the present literature which is addressed in this research and discusses why ICT blended instruction is needed. The final Section 2.7 summarises the chapter.
2.2. Teaching English as a Foreign Language (EFL) in Thailand’s Higher Education System

Thailand’s National Education Act 1999 and the ICT implementation plan 2011–2020 (NECTC, 2011), focus on the nature of the learning process that is occurring at all levels of education. The heart of the changes being implemented is the ‘learner-centred approach’, embracing concepts of self-education and life-long learning (ONESQA, 2009). Additionally, English language learning and ICT utilisation are needed to reform the educational system (Phornphacharaphong, 2012). The goal of the learning process is to develop students to their optimal level, a process in which students’ needs and interests are at the forefront. There are several aspects of Thailand’s National Education Act 1999, which aim to reform the learning process.

One development in the classroom is the emergence of Communicative Language Teaching, which is based on the view that the classroom is a place where an authentic social reality is constructed and utilised for language development. The learning task has become the central element of many language classrooms and students are viewed as active and creative language users (Gruba, 2004; Siritongthawon et al., 2006). Students are also seen as responsible members of social groups engaged in co-managing the learning process, making contributions to the curriculum and accepting responsibility for their own learning (Jia, Ding, Chen, & Cui, 2014; Wedell & Malderez, 2013). Online chats, course design, group dynamics and facilitation style strongly influence the successful use of this medium and enhance student participation (Cox, Carr, & Hall, 2004; Kabilan, Ahmad, Abidin, & Mohamad, 2010; Wang & Shen, 2009). EFL teaching focuses on the educational experience from the learner’s point of view. Instructors change from being the source of knowledge to
being activity encouragers in a way that leads students towards their learning goals (Kanokpermpoon, 2011).

Thai English Foreign Language (EFL) instructors are faced with challenges in relation to both the environment in which they work and their ability to relate to the system’s new goals. Most Thai EFL instructors use textbook-based and grammar-translation approaches, where lessons and assessments focus on grammar structures or vocabulary to prepare students for university entrance examinations (Noisaensri, 2001; Nootprapa, 2011). Instructors attempting to implement the new learner-centred approach confront contextual factors that directly impact on the implementation of the learning reform policy (Nonkukhetkhong, 2006).

The lack of resources and facilities in many institutions impedes instructors and students in their efforts to develop new teaching and learning strategies (Pavasajjanant, 2014). Similarly, the investigation of Thai EFL instructors’ perspectives on the effect of education reforms found they were confused about the reform’s principles and their application (Phornphacharaphong, 2012). Instructors were concerned about their English proficiency, and the inadequacy of their training, resources and professional support (Hipsher, 2010). It is also clear that there is an urgent need to develop English language skills through ICT for tertiary students (Runapongsa et al., 2010; Tantrakul, 2000) and communicative classroom practice to help students develop their communicative competence (Shawer, 2013). English instructors always aim to prepare students for the future but the future is constantly changing, and as we move further into the twenty-first century, the worlds of work and education will change more and more rapidly under the influence of technological innovation.
2.2.1 Globalisation and education

Globalisation is important because it can illuminate a world in which time and space has been so dramatically compressed that distant actions in one corner of the globe have rapid and significant repercussions for people and places far away (Wiseman, 1889). Globalisation is associated with intercultural contact and leads to cultural and individual change (Berry, 2008). Globalisation has an impact on the news media, the Internet and many other communication channels, and it has resulted in the transmission of knowledge at a much greater pace than in the past (Windish, 2013). However, this does not automatically imply that developing countries benefit from technological advances (Karimi, Badariah, & Ahmad, 2013). Whether or not they benefit will depend strongly on the nature of the technology and the policies implemented in both developed and developing countries (Archibugi & Pietrobelli, 2003; Pavasajjanant, 2014). Low income countries often lack the funds for this technologies basis and so they have been limited to a discussion only of the impact of economic globalisation on education (Kawashi & Shama, 2012; Tikly, 2010).

Globalisation changes the conditions in which language learning and language teaching take place. Communication skills, the new ability to use new technologies, and more competence in foreign languages, all represent valuable linguistic capital (Block & Cameron, 2002; International Institute of Social Studies [ISS], 2010; Miyazoe & Anderson, 2010) and education is increasingly affected by the advent of new technologies and media (Mikre, 2011). These changes are having a significant impact on second language teaching and on the potential of technology to radically change the experience of learning languages (Ono & Ishihara, 2011). The global spread of English as an international language has evolved with native speakers, non-native speakers and dialects (Ourairat, 2011). The worldwide communication comes into a relation with basic notions of language, culture,
context and the relationship between ESL and EFL (Miyazoe & Anderson, 2010). In addition, trends in education, in the structure of economies, and employment will change the way English is used (Nootprapa, 2011). Increasingly, non-native speakers will need to use the language daily, and as a consequence, information technologies will transform notions of literacy, making the ability to use online communication a critical skill, required in emerging information economies and societies (Warschauer, 2012).

Due to globalisation, Thai education reforms have promoted the use of technology in education (NECTC, 2011). This has taken place through activities such as establishing organisations to introduce and develop ICT policies and networking systems, and developing materials and technologies for use in education (Bacsich & Salmon, 2010; Pelgrum, 2007; Urairat, 2009). People and organisations for information processing and communication purposes use ICT and for most organisations ICT has become an important tool for enabling them to maintain a competitive edge (Liu, 2009).

English is considered a common language for communication and for exploring understanding and cooperation in the ASEAN nations; however the level of English proficiency in Thailand is low in comparison with many countries in Asia (Wiriyachitra, 2001). In addition, research into the needs and opportunities for using English in the workplace suggests the current English curriculum in Thai universities is not adequate to meet the new demands that globalisation has created (Nonkukhetkhong, 2006; Wongsuriya, 2012). Consequently, Thailand will lag behind in the competitive arenas of education, business, science and technology if the teaching and learning of English is not improved (Urairat, 2009; Wudthayagorn, 2000).
2.2.2 The need for student-centred learning

Thailand’s National Education Act 1999 focuses on changes being implemented in a move to a ‘learner-centred approach’. It embraces concepts of self-education and life-long education (Prapaisit & Hardison, 2009). Thus, the goal of the learning process is to develop students to their optimal level, in a process in which students’ needs and interests are primary. There are two key components of the learner-centred classroom: firstly, placing more responsibility in the hands of the students to manage their own learning, and secondly, instructors provide the role of facilitators of knowledge to help students to find out how to learn, rather than being the source of knowledge (Albirini, 2006; Nonkukhetkhong, 2006).

Most Thai instructors have not been sufficiently trained in how to apply the learner-centred approach effectively. This limits the benefits of the communication activities provided to students. Consequently, the policy goals are unrealistic and difficult to achieve (Albirini, 2006; Suwanbenjakul, 2002; Ourairat, 2009; Wiriyachitra, 2001). The teaching of English as foreign language falls short of the desired learner-centred strategies due to constraints resulting from the students’ local contexts, not enough instructors, traditional learning and teaching styles, and inadequate learning materials (Kripanont & Tatnall, 2011). The discourses of the ‘technological imperative’ and student-centred learning have gained momentum in university teaching and learning, with a transition from instructor-centred to learner-centred instruction in all subjects including English (Hipsher, 2010; Imran, 2009). This shift is associated with the development of the ability to communicate in English to meet the needs of globalisation. One way for a lecturer to display excellence has been to adopt the flexible student-centred practices of online teaching (Sutherland, 2004). However, in Thailand an instructor-directed focus predominates, rather than a learner-centred
approach. Furthermore, there is a possibility to develop communicative language teaching skills through ICT in higher education.

**2.2.3 ICT as part of the education system**

ICT has an important role in language teaching and learning (Santipaporn, 2010). A study by Ausburn (2004) found that students preferred different emphasises in learning strategy, depending on their previous experience with technology, previous experience in self-directed learning and also gender. A study investigating the learning outcomes of two teaching modes: traditional classroom (Face-to-Face/ F-to-F) teaching and hybrid flexible delivery indicate that the hybrid flexible delivery model is associated with higher final marks for students and improved learning outcomes (Dowling et al., 2003). An investigation of online courses found that timely feedback, the judicious use of technology, and learning by doing, were recognised as important in effective classroom teaching. Using ICT helped to develop students as active learners, by engaging them in a progressive inquiry process to generate theories and new knowledge (Wing & Pratt, 2013). Internet-supported or hybrid courses are an improvement over fully online courses (Hopper, 2003). Therefore, the literature suggests that the introduction and implementation of ICT strategies is essential for Thai education (Methinee, 2007; Sanprasert, 2010). The ICT Plan for Thai Education 2007–2011 and the ICT Plan for Thai Education 2011–2020 (NECTC, 2011) have increased access to new learning resources in order to improve teaching approaches and educational management (Albirini, 2006; NECTC, 2011).

There are some promising approaches appearing at some universities, such as cooperative learning programmes that will affect the implementation of academic services at Thai universities (Vonganusith, 2008). To achieve improved learning, participants need to
be engaged in reflective practice, there needs to be more interactive discussion online, coupled with regular contact with supervisors through ICT to strengthen students’ cooperative learning experiences (Howison, 2010; Jung & Latchem, 2013). Weblogs are flexible mediums that can be used in approaches that provide participants with options for integrating F-to-F and online modes of teach (Lim et al., 2011). Weblogs, social media, online construction and ICT utilisation encourage the development of individual, critical voices within the broader context of classroom interactions (Cooner, 2009; Oravec, 2010; Tantrakul, 2000; Vonganusith, 2008). Using digital technologies helps students work collaboratively as ‘knowledge builders’, even though they live in different parts of the country (Wing & Pratt, 2013).

The integration of ICT in Thai higher education aims to provide better educational opportunities. It is believed that ICT may promote lifelong learning, build a knowledge-based society, enhance the nation’s competitiveness, and enable the development of learning management systems (LMS), e-libraries, e-communities and learning resource sharing centres (Pagram & Pagram, 2006; Pelgrum, 2007; Vonganusith, 2008). Similarly, Santipaporn (2010) noted that ICT provides something that is not available through more traditional teaching methods. Several previous studies found that blended learning can increase learning engagement and interaction and their findings indicated significant growth in interactions accompanied by high faculty and student satisfaction (Dziuban, Moskal, & Hartman, 2005; Monsakul, 2008; Shin, 2011). In summary, blended learning is a transformative construct in higher education. Using ICT in higher education in Thailand is a significant and effective strategy in our competitive world so educators need to utilise ICT as much as possible in their teaching.
2.3. Students’ Participation

Research in the use of ICT in education indicates that it has the potential to increase student participation. This section reviews literature related to students’ participation in language learning. It covers four topics: constructivist theory, language learning processes, learning environments and the impact of ICT use on language learning.

2.3.1 Constructivist theory

Constructivism is a theory of knowledge and learning which holds that knowledge is not transmitted by the instructor to the students but rather, the instructor helps the students to construct their own meaning (Nicolson, Murphy, & Southgate, 2011; Zou, 2011). The primacy of individual function and meaning is the most important epistemological assumption of constructivism (Pandian, 2001). Constructivism can be applied to online learning environments using three interacting domains of knowledge construction: conceptualisation, representation and use (Mann, 2008). People make sense out of whatever they experience by constructing their own meaning based on what they already know, and how they perceive and view information (Wiriyachitra, 2001). From this perspective, instructors should try to create classroom conditions in which students actively construct their own learning (Wedell & Malderez, 2013). Constructivist learning environments have six characteristics noted by Wiriyachitra:

1) providing multiple representations of reality; 2) emphasising knowledge construction; 3) placing the focus on authentic tasks in a meaningful context; 4) encouraging students to engage in thoughtful reflection on their experiences; 5) enabling students to engage in context-dependent and content-dependent knowledge
construction; and 6) supporting students to engage in collaborative construction of knowledge through social negotiation (Wiriyachitra, 2001).

Constructivist theories of learning can be used to show that technology can be a useful tool in language learning and teaching (Garrison & Vaughan, 2008; Pandian, 2001; Swan, 2000). When using ICT students actively engage in constructivist activities such as searching for information or presenting the results of their work; they can collaborate with others outside the classroom by using Internet resources, email, and multimedia software to create communication networks (Wang & Shen, 2009; Walder, 2012). Constructivism is the approach that has most relevance for language instructors since the explosion of social media, distance learning and blended learning courses; this means that constructing knowledge through interactions with peers, tutors and others has become an important feature of language learning (Levy & Stockwell, 2006). Using ICT as a learning environment encourages students to focus on generating ideas. ICT makes it possible for the whole class to work on problems and issues and eventually come up with a solution or a theory (Wing & Pratt, 2013). To conclude, constructivism emphasises the role of the learner. Students learn best when they are involved in the process of understanding, and that instructional materials have to engage students and enhance the process of knowledge construction.

2.3.2 The language learning process

An important theme of language learning is that language reflects and helps shape culture, as different cultures use language differently (Kirtikara, 2010). Language is integral to the cultural process of conceiving meaning and it is a necessary precondition for culture. In a language learning process, each learner tries to achieve the management of meaning.
Students can achieve success in their studies because they are receptive and integrate linguistic forms and cultural background knowledge into their personal meanings. Learning is considered to be a meaning-making process, in which linguistic knowledge development is embedded in communicative structures (Wiriyachitra, 2001). As students with different ethnic backgrounds have different experiences in different socio-cultural environments and process their experiences differently, they understand the world differently.

Integrating ICT into traditional classes supposedly enhances the learning process, broadens communication, and increases access to authentic information. Clearly, the level of an individual’s language learning depends on personal and family experiences, and is also influenced by socio-economic and regional factors and this extends through to the level of national characteristics (Emmitt, Pollock, & Komesaroff, 2004; Siritongthawon et al., 2006). Thus, to obtain meaning or understanding, students use their personal experiences through interactions with other people as individuals and in social groups. Moreover, they construct meaning from pre-existing knowledge with the addition of new knowledge (Charungkaittikul, 2011). As part of this process, online discussion is a very powerful learning strategy and represents an opportunity to support thoughtfulness (Garrison & Vaughan, 2008; Lim et al., 2011; Snodin, 2013). Blended learning, the integration of online learning into traditional college classrooms, could be transformative for universities (Garrison & Kanuta, 2004; Monsakul, 2008; Ono & Ishihara, 2011). Therefore, the literature advises that colleges and universities need to move toward blended learning (Kripanont & Tatnall, 2011; Siritongthawon et al., 2006). All in all, an appropriate language learning process helps students to understand language better. Instructors may assist students by providing an optimal ICT environment through using ICT as an aid to support learning processes.
2.3.3 Learning environments

The learning environment should facilitate learning and be a place where learning is fostered and supported, whereby students have access to resources (Albirini, 2006; Dumridhammaporn, 2007; Pagram & Pagram, 2006). Understanding and creating an optimal language learning environment is the task of language instructors. The 1999 National Education Act pointed out that optimal language learning environments provide opportunities for students and instructors to interact and negotiate meaning. It is noted that learning is the result of interaction between students and others (Kirtikara, 2010). Learning is a social process and therefore interaction is necessary for it to take place, so students should learn to interact using the targeted language with an actual audience (Runapongsa et al., 2010; Schiller & Ingo, 2007). Under such circumstances language students have purposeful social interactions that involve authentic knowledgeable sources (Wang & Shen, 2009). Similarly, students find a sense of community in a blended learning environment (Pejovic, 2012). Students deserve to be involved in authentic tasks and real audiences, and deserve to have genuine goals for their work (Hipsher, 2010; Prasert, Pornchai, & Sasikanchana, 2009).

Students should be supported in learning how to use varied and creative language and be provided enough time to receive feedback from their audience. They must be motivated to take opportunities to be cognitively engaged in their learning processes (Boonnoon, 2012; Puakpong, 2005; Shank, 2007). The size of classes affects students and the quality of teaching and learning in language class room contexts (Cooner, 2009; Johnson, 2002). Instructors should therefore help students by creating learner-centred classrooms so that students can adapt to autonomous learning strategies (Nonkukhetkhong, 2006; Sutherland, 2004). In situations where there has been a mixture of traditional and
online resources, this has resulted in marked improvements in student pass rates (Department of Education Training and Youth Affairs [DETYA], 2001; Pallant, 2009). Students’ use of the new environment has resulted in a generally positive evaluation of the main elements of the blending and widespread use of the new online features (Phornphacharaphong, 2012). When using ICT, students discuss ideas in class or by videoconferencing, and also use web-based networking software to build ideas (Kabilan et al., 2010). The key factor is that ICT develops students as knowledge builders (Mikre, 2011; Wing & Pratt, 2013). Moreover, students create and build on ideas and knowledge within the community of the classroom, and engage in progressive problem solving (Charungkaittikul, 2011).

Similarly, interactive learning tools have the potential to increase student motivation and learning in an online environment (Bhuasiri, Xaymoungkhoun, Zo, Rho, & Ciganek, 2012; Cameron, 2003). Likewise, it has been recognised that there cannot logically be a single set of language knowledge taught to all students using a single language-teaching method and the argument that there is a need for a variety of combinations of practices that can be adapted as appropriate for students’ needs and the contextual reality in which they are studying is made convincingly (Anderson et al., 2008, p. 89). Finally, studies have confirmed that learner autonomy should be supported (Alagic, Gibson & Doyle, 2004; NECTC, 2011; Zou, 2011). Consequently, the creation of effective learning environments is an important pedagogical task of language instructors. Learning environments should be introduced to enhance the learning process, and ICT as learning tools and resources should be provided to students with appropriate guidance.
2.3.4 The impact of ICT use on language learning

Currently ICT plays an important role in education as it is an advanced technology with considerable impacts on language learning and teaching. The advantages of using the Internet include the convenience of sending messages instantaneously and internationally to many recipients, and the convenience of having access to vast numbers of text and multimedia resources (Shin, 2011). Students can acquire and develop many skills through activities on the web (Johnston & Webber, 2003; NECTC, 2011). The World Wide Web (www) also provides authentic materials and interaction for language students and instructors, in an environment where communication is free from time restrictions and distance limitations (Warschauer, 2012; Wang & Shen, 2009). Cottrell and Robinson found students preferred the blended learning approach and that when it was introduced; classroom time was reduced (Cottrell & Robinson, 2003). BL enables students to learn, search, create, and practise, at their own pace. Instructors or universities therefore need to provide ICT learning environments for ICT blended instruction.

Instructors should be aware of how technology supports the curriculum and should be trained to use the technology, both in a technical and instructional manner. Instructors should be encouraged to develop positive attitudes toward implementing technologies within their classes (Finger, Russell, Proctor, & Russell, 2007; Kemwimuttiwong, 2012). Instructors teaching ESL cannot avoid using computer-based techniques in the 21st century (Chetchumlong, 2010). There is a need for a variety of combinations of practices that can be adapted as appropriate for students’ needs and the contextual reality in which they are studying (Makura, 2014; Wedell & Malderez, 2013). Therefore, reports strongly suggest that universities and administrative boards should support instructors by providing facilities and budgets to integrate ICT infrastructures into their learning processes, and lecturers should be
trained in ICT skills (James, 2008; Marshall & Taylor, 2014). Once they were trained, lecturers would increase their confidence and knowledge of how to employ online learning through further education (Ono & Ishihara, 2011). If this was done, students would increase the effectiveness of their ICT interactions and their research skills, because in language learning, today and into the future, no matter where the class is, computer-assisted language learning will be indispensable (Chapelle & Doulas, 2006; Kanokpermpoon, 2011).

Orientations which favour lifelong learning and connectedness are beneficial and ICT teaching practices are associated with significantly better learning outcomes (Law et al., 2008; Lim, Morris, & Kupritz, 2007). ICT can enhance language learning and teaching in three main ways: firstly, it offers vast resources for both students and instructors (Stacey, 2008). Secondly, it offers students the possibility of interaction with other students, with their instructors and with others (Miyazoe & Anderson, 2010). And thirdly, it offers up-to-date authentic materials to make classrooms more real and attractive for students (Romo, 2013). Students learn best while they are engaged in purposeful and motivating activities in real-life contexts (Bhuasiri et al., 2012; Robert, 2006). ICT in the language learning classroom provides various and effective teaching resources to support interactive learning (Zou, 2011). Therefore, the implementation of ICT blended instruction may motivate students to enjoy learning and achieve their goals.

2.4. Students’ Attitudes

The engagement in student centred, ICT enhanced blended instruction is likely to have a positive effect on students’ attitude to learning English as a Foreign Language. This section reviews the definition of attitude, literature on attitude as it relates to learning English as a foreign language and studies investigating attitudes towards ICT and blended learning.
2.4.1 The definition of attitude

There are several definitions, which describe the characteristics of attitude. According to Gardner an attitude is ‘an evaluative reaction to some referent or attitude object, inferred on the basis of the individual’s beliefs or opinions about the referent’ (Gardner, 1985, p. 135), while another study argues that attitude refers to affect and an evaluative, emotional reaction (Mantle-Bromley, 1995). In one study an attitude towards an object has been defined as a psychological tendency that is expressed by viewing it with some degree of favour or disfavour (Eagly & Chaiken, 1993), while others describe attitude as a combination of evaluative judgments about an object. Attitude has also been defined as an individual’s positive or negative feelings about performing target behaviour (Ajzen, 2005). Research on attitudes makes a distinction between attitudes toward an object and attitudes toward behaviour (Zhang, et al., 2008). In general, attitude is considered to be concerned with affective evaluations.

2.4.2 Students’ attitudes toward ICT

It is well established that attitude plays an important role in people’s judgments, evaluations and behaviours, so the acceptance and use of ICT is a social phenomenon where attitude also plays an important role (Liu, 2009). Furthermore, attitude studies suggest that people’s attitudes toward using ICT, or their early experiences of ICT, will have an influence on the formation of their attitudes to new forms of ICT (Kemwimuttiwong, 2012; Zhang, et al., 2008). Findings illustrate the importance of curriculum design for learning performance with technology awareness, motivation, and changing learners’ behaviour as prerequisites for successful eLearning implementations (Bhuasiri et al., 2012). Thai adolescents have exhibited good attitudes toward the cultural use of appropriate ICT in their own communities
with emphasis on amiable relationships (Kemwimuttiwong, 2012). As such, this research should explore the relationships between prior attitudes, current attitudes, and behavioural intentions in regards to the voluntary use of ICT.

**2.4.3 Students’ attitudes toward learning achievement**

Attitude is our subconscious nature. It controls almost 90% of what we do every day (Best, 2007). Attitude is our habit of thought; “In the educational milieu attitudes are important because they can predict behaviour if they are measured properly” (Liu, 2009, p. 101). Several studies have confirmed this statement in relation to foreign language learning. Individuals who have positive attitudes towards the target language are likely to have good learning behaviours (Wudthayagorn, 2000). Having a positive attitude is critical to success and the best way to change attitude is to change input (Poturkovic, 2007). It appears from the literature that student’s motivation was significant factor for students’ achievement (Shin & Gamon, 2001).

It is claimed that attitudes directly influence motivation, and that motivation directly influences language achievement (Shin & Gamon, 2001). Based on theories about the language learning process, it can be seen that attitude is socially and psychologically complex, and is influenced by several variables (Zhang, et al., 2008). Attitudes in a language context can be feelings or emotional reactions towards language learning situations; therefore, attitude is important and influences students’ overall outlooks towards language and culture. Consequently, in the teaching of English in Thailand, it seems that a positive attitude might significantly encourage students to learn because their own satisfaction and their sense of fulfilment may rely on their achievements. With this in mind, a goal of this
research is to investigate the potentials of BL to support more effective teaching and learning practices and the impact of interpersonal attitudes on learning outcomes of students.

2.5. Blended Learning

This section examines blended learning applying six sub-topics: background and definition of blended learning, blended learning pedagogy, and the framework of blended learning, current trends and issues affecting blended learning, the advantages of using ICT-based blended instruction and the disadvantages of using ICT-based blended instruction.

2.5.1 Background and definition of blended learning

Blended learning (BL) is a combination of technologically aided learning and traditional instruction. It is a logical and natural progression of the learning agenda due to the way IT continuously evolves (Thorne, 2003). Learning done at least 80% through the Internet may be called online learning, e-learning, blended learning or web-based learning (Charmonman, 2013). Evolving blended learning models provide the essential methodological scaffolding to effectively combine F-to-F instruction, online instruction, and arrays of content of all forms (Bonk & Graham, 2006). Blended learning is a stepping stone to the future as it drives us to get the job done (Cross, 2006). The historical emergence of blended learning has been the convergence of traditional F-to-F learning environments and computer-mediated learning environments (Banados & Jauregi, 2008). Personal and mobile devices are likely to have an impact on emerging models of blended learning and their use is likely to produce interaction strategies that offer useful means for enhancing individualisation, personalisation and relevancy (Edilson, 2012; Garrison & Cleveland-Innes, 2005). A study of the use of ICT for distance teaching found students can succeed when given the right support, and it has also
been found that it helps students make the transition to more self-reliant learning at university (Wing & Pratt, 2013).

In a blended learning scenario the student may participate in F-to-F class discussion or log in and complete online exercises. Interaction is the glue that holds these pieces together (Bonk & Graham, 2006). BL has the advantage of combining the classroom, the home and the workplace by providing an essential methodology to support effectively combining F-to-F instruction and content (Bonk & Graham, 2006) and BL aims to challenge us to look at learning from different perspectives (Garrison & Cleveland-Innes, 2005). BL courses are ‘systems that combine F-to-F instruction with computer mediated instruction’ (Bonk & Graham, 2006). Instructors may choose BL for improved pedagogy, increased access, flexibility, and cost-effectiveness. There are three definitions of BL that have relevance here: combinations of instructional modalities or delivery media, combinations of instructional methods, and combinations of online and F-to-F instruction. The literature suggests that ICT-blended learning instruction is a valuable strategy for improved pedagogy, increased access, flexibility, and cost-effectiveness.

2.5.2 Blended learning pedagogy

In higher education, blended learning focuses on enabling access and flexibility, enhancing current teaching and learning practices, and transforming the way individuals learn (Hudson, 2010; Story & Dielsi, 2003). According to some research, traditional F-to-F learning environments are indispensable for the social aspects of teaching and learning (Trotter, 2008; Utts, Sommer, Acredolo, Maher, & Matthews, 2003). Internet-based as asynchronous learning technologies can also provide social aspects for learning by creating students with more flexible and interactive learning environments which are independent of time and
space (Monsakul, 2008). These asynchronous learning environments can also enhance interaction between instructors and students, which may provide motivation for learning (Zou, 2011). Therefore, it is reasonable to take advantage of the Internet and other technologies such as mobile devices, simulations as well as F-to-F learning (NECTC, 2011; Windgard, 2004).

Research states that future education requires blended learning, the infusion of various technologies and communication modes into our lives (Anderson et al., 2008; Sax, 2006). BL offers the opportunity for students to be cognitively engaged and feel that they are learning individually by participating and contributing to a community of inquiry (Jung, 2005). Students prefer F-to-F learning but may be more willing to critique participants’ work in an online context because of the asynchronous nature of online learning (Santipaporn, 2010). One of the strengths of online learning highlighted is the opportunity for reflection (Karen et al., 2005). Clearly, blended learning is a powerful tool for mobilising innovation to address the real challenges of engagement and access in higher education as classrooms become more open and learning spaces become more flexible.

2.5.3 The framework of blended learning

Blended learning (BL) supports connection and collaboration amongst students and creates a learning environment that integrates social, cognitive and teaching elements in a way that will precipitate and sustain critical reflection and discourse (Cottrell & Robinson, 2003). BL is a significant presence in higher education that offers contact and convenience for instructors and students, and has enormous potential to transform the nature of the educational experience with the use of direct and mediated communication and the
rethinking of educational approaches (Garrison & Vaughan, 2008; Goodwin, 2010; Kurthen & Smith, 2006; O’Toole & Absalom, 2003).

Blended learning creates convenient learning experiences and real opportunities to provide the right learning at the right time and in the right place for an individual (Bhuasiri et al., 2012). It is universal, crossing global boundaries and time zones, bringing different cultures and groups of students together (Thorne, 2003). BL offers access to a broad array of academics and academic-related resources James (2008) and it can be used to access information and discussion of real world issues, applications and policy (Hopper, 2003; Robert, 2006). In summary, BL provides time and cost reduction benefits and the convenience of learning from the online contexts while fulfilling the human need for social interaction through F-to-F discussion.

2.5.4 Current trends and issues affecting blended learning

Blended learning approaches improve the level of active learning, peer-to-peer learning and learner-centred strategies used. BL can bring a level of authenticity to the traditional classroom experience (Shin, 2011). According to Owston, Garrison, and Cook (2006), it can be used to integrate formal classroom learning and informal workplace learning, and it can be used to promote collaborative learning and problem solving in environments that mix live F-to-F elements with virtual reality (Dziuban et al., 2005). BL is used to provide a balance between flexible learning options and the high-tech human interactive experience (Cooner, 2009; Windgard, 2004; Wu & Hiltz, 2004). BL reduces the duration of courses, which allows increased flexibility in learning as well as presentation experiences but it retains some traditional F-to-F socialising (Boonnoon, 2012; Windgard, 2004).
Blended learning systems provide an opportunity to reach a large, globally dispersed audience in a short period of time with consistent, semi-personal content delivery (Ono & Ishihara, 2011; Sanprasert, 2010; Willett, 2002). It can provide cost savings due to reductions in the cost of physical infrastructure and improved scheduling efficiencies (Lim et al., 2011; Ono & Ishihara, 2011; Twigg, 2003). Likewise, e-learning’s perceived benefits include lower cost of delivery and higher educational outcomes (Haslett et al., 2011; Pagram & Pagram, 2006; Snodin, 2013). Some previous studies of e-learning in Thailand found those students’ outcomes were more favourable in online groups than in traditional groups (Kemwimuttiwong, 2012; Kripanont & Tatnall, 2011; Siritongthawon et al., 2006; Suanpang & Petocz, 2006). The results of these studies are useful for the present research into the development of an effective and efficient online learning system in Thailand. To sum up, blended learning improves pedagogy because it increases access to, and flexibility of, resources for the traditional classroom experience and also provides time and cost reductions. As a consequence of this, ICT blended instruction should be used to explore the English learning outcomes in Thailand educational development.

2.5.5 The advantages of using ICT-based blended instruction

This section reviews the advantages of using ICT-based blended learning in Western, Asian and Thai contexts.

2.5.5.1 The advantages of using ICT instruction in Western contexts

Several studies have investigated how BL is integrating ICT into the traditional teaching approach in a manner, which focuses on student-centred learning and autonomous students. The introduction of online learning into traditional classes is an efficient means of carrying out activities previously tethered to the classroom setting, and it is a means of promoting the
pursuit of higher levels of learning (Nykvist & Lee, 2013; Wang & Shen, 2009). The attendance rates of online course were significantly greater than attendance rates for traditional lectures. Therefore, it can be inferred that hybrid courses increase student attendance (Vignar et al., 2005). Two other studies have found that BL course design, group dynamics and facilitation style had a strong influence on the success of the medium and the level of student participation (Khamis, 2009; Vaughan & Garrison, 2005). Instructors should therefore be trained to understand how to improve students’ cognitive development through online discussions in order to get the most from blended learning environments (Hoic-Bozic, Mornar, & Boticki, 2009).

Additionally, several studies have found that BL increases interactivity and increases the choice of communications options, and that the online environment and interactive learning tools increase student motivation (Cameron, 2003; Vignar et al., 2005). These studies found that students expressed their views more frequently, their communication improved, their interaction with others increased, and their learning outcomes improved (Na-Songkhla, 2011). Blended courses improve interactivity, foster peer collaboration across different learning modalities and establish a sense of community (Leh, 2002). BL encourages the adoption of new pedagogical strategies, increased social interaction in the learning process and significantly increased the convenience of study for students (Elsner, 2006).

BL supports critical thinking; therefore, higher education needs to increase its use of blended learning (Garrison & Kanuta, 2004). A study examining blended learning in eight courses in Canadian universities that were part of the Collaboration for Online Higher Education and Research Network instructors and students were generally satisfied with their interactions (Lowry & Turner, 2007). Similarly, two studies which compared face-to-face,
blended and fully online courses found that students using blended courses had stronger interactions with peers and lecturers which allowed lecturers to think less about delivering instruction, and instead focus on producing learning outcomes and reaching out to students (Cox et al., 2004; Dziuban et al., 2005).

In addition, ICT provides intellectual stimulus and is a source of personal satisfaction for all participants. A recent study both instructors and students declared that interaction and learning are more personal, convenient, frequent, and deeper in BL courses than they are in traditional courses (Walder, 2012). Added to this, the ICT blended instruction course, which they examined, was deemed worthwhile as it provided students with multiple sources of information (King & Hildreth, 2001). Additionally, the hybrid model provided an excellent way for institutions to enter the online arena as the components of good practice could be incorporated into an effective student-centred learning environment (Martyn, 2003).

One of the most positive features of BL is that it enhances learning outcomes. According to a study on the effects of online grammar instruction on low proficiency EFL college students’ achievements, online instruction, when used as a supplement to in-class instruction, helps motivate and enhance EFL students’ mastery of English grammar (Reima, 2005). Another study of an approach to blended learning in the United Kingdom, at the Open University Business School (OUBS) allowed students to study the program completely online or online with F-to-F tutoring sessions. Basic guidelines for students were provided which promoted self-managing groups in online environments. The authors concluded that students’ satisfaction was greater in the BL program (Samon & Lawless, 2006). Further, the hybrid flexible delivery model has also been found to be more positively associated with higher final marks and improved learning outcomes (Dowling et al., 2003).
In general, this literature reports that BL increases student performance, raises motivation, provides a wide platform for communication, and increases participant interaction. Those students who attended lectures and read web materials performed better in examinations than did those students who only attended lectures or only used the web (O'Toole & Absalom, 2003). Findings from other studies, such as comparisons of face-to-face, blended and fully online courses, found that BL courses outperformed the other types (Na-Songkhla, 2011; Reasons, Valadares, & Slavkin, 2005).

Learner responses in BL are often more positive than in a F-to-F classroom (Lee & Im, 2006). A study of implementing ICT in classrooms, found that technology reduced costs by 40%, increased course completion rates, improved student retention, improved student attitudes towards the subject matter and increased student satisfaction with the mode of instruction (Twigg, 2003). Similarly, investigation into the characteristics of exemplary online courses has found the best courses feature abundant and timely feedback, judicious use of technology, and learning by doing (Hopper, 2003). In a similar study students preferred a BL approach because it reduced classroom time (Cottrell & Robinson, 2003). Other studies reported that self-managed blended learning worked well for adult students (Cox et al., 2004; Zou, 2011). Thus, it is clear that BL increases student convenience, enabling them to access information anytime, anywhere.

2.5.5.2. The advantages of using ICT instruction in Asian contexts.

Several Asian studies support the view that F-to-F teaching integrated with ICT can improve pedagogy. Studies on the impact of technology and other changes on English language teaching (ELT) have found that computers are impacting upon ELT as a result of the Internet and the associated need for computer-mediated communication (Huw, 2005; Latchem &
Jung, 2010; Lim et al., 2011; Ono & Ishihara, 2011; Suanpang & Petocz, 2006). The use of blended learning is increasing in higher education worldwide, but it is not without problems. For instance, a study of knowledge and learning activities at Beijing Normal University noted that, in large part due to the Chinese culture of learning by rote and extensive instructor control, students experienced discomfort when required to engage in self-regulated learning (Huang & Zhou, 2006; Shin, 2011). Blended learning is having a significant impact on learning in higher education settings in China and is changing traditional instructional approaches brought about by the lack of instructional equipment and experienced instructors (Huang & Zhou, 2006).

Similarly, the types of BL prevalent in many Japanese universities is used as a tool for publishing course syllabi and as an integral part of teaching and learning to supplement the traditional F-to-F processes in their courses (Jung, 2005; Pavasajjanant, 2014). In another study of blended learning at Wollongong University, Australia and its Singapore campus found that blended learning increased students’ involvement in learner-centred approaches (Jung, 2005). The changing roles and responsibilities of students, instructors, and support personnel mean there is a need for better support for the online portion of learning (Walder, 2012; Lefoe & Hedberg, 2006; Wang & Shen, 2009). Likewise, a model of blended learning that is used in the Open University in Malaysia was evaluated by Sotiriou et al. (2006). The model used self-management learning, F-to-F learning, and online learning. This study concluded that digital resources will play a prominent role in the future of the Open University in Malaysia and that cheaper mobile ICT infrastructure will be a key contributing factor in the transition to blended learning.

Other positive features of BL are increased information access, and time flexibility (Shin, 2011). Students and instructors often favour of hybrid courses (Leh, 2002). In
particular, students feel they learned more in BL courses than they did in traditional courses. Also, they felt a greater sense of enjoyment, flexibility, and belonging in courses that used asynchronous communication, thus BL proved to be an effective way to motivate students to participate in online communities (Leh, 2002).

2.5.5.3 The advantages of using ICT instruction in Thai contexts

There have been few studies, which have investigated whether the BL approach was appropriate and effective in teaching and learning English as foreign language in Thailand. Studies have found that language teaching pedagogy is shifting away from traditional curricula towards task-based approaches (Nootprapa, 2011; Suanpang & Petocz, 2006; Sirizonthawon et al., 2006). Moreover, the integration of the World Wide Web into education is having a significant impact on young students in higher education by creating authentic communities of learning as online information offers personal enrichment (Kemwimuttiwong, 2012; Kirtikara, 2010; Kripanont & Tatnall, 2011). There is a lack of research in ICT blended instruction in teaching and learning English as foreign language in rural Thai universities. For that reason, this study may be considered as the first blended learning research in this context area. The incorporation of blended learning might be a way of meeting the increased challenges to teaching and learning in this context.

2.5.6 The disadvantages of using ICT-based blend learning

Several arguments have been raised against using ICT blended instruction. This section reviews the disadvantages of using ICT-based bended learning in Western, Asian and Thai contexts.
2.5.6.1 The disadvantages of using ICT instruction in Western contexts

Some studies, which compared traditional and hybrid Internet-based instruction, found that students’ performances in the hybrid format were no better than those of students using the traditional format. Moreover, students in the hybrid format felt that there was more work to do than in a traditional course or that the workload in the hybrid course was excessive (Carroll & Hsu, 2003; Frazee, 2003; Leh, 2002). Here may be no significant difference between the traditional and blended learning groups in terms of perceived relevance, satisfaction, self-efficacy or participation discussions (Frazee, 2003). This is consistent with a study that compared students’ performances in an Internet-based biology course to those of students in a traditional biology course. The study found no significant difference between students’ test scores (King & Hildreth, 2001).

Planning, developing, implementing and maintaining a large-enrolment hybrid course take more time than a traditionally delivered course. Johnson (2002) concluded that the accessibility to course content and connectivity with students increased in the hybrid format; however, there was no difference in terms of effectiveness of instruction. Using a blended format does require more time on the part of the instructor, and is sometimes prone to technical problems (Windgard, 2004). Other studies have found other disadvantages in blended courses such as the increased time demands on students and instructors and a lack of support by peers and institutions. Other major barriers to the effective use of blended learning are a resistance to breaking with the traditional scheduling format, and students’ appreciation of traditional course experiences such as face-to-face class discussions (Utts et al., 2003).
Instructors who have learnt English through the traditional approaches may find it difficult to suddenly turn their backs on familiar classroom methods in favour of newer ones (Hudson, 2010). In a study of online and F-to-F classes, instructors found the online format twice the workload of F-to-F instruction (Sutherland, 2004). Such results suggest that online learning should be blended with F-to-F instruction.

Students in online courses may feel a lack of community and belonging and students may often be confused or uncertain about course material (Parkinson, Greene, Kim, & Marioni, 2003). Students in traditional courses expressed satisfaction about the classroom climate, learning needs, learner efficacy, interactions and the appropriateness of the format for the content (Picciano, Dziuban, & Graham, 2014). In addition, a study comparing traditional learning to web-assisted learning indicated that students in the traditional course were more satisfied than the web-assisted students with their learning experiences of critical thinking, team building, and social interaction (Priluck, 2004).

Some limitations of the hybrid model are that it is affected by computer viruses, power failures, and other technological problems. In addition the study found the different use for the technology was new and unfamiliar to many students (King, 2002). The selection of hardware and software is likely to be crucial for instructors and students. A study of an online course at Rowan University in Glassboro, New Jersey, found that students and staff perceived workloads increased when using the internet (Willett, 2002).

A comparison of F-to-F discussions and online threaded discussions found that students prefer one approach over the other based on their learning preferences. Much of the content placed in a course may be accessed by only a small percentage of the students (Utts et al., 2003). Further, BL might make workloads greater, students may feel the lack of a
sense of community with their classmates, and technology problems could create confusion (Utts et al., 2003). Computer-supported instruction is an expensive way to teach, so consideration should be given to the purpose for which it will be used (Bonk & Graham, 2006). To sum up, consideration needs to be given to keeping a balance between acquiring and creating knowledge on one hand, and ICT utilisation on the other.

2.5.6.2 The disadvantages of using ICT instruction in Asian contexts

Studies from many Asian countries have found difficulties associated with online learning (Chiu, 2012). One such study investigated the growing popularity of combining F-to-F and online instruction in Korea (Yang, Lee, & Kim, 2012). The results included the following negative aspects of the online learning experience: heavy workloads, lack of course-related information, Internet inaccessibility, boring instructional content, a lack of interactivity with instructors, too frequent student assessments, inadequate management of the learning process, the slow speed of the Internet, inadequate cyber instruction, minimal feedback from the instructor, the high difficulty level of the course content and little chance for peer communication and interaction (Jia et al., 2014; Karimi et al., 2013; Latchem & Jung, 2010; Lee & Im, 2006; Makura, 2014; Maynard, 2013; Yang et al., 2012). Studies of ICT-based courses in Malaysia found that there were two main problems faced by the students: a lack of English proficiency and a lack of training in ICT (Jung & Latchem, 2013; Lim et al., 2011; Melor, Maimun, & Chua, 2009; Pavasajjanant, 2014). The reported limitations of the hybrid models in developing countries paralleled those of the Western countries and also included computer viruses, power failures, other technology infrastructure problems and the lack of ICT professionals.
2.5.6.3 The disadvantages of using ICT instruction in Thai contexts

Several studies have investigated the use of ICT in Thai education. It may be difficult to get students’ attention when they were in self-access centres and had other negative feedback about technical problems rather than pedagogy (Santipaporn, 2010). Problems can occur when software platforms and computers are selected by administrators instead of the language instructors who are using the ICT (Santipaporn, 2010; Siritongthawon et al., 2006). Due to variations in their access to external funding, inequalities have arisen among Thai universities in their utilisation of technology (Ng, 2009). There are obstacles to implementing ICT in Thai education due to inadequate telecommunications infrastructure, underdeveloped skill-sets, instructor-led approaches to education, a lack of critical thinking skills development, and a lack of problem-solving skills among people working in the ICT sector (Kemwimuttiwong, 2012; Kripanont & Tatnall, 2011; Wongsuriya, 2012).

Copying e-learning styles from other countries may not suit Thai students, and more importantly, inappropriate e-learning styles may affect Thai culture by influencing the values of the new generation (Pagram & Pagram, 2006; Sanprasert, 2010). Another obstruction to progress in the adoption of BL is the students’ cultural backgrounds. Thai students may not be willing to ask questions directly to the instructor in the classroom for fear of challenging the instructor and causing offence (Adamson, 2005; Ourairat, 2011). A study of technology and English language teaching (ELT) found that computers are having a significant impact on teachers’ teaching method (Phornphacharaphong, 2012). As a consequence, it was found that the critical challenges for the future are to reduce F-to-F contact hours, increase asynchronous interaction and attain the right mix for blended learning (Suanpang & Petocz, 2006; Panyametheekul & Herring, 2003).
Other problems in e-learning development in Thai higher education institutions include some instructors not paying much attention to producing online content and introducing learning media into e-learning systems. Further important problems are: the lack of e-learning professionals such as instructional designers and courseware developers; a lack of hardware and software resource servers; and a lack of the equipment needed for connecting to the network. Additionally the high cost of copyrighted software needed for developing e-learning is problematic (Chanchaowon, 2010; Chulachat, 2002; Hipsher, 2010; Kirtikara, 2010; Pagram & Pagram, 2006; Runapongsa et al., 2010; Siritongthawon et al., 2006; Suwanbenjakul, 2002; Vonganusith, 2008).

2.6. Addressing the Gap: Why ICT blended instruction is necessary in Thailand

Despite these problems, ICT has been used not only for distance learning but also for supporting traditional classroom instruction and traditional courses can benefit from the addition of BL. Instructors in traditional course formats may need to increase the duration of student engagement with course content and provide rapid access to help at points where student confusion may occur. Instructors are creating web-based lessons as a medium to deliver instruction and are finding that the Internet can be used for lesson delivery as well as for resources that support the blended learning approach. As can be seen from the literature presented, most research findings in this area show that a blended learning environment addresses some weak points of both online learning and traditional approaches. Furthermore, students’ attitudes toward online instruction and traditional instruction are generally positive in different ways. Therefore, it would appear that blended learning may be the best approach to teaching English in Thai higher education.
BL can provide students with numerous learning options, with its most positive features being that it provides improved pedagogy, communication, student-centred learning, increased information access, time flexibility, peer interactivity, student enjoyment and learning outcomes. It might also reduce class time and course costs. As such, the introduction of ICT blended instruction may provide a valuable contribution to learning in Thai higher education. These learning options may become more suitable as ICT connectivity increases in developing countries.

In other respects, online course design techniques can enhance traditional course formats, increase instructor efficiency and enrich student learning by increasing their involvement in the course. This may create the impression of passivity in classroom discussions; however there already seems to be a lack of critical questioning in the Thai educational system. One solution may be the use of ICT to support student-centred learning, promote critical thinking, and increase interaction.

There are several studies on BL in developed countries and in Asia but there are a few studies of BL in teaching English as foreign language in Thailand. In particular, there is no relevant research on utilizing BL approach in teaching English in higher education in a rural university of North-eastern Thailand. As a consequence of that, using the BL approach for teaching English in a Thai university may be of great benefit to students as it could inspire, excite, stimulate and motivate students to learn English. Further, BL would open to students and instructors a new world of networking on a global scale, enabling students to link internationally with other forward-looking learning and development professionals. BL should provide an active learning environment and encourage students to be able to learn, practice and reach their goals successfully. This study will be the first in the field on this
new way of learning and teaching English in higher education in a rural university of North-eastern Thailand.

2.7. Summary

This review reveals a gap in the research regarding utilising ICT in teaching and learning English in Thailand. This study that is outlined in the next chapter investigates the use of online learning in combination with traditional F-to-F classroom instruction, a format known as blended learning (BL). The study was primarily motivated by the need to improve the ability of students to deal with the digital world in the twenty-first century and to develop innovative learning strategies. The next chapter presents the methodology used to address the research questions.
CHAPTER THREE - RESEARCH METHODOLOGY

3.1. Introduction

This study investigated the use of blended learning in teaching English in a Thai university and this chapter presents the research questions, the research methodology and the procedures used for answering the research questions. It describes the students who participated in the research, data collection, design of blended learning courses, data analysis, framework statistics, and pilot study, along with research timing. The study employed a mixed methods design that involved both quantitative and qualitative data analysis (Wiersma & Jurs, 2009). The study’s focus was to investigate students’ English language proficiency, students’ attitudes towards learning English and students’ participation in language learning.

The study involved two student cohorts: A face-to-face (F-to-F) group in the university Foundations of English 1 subject who were taught using a traditional approach; and a blended learning group (BL) that was also taught Foundations of English 1. Prior to the study, the English learning achievement of both groups was measured in a pre-test assessment. The BL group was also assessed, via questionnaire, as to their attitudes towards learning English before the course. Classroom observations were conducted for both groups. After the subject Foundation of English 1 had been concluded, all students completed a post-test assessment. The BL group was evaluated as to their attitudes toward learning English through ICT blended instruction. A questionnaire and interviews were conducted to elicit this information. The data obtained was analysed to investigate whether the two groups’ learning outcomes were significantly different in their reading, writing, listening and speaking skills. The results were analysed to discover how ICT blended instruction may
influence students’ attitudes toward learning English and the differences between the groups of students (Pethrod & Chamniprak, 2004; Sharma & Barrett, 2007; Wiersma & Jurs, 2009).

3.2. Research Questions

This study is guided by the first research question: Does the use of ICT blended instruction affect students’ achievement levels? To investigate whether there is a difference in students’ engagement in classroom activities, the second research question was: In terms of classroom participation, what are the observable differences between students who used ICT blended instruction and those that did not? In order to discover students’ attitudes towards learning English through blended learning, the third research question was: Does ICT blended instruction affect students’ attitudes toward learning English?

3.3. Study Procedures

Permission for the study was granted by the President of the University, the Dean of Faculty and the English department leader at a rural university in North-eastern Thailand. The research project was permitted and conducted with the generous cooperation of the University, and its instructors, faculty, volunteers and students. First-year students enrolled in Foundations of English 1 were randomly selected to participate in the study. Curriculum program majors were randomly allocated to blended learning (BL) and F-to-F groups. A separate group of students enrolled in Community Development, was also selected to partake in the pilot study (Tuckman, 2000).

3.3.1 Population

Students were selected from 448 students attending a rural university in the North-eastern Thailand in 2012, from eight first-year classes studying Education degrees in Mathematics,
Computer Science, Primary, English, Thai Language, Social Science, Public Health and Science. Students from all of these classes enrolled in *Foundations of English 1* in the first semester 2012.

### 3.3.2 Sampling

From the eight education degree classes, six classes were selected. Three classes, comprising 139 students in total, were chosen using purposive selection for the F-to-F group. The remaining 139 students were nominated as the blended learning (BL) group, resulting in a total of 278 students. The research took place from May to September 2012. The groups were instructed for three 50 minutes periods per week for 16 weeks. The instructors involved in the research were anonymous (BL instructor and F-to-F instructor). The instructors for both the F-to-F and BL courses shared quite similar background knowledge and teaching experience having taught the subject in the same university for 10 years (Sanparsert, 2010).

### 3.3.3 The subjects

The subjects were 278 students attending a rural university in North-eastern Thailand, from six first-year classes. The learning groups and the gender distribution are set out in Table 3.1.
Table 3.1. Major Program/Students Gender

<table>
<thead>
<tr>
<th>Group/ Major Program</th>
<th>Students gender</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>BL group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>13</td>
<td>34</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Thai Language</td>
<td>7</td>
<td>39</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Public Health</td>
<td>3</td>
<td>43</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>116</td>
<td>139</td>
<td></td>
</tr>
<tr>
<td>F-to-F group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maths</td>
<td>13</td>
<td>35</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>5</td>
<td>36</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>121</td>
<td>139</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>237</td>
<td>278</td>
<td></td>
</tr>
</tbody>
</table>

The 278 students in the study consisted of 41 male students (14.7%), and 237 female students (85.3%). The 139 students (50%) in the blended learning group consisted of 23 males and 116 females. The F-to-F group consisted of 18 males and 121 females, as displayed in Table 3.1. The three majors randomly assigned to the blended learning group were: Social science, 47 students (16.7%), Thai language, 46 students (16.5%), and Public health, 46 students (16.5%). The three majors randomly assigned to the F-to-F group were: Maths, 48 students (17.3%), Primary, 50 students (18%), and Science, 41 students (14.7%). As a consequence of that, there were 139 students in each group.
3.3.4 Research design: Mixed method design

Instructors of a rural university in the North-eastern Thailand instructed both the traditional face-to-face group (F-to-F) and blended learning groups (BL). The F-to-F group was traditionally taught from a textbook whereas the blended learning group was taught via blended learning. In order to ensure that the students could use computers and access the Internet, six periods of computer training were completed by both F-to-F and BL groups. ICT specialists communicating in Thai gave instruction. The intent here was to explore students’ opinions about ICT blended instruction. The F-to-F group then sat the pre-test before the semester’s instruction began. They completed a post-test after the course. The blended learning group sat for the pre-test, and then completed an attitude questionnaire before the semester’s blended ICT instruction. The post-test was conducted after the course, prior to completing the attitude questionnaire and interviews, which were used to examine the students’ opinions regarding ICT instruction (McMillan, 2008). Observations of the behaviours of both groups were recorded over the whole semester. The research design is illustrated as follows:
Table 3.2. Research Design

<table>
<thead>
<tr>
<th>Students/Group</th>
<th>Pre course</th>
<th>During the course</th>
<th>Teaching Approach</th>
<th>Post course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blended Learning group (BL)</td>
<td>- ICT training</td>
<td>- Classroom observation</td>
<td>- ICT blended approach (Textbook + F-to-F + course websites + social medias)</td>
<td>- Post-test</td>
</tr>
<tr>
<td></td>
<td>- Pre-test</td>
<td>- Researcher field notes</td>
<td></td>
<td>- Post - attitude survey</td>
</tr>
<tr>
<td></td>
<td>- Pre-attitude survey</td>
<td></td>
<td></td>
<td>- Website evaluation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Semi-structured interviews</td>
</tr>
<tr>
<td>F-to-F group (F-to-F)</td>
<td>- ICT training</td>
<td>- Classroom observation</td>
<td>- Traditional approach (Textbook + face-to-face)</td>
<td>- Post-test</td>
</tr>
<tr>
<td></td>
<td>- Pre-test</td>
<td>- Researcher field notes</td>
<td></td>
<td></td>
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</tbody>
</table>

This study collected quantitative data from the pre-test and post-test, questionnaires and classroom observations. Qualitative data on possible student attitude changes was obtained from the survey and interviews. In addition to the qualitative data from the interviews, qualitative data was obtained from the researcher’s field notes and open-ended questionnaires. The research design was developed and guided by the work of Wiersma & Jurs (2009).
3.3.5 Variables

There are two main types of variables: independent and dependent variables (Wiersma & Jurs, 2009). Details of the research variables and the measurement tools are presented in Table 3.3.

Table 3.3. Research Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Research Instruments</th>
<th>Test/ Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variable</td>
<td>Dependent variable</td>
<td></td>
</tr>
</tbody>
</table>
Independent variables in this study included the two types of instruction: traditional teaching using textbooks, face-to-Face class (F-to F) and lectures within a conventional classroom. The class was traditionally taught from a textbook and workbook, American Head Way A and B (Soars & Soars, 2001, 2004). ICT blended instruction or blended learning (BL) class, based on online learning combined with F-to-F traditional teaching methods. The BL class studied textbook and workbook; American Head Way A and B by Soars & Soars (2001, 2004) and also utilised the course website resources and social network tools such as Skype, Twitter and Facebook. The dependent variables that could be affected by the independent variables are the students’ English learning achievements, the students’ attitudes toward learning English through blended learning and the students’ participation.

3.4. Research Instruments

This section presents the eight instruments used in the research. These were the course website which was created for BL classes and other instruments that were used to collect data. These included: pre/post-testing, attitude questionnaires, interviews, classroom observations, researcher field notes, the course website, the course website evaluation, and textbooks (Dumridhammaporn, 2007; Soars & Soars, 2004; Educational Testing Service [ETS], 2008, 2010).

3.4.1 The course website

There were two lesson plans presented on the course website. The first lesson plan was based on the textbook, Foundations of English 1, (Soars & Soars, 2001) which was used as the syllabus for the F-to-F treatment. The other lesson plan was a constructed ICT blended instruction syllabus (Bonk & Graham 2006; Jeon, Debski,& Wiggleworth, 2005), combining
the website www.bl-ict-efl.esl.com with the textbook, *Foundations of English 1* (Levy & Stockwell, 2006; Shank, 2007). The researcher used software program Dreamweaver and Photoshop to create the course website. There are six components in the website that provides for students; Home page, Blended learning, Course, \Course material, Contents and Blackboard. The function and contents related to the course objectives and the text book presented on the website’s screen shots as you can see in Appendix P (p.321).

Students in both groups used the text books and attend the classroom lecture and class activities, but the BL group need to search more information via the course website. In addition, the BL group were assigned to interact to the social Medias provided in the course website. Moreover, the BL group were assigned to submit the homework via e-mail or contact the instructor or classmates through the course website or social Medias.

After the pilot study done by the *Community Development* program, the website was then revised and improvements made to the blended learning syllabus before it was implemented (Law et al., 2008). The website was evaluated online by ICT specialist Mr Chatchawan Mitarat, a lecturer at Rajamangala University of Technology Isan, and then revised after his feedback and that also given by students in the pilot study.

3.4.1.1 Course website assessment

The course website, www.bl-ict-efl-esl.com was designed for the implementation of ICT blended leaning to teach students in *Foundations of English 1*, for this research. The website evaluation, conducted by the blended learning group, contained 15 items and was surveyed post course. The criteria used for evaluating the online website are as follows: excellent = 5, good = 4, fair = 3, weak = 2, poor = 1 (Appendix D). The course website’s efficiency was calculated using descriptive statistics. The results are described below. The course website
www.bl-ict.efl-esl.com was created by the researcher and introduced to students of both groups after their pre-test assignment. The website was developed in order to help university students learn *Foundation of English 1* online, combined with text book instruction in a traditional F-to-F class. A range of prior studies influenced the research (Shank, 2007; Wedell & Malderez, 2013). To ensure the website was useful and suited to the needs of students and other users, a website evaluation was conducted. The course website, used by the blended learning group, was surveyed post-course using a questionnaire containing 15 items. One hundred and thirty-nine participants responded to the questionnaire. To analyze the data, SPSS version 18.0 was used (Pallant, 2011).

### 3.4.1.2 Course website efficiency

The course website was created and integrated with the course textbooks for BL groups. At the end of the course the course website use was evaluated. The data that presents the total participation, maximum and minimum scores, and standard deviation, is presented in Appendix G.

Course website visitor data from June 2012–July 2013 was analysed using the Microsoft Excel program. The BL group of *Foundation of English 1* integrated the course website www.bl-ict-esl.com into the curriculum. To analyse the website visitors’ data, visitors’ numbers were recorded every day for 13 months and the data was analysed using Excel (Harvey, 2010). The website visitors were counted from the beginning of the research on 1 June 2012 through to 30 June 2013 as presented in Appendix N.
The course website www.bl-ict-efl-esl.com has been constantly used since it was introduced to the participants at the beginning of the research period in June 2012. Figure 3.1 shows that the course website was utilised mostly during the research period, and use then decreased and plateaued at around 992 visitors per month. This section shows it is conceivable that the website could be successfully integrated into a BL-based curriculum. As such, the course website could be used for English teaching, especially in the Thai context.

3.4.2 Does the use of ICT blended instruction affect students’ learning achievements?

To answer the first research question, pre-test/post-tests were used to examine English achievement. Tests employed in the study were Test of English for International Communication, TOEIC; Test of English for International Communication, administered by
Educational Testing Service (ETS, 2008, 2010) used to measure a student’s ability to use every-day English in an international workplace environment (see in the course website www.bl-ict-efl.esl.com).

3.4.2.1 Pre-test/ post-tests

TOEIC Tests were employed in parallel as pre-tests and post-tests for both groups. The tests comprised multiple choice questions and were developed to assess students’ learning achievements in reading; writing and listening through the student learning achievement score (ETS, 2008, 2010). The speaking skills of all students were assessed through individual interviews conducted by a natural English speaker who was unaware of the students’ backgrounds. The interviews were recorded during the pre-test and post-test to compare speaking skill improvements (Nicolson et al., 2011).

Learning achievement was assessed through pre/post-tests, using a quasi-experimental design. All students in both the face-to-face (F-to-F) and blended learning (BL) groups were pre-tested at the beginning of the semester to determine if their existing levels of English knowledge were similar (Wiersma & Jurs, 2009). The English achievement tests are the internationally recognised TOEIC Tests (ETS, 2008, 2010). These tests measure the student’s ability to use every day English for speaking, writing and reading in an international workplace environment. There are four skills tested: listening, reading, speaking, and writing. The tests were employed as parallel pre and post- tests for both groups of students. The standardised tests in reading, listening and writing comprised 20 multiple-choice questions for each skill. Speaking skills were tape recorded at an interview with both the researcher and a natural English speaker and lasted for 10 to 15 minutes. All students completed the post-test after the last class of the semester.
3.4.3 Does the use of ICT blended instruction affect students’ classroom participation, what are the observable differences between students who experienced ICT blended instruction and those that did not?

To investigate potential differences in students’ engagement in classroom activities, the classroom observation lists were used. Additionally, the researcher’s field notes were used to analyse student-centred learning, communication in language acquisition and ICT use in language learning (Wudthayagorn 2000; Mckenzie, 2001).

3.4.3.1 Classroom observation lists

During the 16-week semester, classroom observations were undertaken of the BL and F-to-F groups. A classroom checklist was utilised to gather data concerning: 1) the quality of pedagogy related to students, including aspects such as: listening to the instructor, listening/speaking to peers, and speaking to the instructor; 2) the quality of pedagogy related to instructors, including data on: the instructor building on previous learning, and engaging student interest; 3) the quality of ICT used by students including students utilising multimedia, and interacting with ICT; and 4) the quality of ICT used by instructors, including: the instructor making use of ICT, using ICT effectively, and using ICT capability to describe, explain or analyse as presented in Appendix B (Wudthayagorn 2000; Mckenzie, 2001; Nicolson et al., 2011).

The behaviour of all students was observed, in both blended learning classes and traditional classes. There were 40 assessment items in the checklist, and for each item the following rating scale was applied: (4) always, (3) often, (2) occasionally, (1) never. The classroom observation checklist is included as appendix B. The checklist data was analysed using SPSS version 18.0, using the Independent Samples Test to derive and compare mean
scores for the two groups (BL and F-to-F) to answer the question: *In terms of participation, what are the observable differences between students who were taught using ICT blended instruction and those who were not?* During the semester a total of 32 observations of the control and blended learning groups were conducted. Classes were observed from beginning to end, with field notes taken and the classroom observation checklist was completed on each occasion (Yeok-Hea, 2010). However, there was only one observer and this may be a potential source of observer bias (Pethrod & Channipran, 2004).

**3.4.3.2 Researchers field notes**

Researchers’ field notes were taken throughout the 17-week study. Both groups were observed to reflect on students learning activities. The research continued a week longer than anticipated (16 weeks) because the oral testing and the semi-structured interviews went over schedule. The researcher’s field notes present student-centred learning, communication in language acquisition and ICT use in language learning as described in Chapter 5 (McMillan, 2008).

**3.4.4 Does ICT based blended learning affect students’ attitudes toward learning English?**

In order to examine students’ attitudes towards learning English through blended learning, two instruments were used. An attitude questionnaire (Appendix A) was used to collect data from the blended learning group only to explore students’ opinions about learning via blended learning (Zhang et al., 2008). In addition, semi-structured interviews (Appendix C) were used to elicit students’ opinions about learning through blended learning.
3.4.4.1 Attitude Questionnaire

An attitude questionnaire completed at the beginning and at the end of the semester was a survey checklist, which used a Likert Scale to measure students’ responses. This is a scaling procedure commonly associated with attitude measurement. A graded response is made to each item or statement. In scoring, responses to questions were assigned numerical values and the individual’s score was derived from the sum of the numerical values. The attitude questionnaire consisted of 15 negative and 15 positive closed questions and a descriptive rating scale was applied. There were six open-ended questions for students to express their ideas or suggestions. This questionnaire was adapted from surveys of learner attitudes about computer-assisted instruction developed by Jeon et al. (2005), and Zhang et al. (2008). These questions were designed to relate to English and ICT blended instruction and were designed to be understandable to Thai students.

The first part of the attitude questionnaire was 30 questions, using a five-point rating scale. This part consisted of three subsections: SCALE 1: the value of ICT instruction for learning English (12 questions), SCALE 2: ICT instruction as an obstacle to learning English (10 questions) and SCALE 3: ICT as a tool which encourages the learning of English (8 questions). The three sets of questions are set out in Appendix E. Students were asked to read a question/statement and then indicate their attitude toward the notion rose using the Likert scale as follows: (5) strongly agree, (4) agree, (3) neutral, (2) disagree, (1) strongly disagree. The blended learning group completed the attitude questionnaires at the beginning and at the end of the semester. Correlation analysis (using Pearson Product Moment Correlation) was used to interpret the data. The results of comparing the attitudes of the students pre-test and post-test were used to determine whether there was any difference
between attitudes at the beginning and at the end of the semester (Pallant, 2011; Wudthayagorn, 2000; Zhang et al., 2008).

The second part of the attitude survey contained six open-ended questions with a blank space for students to compose their own answers or give their opinions on learning via blended learning (Appendix A). This open-ended attitude questionnaire was adapted from surveys of learner attitudes about computer assisted instruction and asked students to express their ideas or give suggestions about learning English through blended learning (Suwanbenjakul, 2002). It was conducted at the end of the course with the 139 students of the blended learning group. In the data coding process, SPSS version 18.0 was used to analyse and compute the data by ascertaining the percentages of similar responses from the students. To report the results from the open-ended questions, the percentages of respondents giving the most common responses were used (Wiersma & Jurs, 2009).

3.4.4.2 Interviews

Students were asked six open-ended questions to elicit their opinions or comments, and the interviews were conducted as informal conversations (Appendix C). The interviews were carried out after students had completed the attitude questionnaire, with the duration of each interview being 10–15 minutes (Pethrod & Channopran, 2004). Descriptive statistics were used to analyse the semi-structured interview data. Following a data coding process, SPSS version 18.0 was used to analyse and compute the data (Siljaru, 2012).

3.5. Data Collection and Coding

This study used a triangulation of data by including pre- and post-testing, an attitude questionnaire, semi-structured interviews, a classroom observation checklist and the
researcher’s field notes. The qualitative cross-validation is achieved by checking the reliability of the data according to the convergence of multiple data sources or multiple data-collection procedures (Goodwyn, 2000; Lynch & Dembo, 2004; Pethrod & Channipran, 2004). Prior to the data collection, all students were informed that the data gathered would be anonymous and confidential and that they could withdraw from the study at any time. The course website www.bl-ict-efl-esl.com was developed for course instruction and data collection and was available for use by anyone wishing to access course information. Prior to commencing the syllabus all students completed basic ICT and Internet familiarisation (Wiersma & Jurs, 2009).

During the study students in the blended learning group were encouraged to utilise the course website to search for information and submit completed assignments. Initially, prior to commencing the course syllabus, TOEIC Listening and Reading, TOEIC Speaking and TOEIC Writing pre-test evaluations of both groups were conducted. Also, a ‘Learning English through Blended Learning’ attitude questionnaire was completed by the blended learning group. Throughout the classroom observation, checklists and researcher’s field notes were recorded with both groups. After the course, TOEIC Listening and Reading, TOEIC Speaking and TOEIC Writing post-test evaluations of both groups were conducted. Following these post-test evaluations, the blended learning group students completed individual semi-structured interviews, a learning English through a blended learning attitude questionnaire and the course website evaluation questionnaire (Pethrod & Channipran, 2004).
3.5.1 Data analysis frameworks

Multiple data sources were used in this study. Data analysis is an inductive process. The data was collected over a six-month period (May–October 2012). It then underwent a data coding process, followed by analysis and computation of the data using SPSS version 18.00 to assist in the interpretation of the results (Siljaru, 2012). The most complicated process was the manipulation of data. This involved choosing appropriate scales and measures and then checking the reliability of these scales. Other complications included the difficult task of choosing which statistical technique was most the suitable for analysing the data, and ensuring correct data entry in the SPSS program to obtain results to answer the research questions (Pallant, 2011). In this study an Independent Samples T-test was employed to compare the two groups of students’ post-test English learning achievements and to compare the two groups’ behaviour, documented via classroom observation checklists. A correlation (Pearson Product Moment Correlation), using a Likert-Type Scale, was employed to compare students’ pre-and post-course attitudes. Descriptive statistics were used to analyse the semi-structured interview and open-ended questionnaire data (Pallant, 2011; Wiersma & Jurs, 2009).

3.5.2 Variable names coding responses

In this study, an Independent Samples T-test was employed to compare the two groups’ post-test English learning achievements. The information was classified using the following codes: blended learning group = 1, F-to-F group = 0, pre-test = 0, post-test = 1. The dependent variables are variations of four skills including: listening 1, listening 2, speaking 1, speaking 2, reading 1, reading 2, writing 1, and writing 2. To compute the data, the files
were split, groups were compared and then the data was analysed using the Independent Samples T-test (Pallant, 2011).

A correlation (Pearson Product Moment Correlation), based on the Likert-type scale data was employed to compare students’ pre-and post-attitude surveys. The information was identified as: pre attitude survey = 0, post attitude survey = 1, variables = 1–30, with the following ratings: strongly agree (5), agree (4), neutral (3), disagree, (2) strongly disagree (1). To compute the data the files were split, groups were compared, and then analysed using correlation and bivariate measures, with correlation results used to determine significance (Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).

An Independent Samples T-test was employed to compare the behaviours of the two groups of students based on classroom observations. The information was classified using the following categories: blended learning group = 1, F-to-F group = 0, time = 1–16, pedagogy related to student = 1, pedagogy related to instructor = 2, ICT used by student = 3, ICT used by instructor = 4, and behaviour labels: 1 = never, 2 = occasionally, 3 = often, 4 = always. To analyse the data the files were split, the groups were compared, and then the data was assessed using the Independent Samples T-test, using the selected group variable which identified the groups as 0 and 1 (Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).

3.6. Data Analysis

The data obtained using the different methods was analysed and interpreted using quantitative and qualitative data analysis. Analysis of the quantitative data obtained from pre-test and post-test results was used to examine the learning achievements of the two groups. Qualitative data was obtained from the researcher’s field notes and semi-structured
interviews. The SPSS for Windows, Version 18 software was used for the analysis (Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).

3.6.1 English learning achievement

This study involved a pre- and post-test comparison. As discussed in Section 3.2, the participants were 278 first-year students attending in a rural university in the North-eastern Thailand in 2012. Students were selected by way of purposive sampling and were arranged into blended learning and F-to-F groups with the data collected over six months. The quantitative statistics from the pre-test and post-test were based on students’ TOEIC test scores and were analysed using SPSS version 18 to compute the mean and standard deviation to analyse students’ English learning achievements (Pallant, 2011).

In this study, the pre-test and post-test English learning achievements of the two groups of students were compared using the Independent Samples T Test. To find the mean differences between pre-test and post-test results for each language skill in both groups, a Paired Samples T-Test was employed. To compare the changes in mean scores of the blended learning group to the changes in mean scores of the F-to-F group, an Independent Sample T Test was conducted. To compare the six major classes’ pre-test, post-test, total pre-test, total post-test results, and the changes in means scores, a one-way ANOVA was employed. To investigate whether there were significant differences between male and female pre-test, post-test scores and between male and female changes in mean scores one-way ANOVA tests were conducted. To find out whether there were significant differences between pre-test, post-test scores and whether there were significant differences between the changes in mean scores for males of the blended learning group and males of the F-to-F group, Independent Samples T-Tests were conducted. To find out whether there were
significant differences between pre-test, post-test scores and whether there were significant differences between changes in mean scores of the females of the blended learning group and females in the F-to-F group, an Independent Samples T-Tests were conducted (Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).

3.6.2 Student participation

Classroom observations (Appendix B) were conducted to assess the behaviour of the students in the two groups. The observation checklist consisted of 40 assessment questions in which a descriptive rating scale was applied: always = 4, often = 3, occasionally = 2, never = 1. Frequencies observed by the researcher were recorded. These frequencies were calculated from the sample data by using the marginal totals. The questionnaire was adapted from three sources: the Technology Self-Assessment form Mckenzie (2001) and the Classroom Observation form developed by Wudthayagorn (2000). The classroom checklist was used to gather data concerning the four dimensions of the quality of pedagogy relating to students, the quality of pedagogy relating to instructors, and the ICT used by students and by instructors. To answer the research question: In terms of classroom participation, what are the observable differences between students who received blended ICT instruction and those that did not? The checklist data was analysed using SPSS version 18 to apply the Independent Samples Test to derive and compare mean scores of the blended and F-to-F groups (Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).

Student learning participation was examined by studying their behaviour in a natural classroom setting. This involved observing how students acted, performed and reacted to their classmates and instructors during web-based instruction, and whether students shared their interests with classmates and instructors. The categories for describing and analysing
the observational data consisted of: quality of pedagogy and ICT related to instructors and students, learning interests, interaction, cooperative learning, student interaction, and engagement in assignments using ICT. They were assessed using the 40-item classroom checklist. One lesson per week per group was observed. The F-to-F group was instructed through traditional; F-to-F instruction based on an instructor’s manual, while the blended learning group was taught utilising blended learning which involved online learning combined with F-to-F instruction. Both groups studied the same content (Sharma & Barrett, 2007; Zhang, et al., 2008).

3.6.3 Students’ attitudes towards learning English through ICT blended instruction

There were three facets to the analysis students’ attitude towards ICT blended instruction. There were pre-post attitude survey, open-ended attitude questionnaires and semi-structured interviews as follows:

3.6.3.1 Attitude questionnaire

To investigate participants’ attitudes towards learning English through blended learning an attitude survey was conducted (Appendix A). As detailed in Section 3.4.4.1 the 30-question survey employed 15 positively and 15 negatively posed questions. The following Likert scale was employed as the key for responding to the questions: Strongly agree (5), agree (4), neutral (3), disagree (2), strongly disagree (1). Prior to commencing the course the participant attitude survey was completed by the blended learning (BL) group. Post-course, to complete data collection, the blended learning group attitude questionnaire was again completed by the students. The data was analysed using SPSS version 18.0. To answer the research question, ‘Does blended learning affect students’ attitudes toward English
A correlation analysis using Pearson Product Moment Correlation was employed to compare students’ pre-and post-course attitudes (Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).

It is important to ensure that the SCALE used in the attitude survey is reliable. Issues concerning the SCALES internal consistency refer to the degree to which the items “hang together” and measure the same underlying construct. A Commonly used indication of internal consistency is Cronbach Alpha coefficient of a SCALE should be above 0.7. In this study, the reliability of the scale in the attitude survey analysis, the scale’s internal consistency was measured at .8515. This refers to the degree to which the items that make up the scale ‘hang together’ and measure the same underlying construct (Pallant, 2011).

There were 30 items and of the 30 items, 15 items contained negatively worded questions (attitude measures), and the responses to these questions were ‘reversed’ for all analysis (questions 2, 4, 6, 8, 10, 12, 15, 16, 18, 20, 22, 24, 26, 28, 30). The procedures of scale development helps the researcher draw conclusions about the nature of factors by checking the variables that loaded strongly on each of the factors which made up the three subscales: SCALE1 / ICT blended instruction is valuable for learning English, SCALE2/ICT blended instruction an obstacle to learning English, SCALE 3/ ICT blended instruction encourage learning English (Appendix E). Therefore, the results showed that the higher the mean score, the more positive the students’ attitudes were toward blended learning. For example, the mean score for ‘attitude to learning among blended learning students’ was 3.60 and this indicates blended learning students had more positive attitudes toward their learning than the mean score of 1.00 - 3.50 (Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).
3.6.3.2 The open-ended attitude questionnaire

The open-ended attitude questionnaire survey was conducted at the end of the course by the 139 students of the blended learning group (Appendix A). SPSS version 18.0 was used to analyse and compute the data. The responses were placed into the appropriate groups for analysis using descriptive statistics (Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).

3.6.4 Semi-structured interviews

Semi-structured interviews were used to elicit students’ opinions about blended learning (Appendix C). Each student participated in an informal, conversation-style interview where they were asked six open-ended questions, which enabled them to express their ideas or give suggestions about learning English through blended learning. Similar responses were arranged for analysis using descriptive statistics (McMillan, 2008; Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).

3.7. Pilot Study

The pilot study employed a small sample group to evaluate the processes and tools necessary for the successful completion of the study. None of the students of the pilot study was included in the main research. A major class, Community Development, with 54 students was selected to take part in a pilot study before the main research began (McMillan, 2008). The pilot study provided an opportunity to examine typical students’ responses to the attitude questionnaire survey, the semi-structured interviews, the pre-test, the website and the website evaluation. The pilot study students’ feedback was used to evaluate and improve the research instruments before the full-scale study began. The pilot study was conducted from 21–25 May 2012. The pilot students were trained in basic ICT usage, were introduced
to Facebook, Twitter and Skype and were familiarised with the course website. Pilot study students then engaged in the pre-test, attitude survey, semi-structured interview and website evaluation. Students also provided feedback through F-to-F classroom discussions (Dominic, 2012).

The results of the pilot study were used to refine the final study and to revise the data collection tools. The pilot study revealed that the course website needed some definitions and instructions in the Thai language. Pilot study students recommended that the website have Thai translations for clearer student understanding (Appendix O). Furthermore, students suggested it would be beneficial for the course website to be linked with the University website. In response to the pilot study results and feedback, the researcher modified the course website to make it more suited to students’ needs during the study. Participant feedback revealed that some data collection tools, which were written mostly in English, were too difficult to understand and some questions were too hard to answer, given the students’ limited English skills. In order to overcome these difficulties English-Thai translations were incorporated into the attitude questionnaire and website evaluation tools (Pethrod & Chamnipran, 2004). In addition, pilot study students stated that the English achievement test was very difficult as students were unfamiliar with the standardised TOEIC test format. Assessments comprising a recorded oral component, a topical essay written in English, and speaking with an English native speaker were perceived as alien or unusual, and the latter as even a little intimidating (McMillan, 2008).

Students in the pilot group realised very quickly that their results in the TOEIC tests were quite poor which caused some concern and anguish. It was important to test to a standardised level regardless of the proficiency of the participants, and to obtain results that revealed the overall improvement in English skills. The researcher explained to the pilot
group students that these outcomes would not affect their grades. Effective delivery of the listening test used in the assessment of student’s proficiency required replaying the topic of conversation three times to enable students the maximum possible chance of understanding it. Pilot study feedback also suggested the provision of several essay topics for the participants to choose from when completing the TOEIC writing test (Dominic, 2012; ETS, 2010; Wedell & Malderez, 2013; Wiersma & Jurs, 2009). The pilot study proved very valuable for refining the study, determining the pre-course orientation of the students and improving the data collection tools and teaching instruments. A summary of the change made as a result of the pilot study are research instruments translated to Thai as included in Appendix O. Also the speaking topics referring to personal fears, politics and the like were assessed to be too difficult for students to understand and elicit a comprehensive answer and as such these types of questions were not used.

3.8. Research Timing

The research began in August 2010, with the thesis proposal accepted in October 2011. The research instruments were developed and the application for ethics approval was successful. From May to October 2012, the data was collected in Thailand. In 2013, the data was collated and analysed and the researcher undertook a research course to assist in writing up the results (Appendix F).

3.9. Summary

This study investigated students’ English learning achievements, attitudes and participation. The participants were 278 students from six major classes purposively sampled into blended learning and F-to-F groups. Data was collected over the first semester of 2012 and consisted
of quantitative and qualitative data. This chapter presented the research framework and the next chapter, Chapter Four, presents the results of the quantitative data analysis to provide evidence in answer to the research questions.
CHAPTER FOUR – RESULTS: QUANTITATIVE DATA

4.1. Introduction

This chapter presents findings derived from data analysis regarding the three topics examined: English learning achievement, classroom participation and students’ attitudes toward learning English through blended learning. The initial section examines participant’s English learning achievement; drawing on statistics derived from pre- and post-test scores, and then compares achievement by learning group, Major program and gender. The subsequent section presents results of the analysis of learner participation through classroom observations checklists, which examined the quality of pedagogy and ICT used by instructors and students. Finally, BL students’ attitudes towards learning English are investigated by way of an examination of the pre- and post-course attitude surveys and the open-ended attitude questionnaire. Concluding the chapter is a summary of findings developed from the quantitative data.

4.2. English Learning Achievements

This section introduces the quantitative statistics from the pre- and post- course tests, based on students’ language test scores. In this study, the scores of two groups of students in their pre-test and post-test English examinations were compared using the Independent Samples T Test. To find the mean difference between pre-test and post-test for each language skill in both groups, a Paired-Samples T Test was employed. To compare the change in mean scores of the BL students to the change in mean scores of the F-to-F students, an Independent-Sample Test was conducted. To compare the six major classes in regard to their pre-test, post-test, total pre-test, total post-test scores and the changes in
means scores, One-Way ANOVA was employed (Siljaru, 2012; Pallant, 2011; Pusee-on, 2011).

4.2.1 Descriptive Data

The subjects were 278 students of a rural university in North-eastern Thailand, consisting of six first-year classes. The gender division among the 278 students in the research was: 41 male students (14.7%), and 237 female students (85.3%). There were 139 students (50%) in the Blended Learning (BL) group. They consisted of 23 males and 166 females. An identical number (139 students, or 50%) were retained in the F-to-F group and was comprised of 18 males and 121 females (as presented in Section 3.3.3 Table 3.1). The data collected was analysed using the statistical software package SPSS version 18.0 (Pallant, 2011; Siljaru, 2012; Pusee-on, 2011). The level of significance was set for the study at the 0.05 level. The most commonly used confidence level in educational research is .95 (Wiersma & Jurs, 2009, p. 409).

4.2.2 Comparison of F-to-F and BL groups

The difference between the two groups of students’ English learning achievements was examined using the Independent Samples T Test. This study investigated the differences between pre-test scores, post-test scores and the change in mean scores of the F-to-F and BL groups.

4.2.2.1 Assessing difference between pre-test scores of F-to-F and BL groups

Pre-course assessment of student’s existing English abilities was conducted in order to establish prior subject knowledge levels and determine a base from which achievements could be measured. To ascertain whether there was a significant difference between the
Pre-test scores of the two groups, an Independent Samples T Test were conducted. The results are presented in Table 4.1.

Table 4.1. The Comparison of Pre-Test Scores between F-to-F and BL Groups

<table>
<thead>
<tr>
<th>Pre-test/English skills</th>
<th>Students</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test listening</td>
<td>F-to-F group</td>
<td>12.52</td>
<td>1.82</td>
<td>.329</td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>12.16</td>
<td>3.73</td>
<td></td>
</tr>
<tr>
<td>Pre-test speaking</td>
<td>F-to-F group</td>
<td>13.48</td>
<td>2.35</td>
<td>.031*</td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>12.95</td>
<td>1.62</td>
<td></td>
</tr>
<tr>
<td>Pre-test reading</td>
<td>F-to-F group</td>
<td>10.83</td>
<td>2.59</td>
<td>.984</td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>10.84</td>
<td>2.67</td>
<td></td>
</tr>
<tr>
<td>Pre-test writing</td>
<td>F-to-F group</td>
<td>11.88</td>
<td>1.27</td>
<td>.272</td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>12.08</td>
<td>1.65</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>F-to-F group</td>
<td>48.12</td>
<td>5.02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>47.74</td>
<td>5.76</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level (2-tailed)

The statistics reveal a significant difference in the pre-test speaking scores of the BL and F-to-F groups. There were no significant differences in listening, reading and writing skill pre-test scores between the BL and F-to-F groups at the 0.05 level. As indicated in Table 4.1, the mean speaking score of the F-to-F group was significantly higher than the mean speaking score of the BL group. It is inferred that the F-to-F group possessed a higher competence in English speaking skills than the BL group prior to commencing of the course.

4.2.2.2 Assessing difference between post-test scores of F-to-F and BL groups

Post-course assessment of student’s English capabilities was effected in order to ascertain student’s English learning achievements. An Independent-Samples T Test was conducted to
examine whether there was significant difference between the English learning achievement post-test scores of the F-to-F and BL groups. The results are listed in Table 4.2.

Table 4.2. The Comparison of Post-Test Scores between F-to-F and BL Groups

<table>
<thead>
<tr>
<th>Test</th>
<th>Students</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test listening</td>
<td>F-to-F group</td>
<td>15.12</td>
<td>1.93</td>
<td>.458</td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>15.35</td>
<td>3.09</td>
<td></td>
</tr>
<tr>
<td>Post-test speaking</td>
<td>F-to-F group</td>
<td>15.99</td>
<td>3.22</td>
<td>.814</td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>16.07</td>
<td>2.31</td>
<td></td>
</tr>
<tr>
<td>Post-test reading</td>
<td>F-to-F group</td>
<td>14.33</td>
<td>2.10</td>
<td>.114</td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>14.76</td>
<td>2.35</td>
<td></td>
</tr>
<tr>
<td>Post-test writing</td>
<td>F-to-F group</td>
<td>14.65</td>
<td>1.23</td>
<td>.014*</td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>15.09</td>
<td>1.71</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>F-to-F group</td>
<td>60.09</td>
<td>5.51</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BL group</td>
<td>61.27</td>
<td>6.26</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level (2-tailed)

As shown in Table 4.2, the writing mean score of the BL group is significantly higher than the writing mean score of the F-to-F group, implying a greater learning achievement by the BL group. Perhaps less obvious in the figures above is the change in the BL groups pre-course speaking means scores to the post-course outcome. Commencing the course, the BL group proved significantly lower in English speaking competence than the F-to-F group only to advance considerably and score marginally higher in competence by the
end of the course. There were no significant differences in listening and reading skill post-test scores between the BL and F-to-F groups at the 0.05 level.

4.2.2.3 Assessing difference between pre-test scores and post-test scores of the F-to-F and BL groups

To determine if there was a significant difference between pre-test scores and post-test scores of the F-to-F and BL groups and to evaluate the impact of ICT on the BL group through post-test scores, a Paired-Samples T-Test was conducted. The statistics reveal there was a statistically significant difference in scores from pre-test to post-test at the 0.05 level. To evaluate the impact of traditional instruction on the F-to-F group’s post-test scores, a Paired-Samples T-Test was conducted, observing a statistically significant difference in scores from pre-test to post-test at the 0.05 level. As expected, the results demonstrate significant differences in pre-course to post-course scores, indicating improvements in all four skill sets (listening, speaking, reading and writing) of the BL and F-to-F groups (Appendix H). These findings imply both teaching approaches effectively educated the students.

4.2.2.4 Assessing difference in the change in mean scores for each skill between the F-to-F and BL groups

To identify if there was a significant difference between the two groups regarding the change in learning achievement from commencement through to the end of the semester, differences in mean scores of the four skills were calculated and then compared using a Paired Samples T-Test. In this instance the change in mean scores quantifies the improvement in learning achievement. To evaluate the changes in mean scores of the BL group to the changes in
mean scores of the F-to-F group an Independent-Samples T-Test was conducted, the results are presented in Table 4.3.

Table 4.3. The Comparisons of Change in Mean Scores for each Skill between the F-to-F and BL groups

<table>
<thead>
<tr>
<th>The Change of each skills/ Groups</th>
<th>Mean difference/ Improvement</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The change in listening skill</td>
<td>BL group</td>
<td>3.48</td>
<td>3.42</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>2.70</td>
<td>1.49</td>
</tr>
<tr>
<td>The change in speaking skill</td>
<td>BL group</td>
<td>4.12</td>
<td>2.56</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>3.09</td>
<td>2.72</td>
</tr>
<tr>
<td>The change in reading skill</td>
<td>BL group</td>
<td>4.12</td>
<td>2.56</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>3.70</td>
<td>2.47</td>
</tr>
<tr>
<td>The change in writing skill</td>
<td>BL group</td>
<td>3.03</td>
<td>1.15</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>2.78</td>
<td>0.95</td>
</tr>
<tr>
<td>Total change</td>
<td>BL group</td>
<td>14.15</td>
<td>5.91</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>11.73</td>
<td>4.45</td>
</tr>
</tbody>
</table>

* Significant at the 0.05 level (2-tailed)

As reported in Table 4.3, in each skill set the BL group experienced greater improvement in mean scores than the F-to-F group. The results disclose significantly higher outcomes achieved by the BL group with regard to the change in mean scores of the listening and speaking skills at the 0.05 level. Furthermore, the total change in mean scores of the BL group is substantially higher than the total change in mean scores of the F-to-F group. There was no statistically significant difference between the two groups change in
mean scores in relation to reading and writing skills at the 0.05 level (2-tailed). Clearly, the BL group attained higher increases in mean scores, which implies that the BL group improved in English learning achievements to a greater extent than the F-to-F group.

4.2.3 Comparisons of the six major programs in English learning achievement

This section examines the six major programs to identify any difference in English learning achievement or to establish similarities between the groups. The BL group consisted of three Major programs: Social Science, Thai Language and Public Health, whereas the F-to-F group’s three Major programs consisted of: Maths, Primary and Science. This enquiry examines and compares the differences between pre-test scores, post-test scores and the change in mean scores of the six Major classes.

4.2.3.1 Assessing differences between the six major programs pre-test scores

To discover if there were significant differences between pairs of Major groups total pre-test scores, One-way ANOVA and Post Hoc Tests were performed (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). Full details of the multiple comparisons between Major programs total pre-test scores are presented in Appendix I.
Table 4.4. Summary of Multiple Comparisons between Major Programs on Total Pre-Test Scores

<table>
<thead>
<tr>
<th>Major</th>
<th>Major</th>
<th>95% Confidence Interval</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mean</td>
<td>Std. Error</td>
<td>Sig.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Difference</td>
<td>Total Pre-test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Health</td>
<td>Social Science</td>
<td>-6.6050(∗)</td>
<td>1.12309</td>
<td>.000*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thai Language</td>
<td>-4.0000(∗)</td>
<td>1.12911</td>
<td>.030*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maths</td>
<td>-5.5389(∗)</td>
<td>1.11729</td>
<td>.000*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>-5.1548(∗)</td>
<td>1.10630</td>
<td>.001*</td>
<td></td>
</tr>
</tbody>
</table>

* The mean difference is significant at the .05 level.

As reported in Table 4.4, the indicators confirm four pairs as significantly different: firstly, Social Science was significantly different to Public Health. Secondly, Thai Language was significantly different to Public Health. Thirdly, Maths was significantly different to Public Health. Finally, Primary was significantly different to Public Health. The results reveal the Public Health Majors pre-course English capacities as substantially weaker than four of the other five Major programs.

To find out whether there was a significant difference English skills between the six Majors’ pre-test scores, a One-Way ANOVA was conducted. Comparisons of the six Major programs pre-test scores are presented in Table 4.5.
### Table 4.5. Summary of the Comparisons of Six Major Programs in Pre-Test Scores

<table>
<thead>
<tr>
<th>English Skills</th>
<th>Majors classes</th>
<th>95% Confidence Interval for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Pre-test listening</td>
<td>Thai Language</td>
<td>13.86</td>
</tr>
<tr>
<td></td>
<td>Public Health</td>
<td>8.26</td>
</tr>
<tr>
<td>Pre-test speaking</td>
<td>Maths</td>
<td>13.92</td>
</tr>
<tr>
<td></td>
<td>Public Health</td>
<td>12.59</td>
</tr>
<tr>
<td>Pre-test reading</td>
<td>Science</td>
<td>11.56</td>
</tr>
<tr>
<td></td>
<td>Thai Language</td>
<td>10.00</td>
</tr>
<tr>
<td>Pre-test writing</td>
<td>Social Science</td>
<td>12.51</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>11.60</td>
</tr>
</tbody>
</table>

*The mean difference is significant at the .05 level.

As reported in Table 4.5, the comparisons infer that the six major programs were significantly different in pre-test listening, speaking and reading scores at the 0.05 level, whereas there were no significant differences in writing pre-test scores between the six Major programs (more details presented in Appendix J). Evidently, the Public Health Major recorded the lowest pre-test mean score – with listening scoring 8.26 out of 20. In addition, it is clear that the Public Health Major registered the weakest pre-test mean score in
speaking skills. The results determine the Public Health Major as the weakest in oral English skills and comprehension from the beginning of the research.

Pre-course assessment of the students in the six Major programs existing English abilities was conducted in order to establish these sub-groups prior English knowledge levels and determine a base from which the group’s achievements could be measured and compared. To determine whether there were significant differences between Major groups in total pre-test scores, a One-Way ANOVA was conducted; the results are described in Table 4.6. The Major arranged in the descending order of total pre-test score.

Table 4.6. The Comparison of the Six Major Programs Total Pre-Test Scores

<table>
<thead>
<tr>
<th>Major program</th>
<th>N</th>
<th>Mean of Total pre-test score</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Science</td>
<td>47</td>
<td>50.1702</td>
<td>5.54162</td>
</tr>
<tr>
<td>Maths</td>
<td>48</td>
<td>49.1042</td>
<td>4.32823</td>
</tr>
<tr>
<td>Primary</td>
<td>50</td>
<td>48.7200</td>
<td>5.78541</td>
</tr>
<tr>
<td>Thai Language</td>
<td>46</td>
<td>47.5652</td>
<td>6.37931</td>
</tr>
<tr>
<td>Science</td>
<td>41</td>
<td>47.0488</td>
<td>4.62575</td>
</tr>
<tr>
<td>Public Health</td>
<td>46</td>
<td>43.5652</td>
<td>5.48798</td>
</tr>
<tr>
<td>Total</td>
<td>278</td>
<td>47.7410</td>
<td>5.76725</td>
</tr>
</tbody>
</table>
This data illustrates significant differences between Major programs total pre-test scores at the .000 level. Public Health Majors differed significantly with Social Science, Thai Language, Maths and Primary (defined in Appendix I). Prior to undertaking the course Social Science Majors had achieved the highest English competence, followed by Maths, Primary, Thai Language and Science Major Programs. The Public Health Major group recorded the lowest English competence score as revealed in Table 4.7.

4.2.3.2 Assessing difference between the six Major programs post-test scores

To discover whether there were significant differences between the six Major programs students’ post-test scores, a One-Way ANOVA was applied. The results from the comparison of the six Major programs post-test scores are presented in Appendix L and detail the six Major programs as significantly different in post-test listening and writing scores at the 0.05 level. There were no significant differences in post-test speaking and reading scores. Interestingly, Social Science Majors achieved the highest post-test mean scores in three skill sets, however Social Science Majors recorded the highest scores in only two skills in the pre-test (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). These findings confirm the noteworthy development of this Major class. In addition, a significant positive outcome was the post-test listening score of Public Health Major Students. These students improved from scoring the lowest mean score in pre-test listening to attaining an average level in the post-test. However, Mathematics Majors barely improved in reading skill as their mean score improved the least.

To enquire whether there were significant differences between pairs of major group’s total post-test scores, One-way ANOVA and Post Hoc Tests were completed. Multiple comparisons between Major programs total post-test scores are presented in Appendix L.
The figures establish one significantly different pair: Social Science differed significantly with Science at the .032 level (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). This result describes the disparity between the Social Science Major programs increasing their mean score the most with the Science Major program recording the lowest increase in mean scores. Surprisingly, the Public Health Major, which recorded the lowest total pre-test mean score, progressed decidedly to produce an average result in total post-test mean scores, confirming greater advancement than any other program (Appendix M).

Post-course assessment of the six Major programs’ English learning achievement scores was effected in order to ascertain the degree of the Major group’s English learning improvement. To discover whether there were significant differences between Major groups in total post-test scores, a One-Way ANOVA was performed (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). The results are revealed in Table 4.7. The majors are arranged in the descending order of total post-test score.
Table 4.7. The Comparisons between Major Programs in Total Post-Test Scores

<table>
<thead>
<tr>
<th>Major program</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Science</td>
<td>47</td>
<td>62.6170</td>
<td>6.06685</td>
</tr>
<tr>
<td>Thai Language</td>
<td>46</td>
<td>62.0870</td>
<td>6.78504</td>
</tr>
<tr>
<td>Primary</td>
<td>50</td>
<td>61.2000</td>
<td>5.83095</td>
</tr>
<tr>
<td>Maths</td>
<td>48</td>
<td>60.5000</td>
<td>4.81133</td>
</tr>
<tr>
<td>Public Health</td>
<td>46</td>
<td>59.0870</td>
<td>5.41941</td>
</tr>
<tr>
<td>Science</td>
<td>41</td>
<td>58.2683</td>
<td>5.57236</td>
</tr>
<tr>
<td>Total</td>
<td>278</td>
<td>60.6835</td>
<td>5.92375</td>
</tr>
</tbody>
</table>

These results confirm significant differences between Major programs in total post-test scores at the .002 level. The values confirm the Social Science Major group as most competent in English skills, achieving the highest total post-test mean score. As a result, the Social Science Major group achieved the highest total mean score in both pre- and post-course assessments, as presented in Tables 4.6 and Table 4.7. Thai Language, Primary, Mathematics and Public Health Major Programs then followed Social Science. The data shows, after completing the course, the Science Major program recorded the lowest English learning score.
4.2.3.3 Assessing difference between the six Major programs the change in mean scores

A comparison of pre-test mean and post-test mean scores was conducted in order to assess Major programs English learning development. To detect whether there were significant differences between major programs in the change of mean scores, a One-way ANOVA was completed (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). The results are illustrated in Table 4.8. The Majors are arranged in the descending order of change in mean scores.

Table 4.8. The Comparison of Major Programs Change in Mean Scores

<table>
<thead>
<tr>
<th>Majors program</th>
<th>N</th>
<th>Mean Change/ Improvement</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health</td>
<td>46</td>
<td>15.5217</td>
<td>6.61896</td>
</tr>
<tr>
<td>Thai Language</td>
<td>46</td>
<td>14.5217</td>
<td>5.96933</td>
</tr>
<tr>
<td>Primary</td>
<td>50</td>
<td>12.4800</td>
<td>4.31533</td>
</tr>
<tr>
<td>Social Science</td>
<td>47</td>
<td>12.4468</td>
<td>4.72647</td>
</tr>
<tr>
<td>Maths</td>
<td>48</td>
<td>11.3958</td>
<td>4.37468</td>
</tr>
<tr>
<td>Science</td>
<td>41</td>
<td>11.2195</td>
<td>4.69847</td>
</tr>
<tr>
<td>Total</td>
<td>278</td>
<td>12.9424</td>
<td>5.36639</td>
</tr>
</tbody>
</table>
The data suggests significant differences between Major programs with regard to the change in mean scores at the 0.05 level. The figures show the Public Health Major program as the most improved in English learning achievement, followed by Thai Language, Primary, Social Science and Mathematics Major Programs. The Science Major program improved the least in English learning achievement as disclosed in Table 4.8.

To examine whether there were significant differences between pairs of Major groups with regard to the change in mean scores, One-way ANOVA were conducted. Multiple comparisons of the six Major programs change in mean scores are presented in Appendix M. The figures reveal two pairs that were significantly different when considering the change in mean scores: firstly, Public Health was significantly different to Mathematics at the .012 level. Secondly, Public Health was significantly different to Science at the .012 level. The results confirm the Public Health Major group as having achieved the largest increase in change in mean scores (total pre-test = 43.56, total post-test = 59.08, the change in mean scores = 15.52). This result reveals that students of the Public Health Major group improved English learning achievement to the greatest degree.

4.2.4 Comparison of gender in English language achievement

To discover if there was a significant difference between male and female pre-test scores, post-test scores and change in mean scores, a One-way ANOVA was applied. To consider whether there was a significant difference between males of the BL group and males of the F-to-F group pre-test scores, post-test scores and change in mean scores, an Independent Samples Test was employed. To enquire whether there was a significant difference between females of the BL group and females of the F-to-F group pre-test scores, post-test scores and
change in mean scores, an Independent Samples Test was performed (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012).

4.2.4.1 Assessing difference between the score of male and female students

Pre-course assessment of males and females existing English abilities was completed in order to establish each genders prior subject knowledge levels and determine a base from which achievements could be measured. To enquire whether there was a significant difference between male and female students prior English language knowledge, a One-way ANOVA was conducted (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012).

Table 4.9. Comparison of Pre-Test Scores and Students Gender

<table>
<thead>
<tr>
<th>Pre-test</th>
<th>Students gender</th>
<th>95% Confidence Interval for Mean</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Pre-test listening</td>
<td>Male</td>
<td>12.95</td>
<td>2.501</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>12.24</td>
<td>2.965</td>
</tr>
<tr>
<td>Pre-test speaking</td>
<td>Male</td>
<td>13.48</td>
<td>1.739</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>13.17</td>
<td>2.086</td>
</tr>
<tr>
<td>Pre-test reading</td>
<td>Male</td>
<td>10.77</td>
<td>2.702</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>10.84</td>
<td>2.620</td>
</tr>
<tr>
<td>Pre-test writing</td>
<td>Male</td>
<td>12.07</td>
<td>1.349</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>11.97</td>
<td>1.502</td>
</tr>
<tr>
<td>Total</td>
<td>Male</td>
<td>48.65</td>
<td>4.35</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>47.74</td>
<td>5.767</td>
</tr>
</tbody>
</table>
The pre-test values reveal no significant difference between males and females when considering all four English learning achievement skills examined. However, male students attained slightly higher results in all four skills. Table 4.9 presents both males and females as recording their lowest mean scores in reading skills.

Post-course assessment of male and female student’s English capabilities was effected in order to ascertain English learning achievement pertaining to gender. To ascertain whether there was significant difference between male and female post-test scores, a One-way ANOVA was performed. The results are described in Table 4.10.

Table 4.10. The Comparison of Post-Test Scores and Student Gender

<table>
<thead>
<tr>
<th>Post-test/ English skills</th>
<th>Students Gender</th>
<th>95% Confidence Interval for Mean</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Post-test listening</td>
<td>Male</td>
<td>15.49</td>
<td>2.712</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>15.19</td>
<td>2.560</td>
</tr>
<tr>
<td>Post-test speaking</td>
<td>Male</td>
<td>16.20</td>
<td>2.452</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>16.00</td>
<td>2.863</td>
</tr>
<tr>
<td>Post-test reading</td>
<td>Male</td>
<td>14.49</td>
<td>2.075</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>14.55</td>
<td>2.269</td>
</tr>
<tr>
<td>Post-test writing</td>
<td>Male</td>
<td>15.12</td>
<td>1.400</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>14.83</td>
<td>1.526</td>
</tr>
<tr>
<td>Total</td>
<td>Male</td>
<td>61.29</td>
<td>5.36</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>60.57</td>
<td>6.01</td>
</tr>
</tbody>
</table>
The post-test data described in Table 4.10 discloses no significant differences between males and females of the BL and F-to-F groups in post-test scores considering the four English learning achievement skills. However, male students attained slightly higher results in listening, speaking and writing skills, while female students scored marginally higher in reading skills.

A comparison of male and female pre-test mean and post-test mean scores was implemented in order to assess English learning development by gender. To discover whether there was a significant difference between the change in mean scores of males and females, a One-way ANOVA was completed. The results are revealed in Table 4.11.

Table 4.11. The Comparisons of Students’ Gender regarding the Change in Mean Scores

<table>
<thead>
<tr>
<th>Students Gender</th>
<th>N</th>
<th>95% Confidence Interval for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean Difference/Improvement</td>
</tr>
<tr>
<td>Male</td>
<td>41</td>
<td>12.6341</td>
</tr>
<tr>
<td>Female</td>
<td>237</td>
<td>12.9958</td>
</tr>
<tr>
<td>Total</td>
<td>278</td>
<td>12.9424</td>
</tr>
</tbody>
</table>

Table 4.11 presents values revealing no significant difference between males and females concerning the change in mean scores, indicating similar learning abilities and outcomes. Though not significant, female students performed slightly better in English learning development than male students. It’s however important to note that there were for
fewer makes in the sample group and these really should therefore be treated with addition caution.

### 4.2.4.2 Assessing difference between scores in male BL and male F-to-F students

Pre-course assessment of male student’s existing English abilities was conducted in order to establish prior subject knowledge levels and determine a base from which achievements could be measured. To find out whether there was a significant difference between males of the BL group and males of the F-to-F groups pre-test scores an Independent Samples T Test was completed (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). The results are disclosed in Table 4.12.

Table 4.12. The Comparison of Pre-Test Scores of Male Students between F-to-F and BL groups

<table>
<thead>
<tr>
<th>Male/English skills</th>
<th>Group</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test listening</td>
<td>BL</td>
<td>12.86</td>
<td>3.197</td>
<td>.799</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>13.06</td>
<td>1.305</td>
<td></td>
</tr>
<tr>
<td>Pre-test speaking</td>
<td>BL</td>
<td>13.18</td>
<td>1.563</td>
<td>.243</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>13.83</td>
<td>1.917</td>
<td></td>
</tr>
<tr>
<td>Pre-test reading</td>
<td>BL</td>
<td>10.35</td>
<td>2.540</td>
<td>.293</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>11.33</td>
<td>2.895</td>
<td></td>
</tr>
<tr>
<td>Pre-test writing</td>
<td>BL</td>
<td>11.87</td>
<td>1.517</td>
<td>.280</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>12.33</td>
<td>1.085</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>BL</td>
<td>47.12</td>
<td>6.38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>48.35</td>
<td>5.02</td>
<td></td>
</tr>
</tbody>
</table>
The statistics described in Table 4.1 indicate no significant difference between males of the BL group and males of the F-to-F group in pre-test scores in all four English learning achievement skills at the 0.05 level. Male students in both groups gained their highest scores in pre-test speaking skills.

Post-course assessment of male student’s English capabilities was effected in order to evaluate male student’s English learning achievements. To consider whether there was a significant difference between males of the BL and males of the F-to-F group post-test scores, an Independent-Samples T Test was conducted (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). The results are described in Table 4.13.

Table 4.13. The Comparison of Post-Test Scores of Male Students of the F-to-F and BL Groups

<table>
<thead>
<tr>
<th>Male/ English skills</th>
<th>Group</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test listening</td>
<td>BL</td>
<td>15.78</td>
<td>3.35</td>
<td>.402</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>15.11</td>
<td>1.56</td>
<td></td>
</tr>
<tr>
<td>Post-test speaking</td>
<td>BL</td>
<td>16.00</td>
<td>2.02</td>
<td>.571</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>16.44</td>
<td>2.95</td>
<td></td>
</tr>
<tr>
<td>Post-test reading</td>
<td>BL</td>
<td>14.43</td>
<td>1.90</td>
<td>.856</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>14.56</td>
<td>2.33</td>
<td></td>
</tr>
<tr>
<td>Post-test writing</td>
<td>BL</td>
<td>15.13</td>
<td>1.29</td>
<td>.967</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>15.11</td>
<td>1.56</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>BL</td>
<td>74.12</td>
<td>6.38</td>
<td>.074</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>60.22</td>
<td>8.40</td>
<td></td>
</tr>
</tbody>
</table>
The figures outlined in Table 4.13 reveal no significant difference between males of the BL group and males of the F-to-F group regarding English learning achievement post-test scores. Male students of both groups attained their highest scores in speaking skills, which paralleled their pre-test scores, established in Table 4.9.

A comparison of male student’s pre-test mean and post-course mean scores was conducted in order to assess male’s English learning development. To establish whether there was a significant difference in the changes in the mean scores of males of the two groups, an Independent-Samples T Test was completed. The results appear in Table 4.14.

Table 4.14. The Comparison of Male Students Change in Mean Scores

<table>
<thead>
<tr>
<th>Male Students Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL group</td>
<td>23</td>
<td>13.8696</td>
<td>5.18130</td>
<td>.091</td>
</tr>
<tr>
<td>F-to-F group</td>
<td>18</td>
<td>11.0556</td>
<td>5.15035</td>
<td></td>
</tr>
</tbody>
</table>

As revealed in Table 4.14, there was no significant difference between males of the two groups change in mean scores. Male students of the BL group attained slightly higher change in mean scores than male students of the F-to-F group. This higher mean score of male students of the BL group suggests enhanced English learning achievement when compared to the male students of the F-to-F group.
4.2.4.3 Assessing difference between scores in female BL and female F-to-F students

Pre-course assessment of female student’s existing English abilities was accomplished in order to establish prior subject knowledge levels and determine a base from which achievements could be measured. To investigate whether there was significant difference between females of the BL group and females of the F-to-F group’s pre-test scores an Independent-Samples T Test was conducted. The results are disclosed in Table 4.15.

Table 4.15. The Comparison of Pre-Test Scores of Female Students of the F-to-F and BL Groups

<table>
<thead>
<tr>
<th>Female</th>
<th>Group</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test listening</td>
<td>BL</td>
<td>12.01</td>
<td>3.83</td>
<td>.305</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>12.44</td>
<td>1.88</td>
<td></td>
</tr>
<tr>
<td>Pre-test speaking</td>
<td>BL</td>
<td>12.90</td>
<td>1.64</td>
<td>.053</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>13.43</td>
<td>2.41</td>
<td></td>
</tr>
<tr>
<td>Pre-test reading</td>
<td>BL</td>
<td>10.93</td>
<td>2.69</td>
<td>.637</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>10.76</td>
<td>2.55</td>
<td></td>
</tr>
<tr>
<td>Pre-test writing</td>
<td>BL</td>
<td>12.12</td>
<td>1.68</td>
<td>.120</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>11.82</td>
<td>1.29</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>BL</td>
<td>47.58</td>
<td>5.97</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>48.45</td>
<td>5.58</td>
<td></td>
</tr>
</tbody>
</table>

The figures described in Table 4.15 reveal no significant difference between females of the BL group and females of the F-to-F group’s pre-test scores in English learning.
achievement at the 0.05 level. Female students of both groups attained their lowest scores in the pre-test reading skill.

Post-course assessment of female student’s English capabilities was effected in order to ascertain student’s English learning achievements. To examine whether there was significant difference between females of the BL group and females of the F-to-F group’s post-test scores, an Independent Samples T Test was performed. The outcomes are presented in Table 4.16.

Table 4.16. The Comparison of Post-Test Scores of Female Students of the F-to-F and BL Groups

<table>
<thead>
<tr>
<th>Female/ English skills</th>
<th>Group</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test listening</td>
<td>BL</td>
<td>15.27</td>
<td>3.05</td>
<td>.670</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>15.12</td>
<td>1.99</td>
<td></td>
</tr>
<tr>
<td>Post-test speaking</td>
<td>BL</td>
<td>16.09</td>
<td>2.38</td>
<td>.665</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>15.93</td>
<td>3.26</td>
<td></td>
</tr>
<tr>
<td>Post-test reading</td>
<td>BL</td>
<td>14.82</td>
<td>2.43</td>
<td>.077</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>14.30</td>
<td>2.07</td>
<td></td>
</tr>
<tr>
<td>Post-test writing</td>
<td>BL</td>
<td>15.09</td>
<td>1.79</td>
<td>.011*</td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>14.58</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>BL</td>
<td>60.57</td>
<td>6.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-to-F</td>
<td>59.94</td>
<td>8.49</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05 level (2-tailed)
The data described in Table 4.16 establishes a significant difference between females of the BL group and females of the F-to-F group in writing skill post-test scores at the 0.05 level. This finding, that females of the BL group significantly surpassed females of the F-to-F group in writing skills signifies female students of the BL group developed their writing capabilities to a greater extent than females of the F-to-F group. Female students of both groups achieved their highest scores in post-test speaking skills.

However, the data confirms no significant difference between females of the BL group and females of the F-to-F group in the other three English learning achievement skills post-test scores. Interestingly, although not significant, females of the BL group attained higher mean scores than females of the F-to-F group in every skill set.

A comparison of female student’s pre-test mean and post-course mean scores was conducted in order to assess female’s English learning development. To establish whether there was a significant difference between the changes in mean scores of female students of the two groups, an Independent-Samples T Test was performed. The results are listed in Table 4.17.

Table 4.17. The Comparison of Female Students Change in Mean Scores

<table>
<thead>
<tr>
<th>Female</th>
<th>Students Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The change in mean scores /</td>
<td>BL group</td>
<td>116</td>
<td>14.2069</td>
<td>6.07134</td>
<td>.001*</td>
</tr>
<tr>
<td>Improvement</td>
<td>F-to-F group</td>
<td>121</td>
<td>11.8347</td>
<td>4.35765</td>
<td></td>
</tr>
</tbody>
</table>

* The mean difference is significant at the .05 level.
The values described in Table 4.1 reveal a significant difference between females of the two groups change in mean scores at the .001 level. Clearly, female students of the BL group achieved significantly higher change in mean scores than female students of the F-to-F group. This significantly higher increase in mean scores of females of the BL group signifies a greater improvement in English learning achievement than female students of the F-to-F group.

### 4.2.5 Summary of students’ English learning achievements

The findings presented in Section 4.2.2 demonstrate how the BL and F-to-F approaches influence students’ English learning achievement. This study establishes significant improvements between pre-test scores and post-test scores in all the four skill sets examined by the BL and F-to-F groups, signifying that all students improved their English language skills over the semester. Although the data reveals a significant difference in speaking skill pre-test scores between the BL and F-to-F groups, there was no significant difference in listening, reading and writing skills. Also, the data confirms a significant difference in writing skill post-test scores between the BL and F-to-F groups but no significant differences in listening, speaking and reading skill post-test scores.

Established in Section 4.2.3 the six Major classes differed significantly in pre-test listening, speaking and reading scores. However, there was no significant difference established in writing pre-test scores between the six Majors at the 0.05 level. The six Major classes differed significantly in post-test listening and speaking, however there was no significant difference in reading and writing post-test scores at the 0.05 level.

As revealed in Section 4.2.4 no significant difference was established for males and females of the BL and F-to-F groups regarding the change in mean scores from pre-test to
post-test in the four English learning achievement skills at the 0.05 level. The data determines no significant difference between males of the BL group and males of the F-to-F group in pre-test, post-test or change in mean scores concerning the four English learning achievement skills at the 0.05 level. The indicators also signify no significant difference between females of the BL group and females of the F-to-F group in pre-test scores in the four English learning achievement skills at the 0.05 level. Interestingly, the data confirms a significant difference between females of the BL group and females of the F-to-F group in post-test writing skill scores at the 0.05 level. This finding suggests that females of the BL group significantly increased writing skills to a greater extent than females of the F-to-F group (see Table 4.16 and Table 4.17). Further discussion on these findings located in Chapter 6.

In conclusion, these outcomes indicate a significant difference in learning achievement between the BL and F-to-F approaches in writing skills. Also, clearly established was a significant difference in the change in mean scores from pre-test to post-test between the F-to-F and the BL groups in listening and speaking skills. This difference in change in mean scores implies that the BL approach affords more positive learning outcomes than the F-to-F approach.

4.3. Classroom Participation

During the 16-week semester, classroom observations of the BL and F-to-F classes were performed. A classroom checklist (Appendix B) was utilised to gather data concerning the:

1) Quality of pedagogy related to students, such as listening to the instructor, listening/speaking to peers, speaking to the instructor.
2) Quality of pedagogy related to instructors, such as ‘instructor builds on previous learning’, ‘instructor engages interest’.

3) Quality of ICT used by students, such as ‘students create multimedia’, ‘students participate in ICT’.

4) Quality of ICT used by instructors, such as ‘instructor makes better use of ICT’, ‘instructor understands ICT’, ‘uses ICT effectively’, ‘uses ICT capability to describe, explain or analyse’.

The checklist, comprised of 40 assessment items, was evaluated as discussed in Section 3.6.2. To discover whether the BL and F-to-F groups were significantly different, Paired Samples Correlations were conducted (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012).

The data establishes that nine of the 40 classroom participation components evaluated significantly differed in the BL and F-to-F groups at the 0.05 level (Appendix B). Thirty-one components of classroom participation were not significantly different at the 0.05 level. Tables 4.18 – 4.21 present the significant findings on classroom participation.

4.3.1 Quality of pedagogy related to students

The statistics on the classroom observation checklist: quality of pedagogy related to students in classroom participation for both groups were quite similar. Of the 10 components assessed, eight components revealed no significant difference in the quality of pedagogy for students in the BL and F-to-F groups (Appendix B). There were two components that differed significantly at the 0.05 level, as illustrated in Table 4.18.
Table 4.18. Comparison of Pedagogy related to Students of F-to-F and BL Groups

<table>
<thead>
<tr>
<th>Quality of pedagogy/Students</th>
<th>Students</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaking to instructor</td>
<td>BL group</td>
<td>2.9375</td>
<td>.57373</td>
<td>.002**</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>2.1875</td>
<td>.65511</td>
<td></td>
</tr>
<tr>
<td>Passive students</td>
<td>BL group</td>
<td>2.5000</td>
<td>1.15470</td>
<td>.043*</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>1.6875</td>
<td>1.01448</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level (2-tailed)

As listed in Table 4.18, the components, speaking to instructor and passive students, were significantly different at the 0.05 level. These results suggest a section of the BL group’s students addressed the instructor more often than any section of the F-to-F group. However, this result also suggests a section of the BL group were more passive than any section of the F-to-F group.

4.3.2 Quality of ICT used by students

Due to the introduction and increased provision of ICT to the BL group curriculum, the opportunity to use ICT was greater for the BL group than for the F-to-F group. The statistics on the quality of ICT used by students in classroom participation in both groups reflects this, as six of the 10 components differed significantly at the 0.05 level, illustrated in Table 4.19.
Table 4.1. Comparison of ICT used by Students of F-to-F and BL Groups

<table>
<thead>
<tr>
<th>Quality of ICT /students</th>
<th>Students</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worldwide communication</td>
<td>BL group</td>
<td>3.3750</td>
<td>.71880</td>
<td>.003*</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>2.5000</td>
<td>.81650</td>
<td></td>
</tr>
<tr>
<td>Search information</td>
<td>BL group</td>
<td>3.5625</td>
<td>.51235</td>
<td>.010*</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>3.0000</td>
<td>.63246</td>
<td></td>
</tr>
<tr>
<td>Use current resources</td>
<td>BL group</td>
<td>3.4375</td>
<td>.51235</td>
<td>.010*</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>2.8125</td>
<td>.75000</td>
<td></td>
</tr>
<tr>
<td>Use technologies in class (power point, microphone, projector, lab top)</td>
<td>BL group</td>
<td>3.0000</td>
<td>.73030</td>
<td>.017*</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>2.4375</td>
<td>.51235</td>
<td></td>
</tr>
<tr>
<td>Enhanced self-learning</td>
<td>BL group</td>
<td>3.6250</td>
<td>.50000</td>
<td>.018*</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>3.1250</td>
<td>.61914</td>
<td></td>
</tr>
<tr>
<td>Participate in ICT</td>
<td>BL group</td>
<td>3.4375</td>
<td>.62915</td>
<td>.039*</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>2.9375</td>
<td>.68007</td>
<td></td>
</tr>
</tbody>
</table>

*Paired Samples Correlations significant at the 0.05 level (2-tailed)

These outcomes verify that when given the opportunity to use ICT within the curriculum, students are willing users. Through searching for current information and utilising worldwide communications, students developed self-learning strategies. Although there were four components not significantly different at the 0.05 level, these findings reveal a significant difference in the quality of ICT used by students of the BL and F-to-F groups.
4.3.3 Quality of pedagogy related to instructors

There were nine components of quality of pedagogy related to instructors with no significant
difference at the 0.05 level (Appendix B). These findings indicate that there was no
significant difference in the quality of pedagogy related to instructors in the BL and the F-to-
F groups, as revealed in Table 4.20.

Table 4.20. Comparison of Pedagogy related to Instructors of F-to-F and BL Groups

<table>
<thead>
<tr>
<th>Quality of pedagogy/Instructors</th>
<th>Students</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans are clear and objectives based on the curriculum.</td>
<td>BL group</td>
<td>3.0625</td>
<td>.57373</td>
<td>.014*</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>3.5625</td>
<td>.51235</td>
<td></td>
</tr>
</tbody>
</table>

*Paired Samples Correlations significant at the 0.05 level (2-tailed)

The comparison reveals one component significantly different at the 0.05 level (No. 4. Plans are clear and objectives are based on the curriculum), as shown in Table 4.20. This outcome implies that the F-to-F approach is grounded on the textbook-based curriculum while the BL approach may be more flexible or adaptable and open to external inspiration.

4.3.4 Quality of ICT used by instructors

For nine of the 10 ‘quality of ICT used by instructor’ components evaluated, there were no significant differences between the BL and F-to-F instructors at the 0.05 level, (Appendix B). These findings indicate no significant difference in the quality of ICT used by instructors in the BL and F-to-F groups except in the ‘use ICT effectively’ component.
Table 4.21. The Comparison of ICT used by Instructors of F-to-F and BL Groups

<table>
<thead>
<tr>
<th>Quality of ICT/Instructors</th>
<th>Students</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use ICT effectively</td>
<td>BL group</td>
<td>3.4375</td>
<td>.51235</td>
<td>.002*</td>
</tr>
<tr>
<td></td>
<td>F-to-F group</td>
<td>2.8125</td>
<td>.54391</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level (2-tailed)

The one component significantly different at the 0.05 level, as shown in Table 4.21, suggests that the instructor of the BL classes used ICT more effectively than the instructor of F-to-F classes.

### 4.3.5 Summary of classroom participation

These results of this enquiry into learner participation establish that a majority of the components assessing quality of ICT used by students participating in the BL treatment significantly differed with the quality of ICT used by those students taught traditionally. However, few component values characterising both group’s quality of pedagogy related to instructors, quality of pedagogy related to students and quality of ICT used by instructors significantly differed at the 0.05 level. To sum up, in terms of classroom participation, the quality of ICT employed by students learning through the BL approach significantly differed to students taught traditionally. Further discussion of this outcome is described in Chapter 6.

### 4.4. Students’ Attitude from the Attitude Survey

Prior to commencing the course, a student attitude survey was completed by students of the BL group. Post-course, to complete data collection, the attitude questionnaire was re-
examined. The attitude questionnaire was measured using the Likert Scale, as detailed in Section 3.4.4.1, and consisted of five categories; each category consisted of two parts, the initial statement and a list of responses ranging from 1 to 5. Students were asked to read a statement and indicate their attitude utilising the Likert Scale as follows: strongly agree = 5, agree = 4, neutral = 2, disagree = 2, strongly disagree = 1. To answer the research question, ‘Does ICT blended instruction affect students’ attitudes toward English learning?’ The correlation analysis, Pearson Product Moment Correlation, was employed to compare students’ pre- and post-course survey responses (Pallant, 2011; Siljaru, 2012).

The attitude questionnaire contained 30 questions, incorporating three sub-scales:

1) ICT instruction is valuable for learning English – 12 questions,

2) ICT instruction is an obstacle to learning English – 10 questions, and

3) ICT encourages Learning English – 8 questions.

The three scales are set out in Appendix E and were described in Section 3.4.4.1 (pp. 77).

4.4.1 Pre-course/post-course attitude towards learning English

To investigate whether there was a significant difference between pre-course and post-course attitude survey responses in the three subscales, a One-way ANOVA was conducted (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). The results are presented in Table 4.22.
Table 4.2: Students’ Attitude toward Learning English through ICT-based Blended Learning/ Pre-Survey/Post-Survey

<table>
<thead>
<tr>
<th>Scales</th>
<th>Survey</th>
<th>95% Confidence Interval for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>SCALE 1: (Value)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT valuable for learning English.</td>
<td>pre-course</td>
<td>3.0360</td>
</tr>
<tr>
<td></td>
<td></td>
<td>post-course</td>
</tr>
<tr>
<td>SCALE 2: (Obstacle)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT an obstacle to learning English.</td>
<td>pre-course</td>
<td>2.9640</td>
</tr>
<tr>
<td></td>
<td></td>
<td>post-course</td>
</tr>
<tr>
<td>SCALE 3: (Encourage)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT encourages learning English.</td>
<td>pre-course</td>
<td>3.2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>post-course</td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level (2-tailed)

The data reveals a significant difference between BL student’s attitudes pre-course and attitudes retained by BL students post-course over the three subscales evaluated. The post-course attitude survey results revealed higher mean scores than the pre-attitude survey. These findings indicate that after completing the course, students enjoyed more positive attitudes toward learning English through ICT blended instruction, despite SCALE 2 results suggesting an increase in student belief that ICT created more difficulties within the course.

4.4.2 Students gender/ Attitude toward learning English

To examine whether there was a significant difference between male and female attitudes in the BL group toward learning English through the BL approach, a One-way ANOVA was
conducted (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). The results are detailed in Table 4.23.

Table 4.23. Students’ Attitude toward Learning English through ICT blended instruction

<table>
<thead>
<tr>
<th>SCALES</th>
<th>Students Gender</th>
<th>95% Confidence Interval for Mean</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Sig.</td>
<td></td>
</tr>
<tr>
<td>SCALE 1: (Value)</td>
<td>Male</td>
<td>3.4348</td>
<td>1.2793</td>
<td>.077</td>
<td></td>
</tr>
<tr>
<td>ICT valuable for learning</td>
<td>Female</td>
<td>3.7414</td>
<td>1.0238</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCALE 2: (Obstacle)</td>
<td>Male</td>
<td>3.7435</td>
<td>.95118</td>
<td>.032*</td>
<td></td>
</tr>
<tr>
<td>ICT an obstacle to learning</td>
<td>Female</td>
<td>3.3922</td>
<td>1.02126</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCALE 3: (Encourage)</td>
<td>Male</td>
<td>3.5245</td>
<td>.51073</td>
<td>.055</td>
<td></td>
</tr>
<tr>
<td>ICT encourages learning</td>
<td>Female</td>
<td>3.3567</td>
<td>.54561</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level (2-tailed)

The SCALE 2 statistics signify that males significantly differed with females when considering ICT as an obstacle to learning English. Remarkably, male students generally identified the introduction of ICT as complicating the course. SCALE 2 and 3 establish that males and females shared positive attitudes towards the benefits of ICT integration within the course.
4.4.3 Major programs / Attitude toward learning English

To assess if there was a significant difference between the three Major programs of the BL group in attitudes toward learning English through BL, a One-way ANOVA was conducted (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012). The results are defined in Table 4.24.

Table 4.24. Students’ Attitude toward Learning English through ICT blended instruction / Major Programs

<table>
<thead>
<tr>
<th>Scales</th>
<th>Majors</th>
<th>95% Confidence Interval for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Majors</td>
<td>Mean</td>
</tr>
<tr>
<td>SCALE 1: (Value)</td>
<td>Social Science</td>
<td>3.4424</td>
</tr>
<tr>
<td>ICT valuable for learning English.</td>
<td>Thai Language</td>
<td>3.7591</td>
</tr>
<tr>
<td></td>
<td>Public Health</td>
<td>3.8759</td>
</tr>
<tr>
<td>SCALE 2: (Obstacle)</td>
<td>Social Science</td>
<td>3.7117</td>
</tr>
<tr>
<td>ICT an obstacle to learning English.</td>
<td>Thai Language</td>
<td>3.4717</td>
</tr>
<tr>
<td></td>
<td>Public Health</td>
<td>3.1620</td>
</tr>
<tr>
<td>SCALE 3: (Encourage)</td>
<td>Social Science</td>
<td>3.5559</td>
</tr>
<tr>
<td>ICT encourages learning English.</td>
<td>Thai Language</td>
<td>3.3628</td>
</tr>
<tr>
<td></td>
<td>Public Health</td>
<td>3.2310</td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level (2-tailed)

The statistics reveal significant differences between the three Majors of the BL group regarding attitudes towards learning English through BL at the 0.05 level. Social Science Majors believed that ICT encouraged learning English while also deeming that the introduction of ICT created more difficulty within the course. Public Health Majors found
the most value in the integration of ICT, experiencing the least difficulty, although perceiving the least encouragement. Although Thai Language Majors also specified value in ICT integration, were mostly indifferent as to ICT encourages learning or creates more difficulties.

4.4.4 Results of open-ended attitude survey

This section presents data obtained from the open-ended attitude questionnaire analysis. The open-ended attitude questionnaires encouraged students to express their ideas or give suggestions about learning English through BL. The survey was conducted at the end of the course with the 139 students of the BL group. Following a data coding process, SPSS was used to analyse and compute the data as presented in Chapter 3. The responses were arranged in appropriate groups for analysis. Each student responded to all open-ended questions, which asked students about their attitudes toward ICT instruction. Items covered included: enthusiasm toward studying, supports independent study, and improves learning skills. The questionnaire also enquired about the advantages and disadvantages of BL, and any negative attitudes as well as suggestions or comments (Pallant, 2011; Pusee-on, 2011; Siljaru, 2012).

Question 1: Does learning English through ICT-based instruction affect your enthusiasm for learning English?

The results revealed that almost all students believed learning English through ICT-based instruction positively affected their enthusiasm for learning English.

Question 2: Does learning English through ICT blended instruction support your independent study?
With only 2.9% of students not supporting the proposition, students overwhelmingly consider ICT-based blended instruction supports independent study.

Question 3: What skills have you improved the most by learning English through ICT-based blended instruction?

Table 4.25. Skills Students have improved

<table>
<thead>
<tr>
<th>What skill have you improved the most?</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Worldwide communication</td>
<td>36.9</td>
</tr>
<tr>
<td>2 Enhance English skills</td>
<td>31.9</td>
</tr>
<tr>
<td>3 Interaction</td>
<td>16.8</td>
</tr>
<tr>
<td>4 The use of ICT</td>
<td>11.6</td>
</tr>
<tr>
<td>5 Critical thinking</td>
<td>2.8</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.25 illustrates that the majority of students believed they improved their online interactions through worldwide communications. Only a few students considered they had improved thinking skills.

Question 4: What is the advantage of learning English through ICT-based blended instruction?
The results described in Table 4.26 suggest students believed learning English through ICT blended instruction expands their worldview, provides access to extensive learning materials and cultivates worldwide networks. Only a minority mentioned that an advantage of learning English through ICT instruction was for enjoyment.

Question 5: What are the disadvantages of learning English through ICT-based blended instruction?
Table 4.2. The Disadvantage of Learning English through ICT blended instruction

<table>
<thead>
<tr>
<th>The disadvantages of learning English through ICT instruction</th>
<th>Per-cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Difficulty</td>
<td>42.6</td>
</tr>
<tr>
<td>2 Internet addiction</td>
<td>27.0</td>
</tr>
<tr>
<td>3 High cost</td>
<td>24.8</td>
</tr>
<tr>
<td>4 Increased work load</td>
<td>3.9</td>
</tr>
<tr>
<td>5 Inaccessibility to Internet</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The data listed in Table 4.27 implies that a majority of students considered their own ICT and language difficulties to be disadvantages in learning English through BL instruction. In addition, students suggested the Internet can be addictive or distracting and increased course costs. A minority of students stated that the disadvantages of learning English through BL instruction were: having to do multiple tasks and inadequate availability of computers while learning English.

Question 6: Students’ comments and suggestions: data obtained from the open-ended questionnaire presented in Table 4.28.
Table 4.2: Students’ Suggestions of Learning English through ICT blended instruction

<table>
<thead>
<tr>
<th>Comment and suggestion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 No comment</td>
<td>53.2</td>
</tr>
<tr>
<td>2 Improve ICT system in the university</td>
<td>25.5</td>
</tr>
<tr>
<td>3 Provide more computers in the university</td>
<td>10.7</td>
</tr>
<tr>
<td>4 Students should improve ICT and English skills</td>
<td>7.1</td>
</tr>
<tr>
<td>5 Instructors should improve ICT and English skills</td>
<td>3.5</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

Unfortunately, the figures in Table 4.2 reveal that more than half of the students made no extra comments after learning English through BL. Responses from just under half of the students suggest the university should improve the ICT system through up-to-date infrastructure and the provision of more computers. In addition, some students specified the English language and ICT skills of students and instructors should be improved.

**4.4.5 Summary of the attitude survey**

The statistics reveal significant differences between pre-course attitude and post-course attitude survey results of the BL group with regard to the three scales evaluated. The appraisal specified one scale significantly differing for males and females implying more males than females considered ICT as an extra hurdle to tackle within the course, the other two scales were not significantly different representing a unified belief in the benefits of
ICT. The statistics also demonstrated significant differences between the three Major classes of the BL group regarding attitudes towards learning English through BL.

The assessment of student responses to the 30 aspects of student attitude surveyed disclosed students’ firm belief that learning English through BL is valuable and also that ICT encourages the learning of English. However, some students experienced obstacles with the introduction of ICT instruction to the curriculum. According to the attitude survey, students overwhelmingly considered BL as a positive approach to the implementation of the curriculum. Further discussion is submitted in Chapter 6.

Section 4.4.4, which details the open-ended questionnaire statistics, reveals that BL supports independent study and creates enthusiasm for learning English. Students believed BL helped them to improve their English skills through increasing their worldwide communications and stated that the advantages of BL were: access to vast resources, expanded vision and up-to-date information. However, students recognised increased difficulty and cost, and also distractions while using the Internet as disadvantages. Students identified possible solutions to some of these disadvantages in their comments and suggestions, such as improved ICT systems, improved computer availability and improved ICT education of students and instructors.

4.5. Summary

In this chapter the researcher has endeavoured to form conclusions derived from the quantitative data concerning students’ learning achievements, participation and attitude in order to make comparisons and determine positive or negative difference.
Pre-course comparisons verify similarities in English competence between the BL and F-to-F groups, except in speaking ability where the F-to-F cohort held a clear advantage. Pre-course comparisons also confirm equivalent English abilities were retained by males and females, no differences were present between English ability between males of the BL and F-to-F groups and no difference was shown in English ability between females of either group. Significant differences were apparent amongst the six Major program group’s pre-course scores in listening, speaking and reading, Public Health proving to be the weakest in listening and speaking. Social Science Majors attained the highest total pre-course result, confirming a substantial advantage in prior learning and established English abilities. Therefore, two Major classes included within the Blended Learning cohort proved to be the strongest and weakest in established English language skills.

Post-course comparisons were applied to measure English learning achievement and ascertain difference or similarly between groups and identified the BL cohort a significantly more competent in writing skills than the F-to-F group. Unlike the pre-course outcome, no difference in speaking skills was observed post-course, signifying another considerable advancement in the BL group. Comparisons of change in mean scores (learning improvement) clearly highlight significant differences between the F-to-F and the BL groups. The BL cohort attained larger improvement in mean scores than the F-to-F group in all four English disciplines examined, and substantially higher in listening and speaking. Consequently, the BL group’s significantly higher total change in mean scores implies a considerably greater English learning outcome.

Social Science Majors achieved an outstanding result by attaining the highest scores in three skill sets post-course after scoring highest in two skill sets pre-course. Total post-course results confirmed Social Science Majors as most proficient in English language skills.
and clearly achieved the highest learning outcome. Multiple comparisons identified Public Health Majors as the group realising the greatest improvement in English language acquisition. Both the Social Science and Public Health Majors were part of the BL cohort.

No significant contrast was detected in male and female post-course outcomes or in male results of the F-to-F and BL groups, males of both group’s attained the highest post-course results in speaking skills, replicating their pre-course outcomes. Comparisons of post-course achievement also confirmed females of the BL group significantly outperformed F-to-F group females in writing skills. Appraisals of change in mean score relating to gender uncovered no significant difference between males and females and no significant difference between males of the BL and F-to-F groups. Notably, females of the BL group achieved a significantly higher change in mean score than females of the F-to-F group; BL female’s English learning achievement significantly exceeded the English learning achievement of females of the F-to-F cohort.

Observations of pedagogy in relation to students and instructors revealed three areas of significant difference. Traditional F-to-F instruction was found to rely heavily upon the course textbook while the BL approach allowed more flexibility and input from external resources. This was expected, and was part of the research design, but was confirmed through observation. Within the BL environment student-instructor interactions were noticeably enriched. Although this more freethinking atmosphere encouraged many students to join in, a section of the class happened to frequently dominate and overshadow more reserved students.

The quality of ICT used by instructors and students differed significantly in two areas. Observations confirmed the instructor of the BL cohort utilised ICT more effectively, a
practical conclusion considering that the BL group were afforded more opportunity and actively encouraged to use ICT in the course. This divergence is illustrated further by several significant differences in quality of ICT used by students. BL student’s use of ICT was many and varied, from research to communication and presentation. Given the ability and opportunity, these contemporary students possess a voracious appetite for ICT use.

Student’s perspectives and opinions were gauged in pre-course and post-course attitude toward learning English surveys in order to investigate change in attitude. Change in mean score analysis identified significant difference in the two positive and one negative scales. Importantly, BL students considered ICT valuable for learning English and thought ICT based instruction encouraged learning English, even though they disclosed a significant rise in the perception of ICT as a barrier to learning English. Considering the substantial increase in the two positive scales, ICT may be a barrier the BL students thought of as surmountable.

Gender comparisons disclose no difference in positive attitudes toward BL, though a significant difference was disclosed through SCALE2: ICT an obstacle to learning English. Male BL students indicated experiencing more difficulties, indicating that learning to use ICT and learn English at the same time increased the complexity of the course.

The Programs Majors also differed significantly in all the three attitude scales, Social Science Majors; the high achievers of the course, considered ICT instruction encouraged their learning efforts even though ICT was seen as an extra burden. Public Health Majors, achieving the greatest improvement in the course, thought ICT was a valuable addition to the course are expressed the least encouragement gained from ICT and experienced the least difficulty with the added workload of learning to use ICT for their studies.
The BL groups’ responses to the open-ended attitude questions were almost blurred in their unanimity. Almost all students believed that ICT blended instruction positively affected their enthusiasm toward learning the subject matter and that ICT supported independent study through student-centred learning. English skills, worldwide communications and academic interactions were the skills students felt most improved by the BL experience. Students recognised the major advantages of ICT integration as; access to vast resources, up-to-date and contemporary, expands vision and very importantly in the teaching English as foreign language context, the development of academic and social networks.

Alternatively, disadvantages were also considered and specified as; added course costs, increased difficulty or workload and online distractions or addiction. Just fewer than half the BL students replied in the optional comments section and those respondents overwhelmingly agreed that improvements and upgrades to the institutions ICT infrastructure and ICT skills education for students and instructors were priorities for the effective implementation of ICT based contemporary education.

The next section, Chapter Five, reports on qualitative data analysis and the conclusions formulated from the evaluation of the researcher’s field notes and semi-structured interviews that were administered to determine students’ attitudes toward using BL in their course.
CHAPTER FIVE – RESULTS: QUALITATIVE DATA

5.1. Introduction

Chapter Four reported on the analysis of quantitative data acquired from attitude questionnaires, classroom observations and pre-course/post-course test scores in order to compare student performances in essential English language skills (listening, speaking, reading and writing). This chapter presents the qualitative data obtained from analysis of the researcher’s field notes and semi-structured interviews. The qualitative data consists of detailed descriptions of events, situations, and behaviours as well as interpretations of quotations from students about their experiences and beliefs (Pethrod & Chamnipran, 2004).

This study seeks to investigate the use of blended instruction in the teaching of English, examine changes in students’ attitudes towards learning English through blended learning and discover students’ interest and participation levels. Therefore, this chapter presents the results across three topic areas: Section 5.2 English learning achievement; Section 5.3 Classroom participation, and Section 5.4 Students’ attitudes toward learning English through ICT blended instruction from semi-structured interviews. The chapter concludes with a summary of the results in Section 5.5. Themes from the field notes describing the F-to-F and BL students’ English learning achievements are presented below.

5.2. English Learning Achievement

Students of the BL treatment were motivated to integrate ICT within their traditional course. Therefore, the extent to which English learning achievement was enhanced in the BL group could be measured by comparing their language acquisition to the language acquisition in the F-to-F groups. In this section similarities and differences between the BL and F-to-F
groups, major programs and the influence of student gender on language acquisition are described.

5.2.1 Comparisons of the F-to-F and BL groups

EFL classes in Thailand are relatively large, consisting of 50 students or more. For instructors to provide sufficient time to offer an effective English language education to individual students is quite demanding (Chetchumlong, 2010). Consequently, instructors’ workloads are large and there is considerable pressure to quickly assess students’ assignments and exercises. This problem leads to less time for instructor-student interactions and this is likely to be adversely affecting students’ English language acquisition. The class sizes of both the BL and F-to-F groups surpassed 100. This section describes internal and external student communications and English language acquisition of the F-to-F and BL groups throughout the course. Observations and reflections developed from the researcher’s field notes are also presented.

5.2.1.1 Language acquisition of the F-to-F group

Communications of the F-to-F group classes essentially involved interactions from the instructor to students, from students to the instructor and from student to student. Students tend congregate in class according to their attitudes toward the subject; keen students arrive early and sit nearer the front of class, less interested students arrive later and sit nearer the rear of class. The majority arrive on time and fill the spaces in between. Students sit alone, in pairs or in small groups of friends, associates or like-minded people. Having established this order early in the course, little change in class dynamics occurred throughout the semester.
From the commencement of classes, the instructor addressing students consumed approximately 50% of class time. Ordinarily, the instructor would welcome students, verify attendance and then gather assignments or homework. Generally, the class would then review concepts of the previous lesson; thereafter the instructor would present the day’s lesson, explaining tasks or facilitating group activities or leading students in drills of their English language skills. Predominantly, the other 50% of class time was devoted to activities in which the students communicated with the instructor and with each other. Students acquired English language through reading textbooks, completing exercises from the course textbook and from participating in classroom activities. Also, learners repeated the instructor’s use of language through language exercises and learned from peers.

5.2.1.2 Language acquisition of the BL group

Initially, communications and classroom dynamics of the BL group reflected those of the F-to-F classes. However, with the introduction in the second week of social media, especially Facebook, interactions began to increase and rapidly expand. Most notably, peer-to-peer communications multiplied as students with little or no previous associations befriended each other, often through communicating with one-another online, with many unknowingly creating the foundations of their first online networks. Class dynamics changed significantly over the following weeks; detached or isolated students soon connected with others and groups combined and intermingled, forging new friendships. Before long the whole class appeared to unite, and even the more intractable students were motivated to make new connections and contribute to class time. Discernible and perhaps most pleasing of all, previously uninterested students enjoyed their interactions and increased their involvement in the course through class activities.
Classroom activities often involved practise English communication. An example of classroom interactions is described here for Week 7, 16 July 2012, (Unit 4 Take it easy!). Students presented group projects to the class, sharing presentation roles. Projects differed across a variety of careers embracing several interesting fields. The whole class participated in the presentations in turn and imparted concepts using both Thai and English languages. The presenters looked nervous at first then grew in confidence. These learning activities were very lively and cheerful, witticisms were often evident and students made fun of each other during the presentations. Following this exercise, language acquisition was further inspired in the classroom as students acquired and practised real-time communications regarding leisure activities. Students were guided to utilise the course website for searching, collating and sharing information. At the conclusion of each lesson the progress of students was demonstrated by the increase in their confidence, ICT skills, their online interactions and improvements to their English skills.

5.2.2 Comparison of the major programs

Students of the BL and F-to-F groups all participated in one of three Major programs. Consequently, within the classroom of over one hundred students it was impossible to identify all individual students as members of specific Major groups. In both the BL and F-to-F classrooms, active students congregated in the front rows, irrespective of Major group and were more likely to participate in activities both inside and outside the classroom. It was also observed that active students retained more positive attitudes towards the subject matter, in this instance ICT, English language or both. Students who involved themselves and involved the classes commonly valued self-improvement.
Conversely, some passive students and slower learners and certainly the uninterested generally gravitated to the back rows of the classroom and avoided participating in activities both inside and outside the classroom. Apparently, those less interested students had more negative attitudes towards ICT, English language or both. These students often attended class only to fulfil attendance requirements and took a limited part in the learning processes with the aim of passing the course at the end of the semester.

5.2.3 Comparison of male and female students

Both genders were represented in each Majors program, with female students comprising a considerable majority of each class in all three Major programs. Such over-representation of females within the study group may be explained as a cultural phenomenon, especially in the rural context, where males are required to work on family farms or seek manual or purportedly masculine vocations in the police, the army, engineering and logistics. Females tend to seek higher education for the economic security provided through higher incomes, secure corporate employment, and commercial and government occupations. Generally, males and females studied separately within both classes; however when studies required groups of four or five, male students were observed to integrate with predominately female groups.

Throughout the semester it was apparent that female students were more likely to attend classes and complete all assignments. Female students were also more likely to enquire about their progress. For instance, after a class or after submitting assignments, females were more forthcoming in seeking confirmation, clarification or other feedback from the instructor. Likewise, female students dominated class student–instructor and student–researcher interactions.
Clearly, female students exhibited more curiosity and enjoyed searching the Internet and sharing views and resources amongst friends through social Medias. Female students expanded online social networks without difficulty, possibly because they were seen as less menacing than their male counterparts. Females interacted in diverse ways and communicated online more often than male students.

Male students were observed to use ICT pragmatically, more like a research tool than a communication device, and seemingly were predisposed to utilising ICT in the completion of assignments and presentations. Males’ online preferences inclined towards sports, music, games, movies and news. These observations suggest that genders demonstrate differing practices and interests and face varying difficulties when learning English through ICT blended instruction.

5.2.4 Summary of English learning achievement

The researcher’s field notes results provide further evidence that what students liked most about blended learning were the convenience of interactions and the range of ways to communicate. According to BL capability, blended learning provided great opportunities for students to communicate in English, not only in classroom drills, but also through worldwide real-time communications. In addition, ICT blended instruction enabled convenient interactions between students and peers, students and instructors and between students and others. Students made positive comments about their online communication and interactive strategies. For instance, 90.6 % of students liked learning English through BL (Section 5.4). From the beginning through to the end of the semester, the researcher found that the effective use of ICT enhanced students’ English language competency. Worldwide social
interactions were cultivated and networks developed by the majority of students as described in the quantitative data in Chapter 4.

In brief, the use of ICT improves the learning environment and provides opportunities for students to achieve learning outcomes through their online learning experiences and access to vast stores of authentic learning materials. As indicated in Chapter 4, the changes in mean scores in the four skills of the BL group were significantly higher than those of the F-to-F group (see Table 4.3). The quantitative results are consistent with the qualitative results from the researcher’s field notes and interviews, indicating that students learn more English when they use ICT because they improve their interactions and communications. Furthermore, they can access a wealth of information and participate in social media networks. The evidence from a range of sources included in this study revealed that blended learning enhanced English acquisition to a greater degree than F-to-F learning (Ginns & Ellis, 2007).

5.3. Classroom Participation

The researcher monitored the F-to-F and BL groups throughout one semester, compiling field notes concerning students’ classroom participation. These journal entries identified behaviours and endeavours concerning the four themes typifying classroom participation; quality of pedagogy related to students, quality of ICT used by students, quality of pedagogy related to instructors and quality of ICT used by instructors. This section concludes with a description of the observable differences between students of the BL and F-to-F groups.
5.3.1 Quality of pedagogy related to students

This appraisal of quality of pedagogy related to students defines students’ learning practices within the F-to-F and BL groups. This section focuses on students’ involvement in English language learning procedures and activities in a student-centred approach.

5.3.1.1 Students of the F-to-F group

Students of the F-to-F group’s three major classes were instructed in English Foundation 1, based on the textbook: American Head Way (Soars & Soars, 2001) in a traditional F-to-F classroom setting. The students were provided basic training in ICT and online searching skills at the beginning of the course. The F-to-F cohort was also assessed as to their English competency prior to commencing the course via the same pre-course testing used to evaluate the BL cohort. The F-to-F students’ classroom participation was observed over 17 weeks.

The traditional F-to-F teaching model was initiated in Week 3, 11 June 2012, (Unit 1: Hello Everybody!) with the instructor’s role as facilitator, the researcher occasionally assisting in the learning process, observing and documenting proceedings. Beginning the F-to-F lecture the instructor checks attendance then facilitates discussion of issues associated with using English and ICT for academic purposes before moving to individual research and study options. The instructor then gave some context to the lesson plan as students mostly listened quietly, responding to the instructor’s questions when prompted.

The researcher noted some students appeared uncomfortable with the researcher observing their behaviour, as they often looked at the researcher when responding to the instructor or participating in class activities. Students discussed issues among themselves in small groups and seemed to enjoy interacting with classmates, completing several tasks from
the textbook.

Clearly, within the F-to-F classroom the instructor typically took charge through lecturing and leading activities while the students followed proceedings, contributing when prompted. Generally, learners were observed to function collectively as an audience and only assumed individual responsibility for their learning practices through the compilation and presentation of assignments, classroom discussions and language skill practice, all facilitated by the instructor (Kantawongs & Kantawongs, 2013). An example of a typical lesson is described in the researcher’s field notes, Week 13/ 29 August, 2012, and detailed as follows:

Face-to-Face instructor assumes the role of lecturer, the researcher assisting and observing. Firstly the instructor welcomed students and verified attendance while providing some background to the lesson plan, (Unit 7: Then and now). The students listened attentively and responded to the instructor’s questions when invited. The researcher noted that students who were mindful of the instructor were more likely to answer or respond to questions or comment.

However, most students listened and responded when prompted. During the period the instructor sought to involve as many students in the activities as possible. Students were then paired up and they conducted textbook set activities relating to the topics: verbs, time expressions, spelling and silent letters. Pairs of students enjoyed working on real-time communication in different contexts in the classroom. In the F-to-F classes students had a very strong sense of belonging to a community. At the end of the lesson students were set an assignment to prepare a presentation on the topics of vacations or special occasions.
Throughout the semester, F-to-F students primarily relied on text and reference books to research topics relevant to their lessons and completed exercises set from the course textbook. Students communicated in class using both Thai and English. The analysis of the researcher’s field notes and semi-structured interviews revealed that the F-to-F group utilised 50% of class time participating in students-centred activities, with the remaining time apportioned as instructor-centred learning (Stiggins, 2011).

5.3.1.2 Students of the BL group

The Blended Learning approach was trialled with three Major classes: Social Science, Thai Language and Public Health. Collectively they formed the BL group. This cohort was instructed in English language employing a blend of traditional F-to-F instruction and an ICT-based, student-centred methodology. The BL cohort of 139 students completed orientation and training in ICT skills and online searching at the beginning of the course in the same way as the F-to-F cohort.

In the orientation the instructor discussed the student-centred approach, and highlighted issues that students and staff suspected may arise as the trial progressed. As noted in the researcher’s field notes, Week 1/ 28 May, 2012: The three classes attend the introductory lecture, the instructor welcomed the students and conducted the orientation and described his role as lecturer. The researcher explained the course outline, the research aim and the research process. Students were made aware that their participation in the study was voluntary; all learners decide to participate in the research and sign the consent form.

Some students state their concerns reflecting that an increase in course difficulty may adversely affect their grades. The researcher assured students of the availability of the researcher and ICT specialist assistance to support students and instructors with any ICT
technical difficulties. Students asked for the researcher’s contact number and e-mail address and expressed concerns about the complexity of the project and the possibility that the instructor might not have much time for them. Also, some students stated that their weak English and ICT skills may burden the project. The researcher reassured students of her availability and support throughout the research.

The instructor then conducted the pre-course attitude survey and pre-course listening examination in which students listened to pre-recorded questions, spoken in English by a native speaker, completing their answers sequentially. Students expressed objections to the listening test, “It’s too complicated!” Students became despondent as they laboured to understand questions spoken in a native tongue and clearly, a great majority of students didn’t comprehend the language as most agreed when one student pondered openly,

“Why do English native speakers talk so differently from Thai’s speaking English?”

The researcher reassured students by telling them they would improve and become more familiar with the accents of English native speakers through listening to English more often and through practice (Suwannasom, 2010).

As the instructor facilitated the reading and writing assessment, the researcher observed and assessed students’ speaking skills individually through interviews with a native English speaker. The speaking tests were time consuming and could not be finished on time; most students were quite excited to speak for the first time with a foreigner. The majority presented as anxious or shy, seemingly afraid to make a mistake, giggling uneasily when unsure or when they did not understand. Some students remained quiet or queried the researcher when they did not know the answer or did not understand the questions. Students who were waiting for interviews looked nervous and excited.
All students completed the attitude survey, and the listening, reading and writing pre-course tests. Half the class completed the speaking skills assessment in class time, with the balance completing the assessment after class in their own time. A majority of students were visibly nervous, shy and self-conscious, although students displayed excitement and a willingness to participate by staying back after class.

In Week 2, 04 June 2012, ICT specialists taught the students and instructors in the ICT skills required for the course. This requirement revealed an essential aspect of the ICT BL model, preparing students with the appropriate skills required for them to become more independent learners. All students attended the ICT tutorial on time, enthusiastic at the prospect of interacting with technology in the course of their studies. ICT specialists taught students and instructors in the academic use of ICT, with the researcher facilitating, observing and assisting where necessary.

As the BL group comprised 139 students, ICT training occupied three computer rooms, necessitating three ICT specialists to conduct the training. All students acquired an e-mail address, social media profiles and were familiarised with the course website www.bl-ict-efl-esl.com.au and university website www.sskru.ac.th. Learners enthusiastically registered with social media such as Facebook, Twitter and Skype. They were obviously delighted with the success of their membership, especially with Facebook, as they instantly interacted with their classmates, friends and others online. Some students were unable to upload profile photos and were assisted by classmates, while other students posted status information and invited and accepted friend requests (Banados & Jauregi, 2008; Biyaem, 2005).
A majority of students signed up for Twitter within class time, the balance signing up in their own time, and followed the researcher, instructors, friends, celebrities, and news reporters. It was noted that when communicating on social networking sites, learners preferred to write in Thai even though they followed and befriended English speakers. At this early stage students rarely communicated in English, rather they re-tweeted or quoted English language tweets they liked. When questioned as to why they didn’t write in English or write what they wanted to say, students stated they weren’t sure whether their writing would be right or wrong. Moreover, they didn’t know how to express what they thought in English.

In addition, several students admitted to having self-doubts and feeling “not cool enough” to publish their impressions and opinions to a worldwide audience. The researcher soon realised that initially these students could readily comprehend knowledge, opinions and information but they would need more experience to create new knowledge. However, this activity developed their reading and thinking skills and opened their minds to learning about multicultural contexts and worldwide views (Block & Cameron, 2002).

Skype was new and exciting to most BL students as they could see and communicate with others online for the first time. At first students just made contact with friends, instructors and the researcher. They needed time to befriend and add others to their social networks before using Skype as a worldwide social medium. Surprisingly, one student revealed that she had befriended one of the researcher’s Facebook friends from Germany, and then personally communicated with her via Skype; she was very excited by the interaction and worldwide connection, which made the world seem smaller.
The principal difficulties encountered by students using social media were connection failure and English language limitations. Most learners were not fluent in English beyond formal greetings and providing personal information. Students were genuinely interested in the training and each class progressed rapidly. Many students were already familiar with computers and promptly assisted those experiencing difficulties. Approximately 80% of students completed the set tasks in class with the balance completing the tasks in their own time. Lesson plans, tasks and assignments were presented on the course website www.bl-ict-efl-esl.com, allowing students to assess their progress and complete unfinished tasks.

Assessment of classroom observations of the blended learning group, documented in the researcher’s field notes, revealed that ICT blended instruction processes were mainly student-centred (Nonkukhetkhong, 2006). The three BL periods of study each week would begin in a manner similar to the F-to-F classes, although only the first 30% of class time was instructor-centred and involved conventional class management, revision and lesson development practices. The instructor would verify attendance while reviewing the previous lesson, examine homework or previously set assignments and then explain the lesson plan.

In approximately half of the remaining class time (35% of the total class time) students would engage in student-centred learning activities set from the course textbook, facilitated by the instructor. The course textbook embraced conventional student-centred English skill and conversation activities based on real-life situations and pursuits. These activities were varied but repetitive. Typically, the rest of the remaining class time (35% of the total class time) was allocated to accessing the Internet, enabling learners to further explore topics and themes rose earlier in the class and develop concepts through interactions. Student-centred activities were performed individually, in pairs and small groups.
Another example of student-centred ICT learning practised within the BL classroom involved the presentation of assignments, often followed by class appraisal and discussion. For instance in Week 4, 20 June 2012, small groups of students presented set assignments relating to the theme, countries. In Week 7, 18-July, 2012, student groups presented projects describing careers. In both instances small student groups had to access the course website www.bl-ict-efl-esl.com and establish assignment requirements themselves. Study groups then used a search engine to discover relevant research sources for a PowerPoint presentation on their topic.

The researcher and some groups moved to study in the library, while the instructor and the other groups moved to the computer room to prepare their presentations. The students appeared to enjoy their research, as they were noisier, more animated and giggled during the activities. Students were guided in preparing their PowerPoint presentations through the course website section on planning a presentation. The study groups actively cooperated, interacting with ICT to explore their own ideas independently of the instructor.

According to the researcher’s field notes Week 5, 25 June 2012 (Unit 2: Meeting people), pairs of students were at liberty to choose their own subject matter relating to meeting people and then develop appropriate real-time communications within the classroom. Students felt their way using various ICT applications to research ideas and develop language scenarios. Students then completed several tasks set from the textbook such as: greeting family and ordering food and drink at a cafe. The students liked the activities and enjoyed working in pairs; they looked relaxed and giggled during several drills in different contexts. Students communicated using both Thai and English; they discussed their tasks with friends while a few students worked alone. Learners appeared more
confident when working in pairs or groups and the scenarios and answers that groups formulated were quite similar.

An assignment was set for students to interact with technology to find more information about their current topics from links on the course website. Students utilised the course website to research and complete their unfinished tasks set from the textbook and then used social networks for worldwide interactions. The students enjoyed communicating with their close friends at first, and then tried to make international friends. Students seemed happy to contact new people and interact with multicultural friends.

In Week 8, 18 July 2012, the instructor facilitated a student presentation of assignments, with the researcher observing and assisting. Student study groups presented textbook set assignments and interacted with technology to make PowerPoint presentations to the class on the topic: careers. Students were thrilled to present their projects, and group members worked co-operatively to share presentation roles. Students assisted each other to set up ICT equipment and upload files and then shared presentation roles, such as greetings and introductions, presentation of components and responding to questions. Students looked nervous and excited to be speaking in front of the class. Meanwhile the audience was also worrying about their own presentations. Themes and resources were quite varied and interesting, ensuring the whole class participated in the question and answer components. Enquiries and answers were communicated in both Thai and English. The learning atmosphere was fun and very active with students engaged in topical discussion and online information and resource sharing, facilitated by the instructor.

The researcher noted a competitive spirit developing between the study groups. Questions from the audience were thoughtful and succinct, requiring presentation group
members to help each other to answer correctly. The competition between the group’s performances made for an enthusiastic, spontaneous class. The whole class participated in the presentation question and answer component using both Thai and English. Quite clearly, the BL learning atmosphere was fun and active. By the end of class, students and instructors looked pleased and possibly relieved that the presentations of assignments went well.

Classroom observations of the BL group revealed that the BL treatment not only educated the students but also fostered an environment in which students assumed responsibility for their learning. The researcher documented the use of ICT as having supported a dynamic learning atmosphere, enabling students to learn how to learn at their own pace. This approach focused on each student’s interests, abilities and learning styles, placing the teacher as a facilitator of learning (Stiggins, 2011). Evidence obtained through student interviews (Section 5.4) disclosed students’ appreciation of the convenience of searching online. Student-centred learning is a new approach to education in Thailand, focusing on the interests of students to inspire increased self-learning.

In this study the Blended Learning treatment classes developed a pedagogy that was 70% student-centred and 30% instructor-centred. This methodology has implications for the instruction of educators, the design and interactivity of course content and the early education of Thai students. These are precisely the aims of the National Education Act 1999. Therefore, BL is essential to Thailand becoming the knowledge-based society envisioned under the National Education Act 1999. Governments, administrators and instructors need to integrate student-centred learning throughout the development of a child’s education (NECTC, 2011; ONESQA, 2009).
5.3.2 Quality of ICT used by students

This examination of the quality of ICT used by students focuses on students’ engagement with ICT in language learning processes. This section describes how students integrated ICT into the English learning activities of the F-to-F and BL groups.

5.3.2.1 ICT use in language learning of the F-to-F group

Students of the F-to-F cohort studied English Foundation 1. Their instruction was based on the course textbook and the instructor’s lesson plans. All students retained their own course textbook in which they completed learning exercises and practised language skills. Consequently, most students brought their textbooks and notebooks into the classroom to work from, and students also completed homework in their textbooks or notebooks or on paper to hand in to the instructor.

The researcher observed that students of the F-to-F group employed ICT when necessary, comfortable in the use of familiar technologies such as microphones and overhead projectors, though uneasy and to some extent embarrassed to use innovative technologies such as PowerPoint in a context where the few were familiar with the technology and the many were not. Therefore, infrequent use of computers within the F-to-F classroom may be attributed to great degree to inaccessibility. Students with the means to access ICT devices felt more comfortable to conduct online research activities in their own time, either alone or with friends. Consequently, ICT utilisation within the F-to-F cohort was not widespread; ICT use within the course was optional and depended heavily upon individuals’ socio-economic circumstances (Ng, 2009).
Students of the F-to-F group engaged in the research as volunteers and endured the added tasks of pre-course ICT training and additional knowledge assessment both before and after their course. The traditional F-to-F learning process focused on acquiring communication skills through classroom activities and through learning tasks outside the classroom as designated by the instructor. In general, ICT use by the F-to-F group inside and outside classroom was at best, optional.

5.3.2.2 ICT use in language learning of the BL group

As with the F-to-F cohort, students of the BL cohort were trained in the academic use of ICT in Week 1, 28 May 2012 although the BL cohort experienced using ICT to learn and practise their English skills throughout the semester. From the beginning of the course BL students were made aware of online interaction and searching strategies and were actively encouraged to utilise ICT in their learning practices.

During the early stages of the course BL students were compelled to interact via ICT to perform several learning tasks. As a result, students appeared to be accepting of the technology. Just a few weeks into the course BL students were readily and competently incorporating ICT into their studies (Parson et al., 2009). For example, students invited and accepted others as friends on Facebook and Skype, interacting regularly with their classmates, their instructor and the researcher online and they also followed each other on Twitter, enthusiastically discussing social and academic pursuits via these social networks.

Examples of interactions and communications are described in the researcher’ field notes Week 12, 13 August 2012. Students were obviously more comfortable and familiar with the instructor and researcher; there were no visible signs of awkwardness during class activities. Clearly, as the semester progressed, students felt more comfortable with the
researcher, often asking for help or seeking to discuss their ideas, tasks, assignments or online endeavours. Almost all BL students followed the researcher on Twitter (DK Campbell @papakky, 432 followers), contacted the researcher on Skype (pokpak4, 278 Skype contacts) and requested friendship on Facebook (Duangkamol Campbell, 155 friends). All student requests in an effort to support students and observe their English and ICT skills online were accepted. Unfortunately, the most students persisted in using more Thai language than English for their online interactions.

As described in the research field notes for Week 12/ 20 August, 2012, students interacted with technology using Facebook, Twitter, Skype and e-mail to make contact and communicate with the instructor and native English speakers online. Students enjoyed using Facebook for several reasons, such as interacting with classmates, friends and others on a regular basis. Many students communicated their daily activities, sharing posts and photos. After the BL students joined Twitter, 432 persons followed the researcher, the number obviously boosted by other students, providing a practical example of how networks easily expand. The majority of students followed friends, famous idols – singers, movie stars, and celebrities.

Although students preferred to write in Thai, students mostly followed English speakers, reading their Tweets and retweeting to their friends, collectively developing reading skills and vocabulary. As a new experience for rural Thai students in 2012, students believed it was “cool or sophisticated” to follow, and therefore be associated with, someone famous. As a result several students mentioned that when they tweeted they felt trendy, contemporary or intelligent, boosting their confidence and sustaining their enjoyment of using ICT to learn English. Most students agreed that at first they didn’t understand how Twitter functioned, but soon understood and enjoyed their interactions greatly.
Consequently, Twitter was viewed by BL students as the website where they could talk to the world (Phornphacharaphong, 2012).

As with Twitter, Skype was also a new application to most Thai students; almost all students had never used Skype. One benefit discovered by students, which was very exciting, was that Skype is an inexpensive medium for international and local face-to-face, real time communication. Skype was introduced to the students in Week 2 of the research, and of the 278 students participating in the study, 169 added the researcher on their contact lists. Several students provided encouraging feedback about using Skype, such as that they contacted foreign friends via Skype. Students appreciated the low cost and minimal financial outlay and also those they could see the people they were talking to. Several students mentioned that they had heard about Skype before but they never considered using Skype because they didn’t understand it until they took this course. Feedback such as this reinforced the participants’ belief that the research was worthwhile and that it had occurred at the right time. However, there were requests from students that created awkward moments, such as: “Instructor, can you find foreign friends online for me?” The researcher and instructor advised students to take responsibility for their learning directions and be aware of their behaviour as they not only represented themselves but also their university and their nation.

It was evident in their interviews at the end of the course (see Section 5.4) that students believed they increased their communications with others through the incorporation of ICT in the course. In general, it appeared that ICT blended instruction enabled students to communicate extensively both inside and outside the classroom which enhanced their language acquisition. Students seemed to enjoy tweeting or posting to share their feelings
every day, and it became popular amongst students to interact with people worldwide. It was evident that students lived in an increasingly networked world.

It became obvious that the students liked to work with their close friends, usually working with the same person or the same group and rarely would they change groups when engaging in new activities. The great change fostered by ICT integration was that these groups interacted widely online and interacted more within the classroom. Classroom activities became more dynamic as learning strategies matured and were shared or emulated, these methods becoming more familiar and then routine.

Clearly, social networks enhanced student interactions through increasing the variety of communication avenues available to students. Twitter and Facebook were the applications students employed to share information of interest, academic materials, recent activities, their whereabouts and immediate plans. These interactions were conveyed through their networks, inviting input from people on a global scale. Moreover, the students’ English language acquisition benefited from social media such as Skype and Facebook, which facilitated engagement with native, and second language English speakers, and people from different cultures and different backgrounds from all over the world.

More personal and immediate applications such as Skype, various online messenger services, e-mail and text message services enabled students to contact their peers, classmates and instructors easily, cost effectively, and more frequently than would be the case without ICT. Now integral to BL students learning processes, ICT expanded students’ horizons when studying in both F-to-F and online environments, improving their learning experiences. This integration of ICT not only helped students to increase their achievements – interview and opened-ended questionnaire responses confirm positive attitude outcomes. Most students
considered that ICT assisted their learning efforts, encouraged independent study and created worldwide communication and interaction (see Tables 4.23, 4.24, and Section 5.4).

Throughout this study the researcher observed that ICT blended instruction practices clearly related to the constructivist theory of learning, which focuses on the learner, and the knowledge that they construct by working on authentic problems. Constructivist learning involves building one’s own knowledge from one’s own experience (Finger, Russell, Proctor, & Russell, 2007). Constructivism promotes active engagement by the learner with ideas and materials, and students add to or change their previous knowledge sets (Swan, 2005).

The BL approach involves the use of software, applications and websites in learning techniques that are based on constructivist theory. ICT may be used in a blended learning context to inspire students to discover new or higher-level knowledge, concepts and skills for themselves. The blended learning experience encouraged students to interact with ICT both inside and outside the classroom (see Tables 4.23, 4.24). Consequently, students increased the frequency of their use of ICT and applied technologies to interact widely with others (Banados & Jauregi, 2008). Supporting evidence is presented in the interview results (see Section 5.4).

5.3.3 Quality of pedagogy related to instructors

Naturally it could be assumed that in a traditional F-to-F classroom the instructor might dominate class proceedings. However, this study identified the instructor-centred component of F-to-F instruction at 50%, with the remaining class time used for instructor facilitated learner-centred tuition. In F-to-F classes, instructor dominated processes comprised activities
such as: class management, lecturing, student assessment, the introduction of ideas or themes, provision of learning tasks and assignments, review, and examinations.

Student-centred activities facilitated by the F-to-F instructor included: exploration of themes and concepts, assignment research and compilation, completion of learning tasks, and presentation of assignments. F-to-F students used most of their time in the classroom, to interact and collaborate with their classmates and the instructor. This environment fostered a strong sense of community and belonging within the F-to-F group. Although instructor-centred procedures were observed to consume half the available class time, discernible instructor influence on student-centred activities confirms that the traditional F-to-F approach relied heavily upon teacher-centred learning strategies.

A key objective of the implementation of ICT blended instruction was to inspire students to familiarise themselves with the use of ICT in their entire learning processes. The BL syllabus required students to employ technologies for researching and self-learning activities and initially included pre-course training, introduction to the course website and online academic resources and also participation in social networking.

Instructor-centred learning activities such as class management, lecturing, provision of learning tasks and assignments, reviews and examinations as consumed approximately 30% of class time. A further 35% of class time was allocated to instructor facilitated student-centred learning procedures, for instance exploration of themes and concepts, assignment research and compilation, completion of learning tasks and presentation of assignments. The remaining class time, approximately 35%, was identified as purely student-centred, student controlled autonomous learning.
Student communications and interactions were extensive within the classroom and as class communications extended out to the world through the internet, global news, views and resources expanded classroom discourse, ideas and information availability. Moreover, as almost all students were connected through online social networks, many students communicated with each other even when they were outside the classroom and indeed outside university hours and also on weekends. From the observer’s point of view, the BL group practised student-centred learning strategies for approximately 70% of class time (Cooner, 2009).

5.3.4 Quality of ICT used by instructors

According to the researcher’s field notes, pre-course instruction in the academic use of ICT was the only prescribed technology-based period of the F-to-F syllabus. Three ICT specialists conducted the training, with the instructor and researcher assisting. The learning atmosphere was attentive, enjoyable and energetic. Students requested assistance from the researcher for problems such as: English spelling, searching for websites related to particular topics and placing attachments to e-mail communications.

It was apparent to the researcher over the progress of the F-to-F cohort learning process that there was a heavy reliance on the course textbook as both instructor and students predominantly employed the textbook for classroom learning activities. Instructor-facilitated class discussion and real-time communications frequently referred to textbook-inspired notions, and class communications were conveyed in both Thai and English.

Although ICT was not a component of F-to-F lesson plans, students were certainly not excluded from employing technologies in their studies. Limiting factors such as availability, additional expense and to a lesser degree the optional nature of the F-to-F
syllabus contributed to students employing ICT infrequently, possibly only when presented with the opportunity. Evidently, ICT use by the F-to-F cohort was at best optional, and was more likely inaccessible and certainly less supported and encouraged than ICT use by the BL cohort.

In contrast, the instructor of the BL group supported students to use ICT in their studies, both inside and outside the classroom; therefore ICT blended instruction promoted students’ use of ICT. Classroom observations presented in Chapter 4 (see Section 4.3, Table 4.16 and Table 4.17) indicate significantly higher interaction and ICT use by the BL cohort.

During Week 15, 06 September 2012, the BL instructor anticipated that his participation in ICT blended instruction would place him in a difficult situation and increase his workload. The instructor was reassured that the researcher and ICT specialists would be of great assistance in training students to seek their own learning directions, and that the course web site and other online materials would be of great assistance to the teaching processes.

By Week 15, 06 September, 2012, the BL instructor reported that his workload had increased, and additional time was consumed due to ICT issues such as: some unidentifiable projects submitted by e-mail, some assignments submitted multiple times and some obvious plagiarism identified. On the other hand, by the end of semester, week 16, the BL instructor reported that:

“Overall, ICT was useful for students as well as for instructors for studying, leisure, presentations, entertainment, and social communication, researching, self-improvement and career-development”.

“Overall, ICT was useful for students as well as for instructors for studying, leisure, presentations, entertainment, and social communication, researching, self-improvement and career-development”.
5.3.5 Summary of classroom participation

The manner in which blended learning supported a student-centred approach and encouraged autonomous learning through diverse interaction and access to up-to-date resources were documented in this study. The F-to-F group’s learning process was instructor facilitated and textbook dependent. Both groups encouraged students to practise English language skills inside and outside the classroom, but only the BL class inspired students to create networks, breaking barriers within the classroom and affording students opportunities for comprehensive, worldwide communications.

Accordingly, BL students were observed to employ ICT in their studies more frequently than students in the F-to-F group and as such, they collectively developed and utilised ICT skills more effectively than students in the F-to-F group. Evidence in support of these conclusions, described in Chapter 4, ‘Quality of ICT used by students’ (see Table 4.17), demonstrated that F-to-F group participation was significantly less than BL group participation in several ways, including: worldwide communication, search for information, use of current resources and use of technologies in class, enhanced self-learning and participation with ICT.

5.4. Student Attitudes Attained from Semi-structured Interviews

This section presents the descriptive data obtained from semi-structured interviews, used to elicit students’ opinions about studying through ICT blended instruction. Each student in the BL group participated in an informal conversation-style interview where they were asked in five open-ended questions to express their ideas or give suggestions about learning English through blended learning.
Student responses to being asked if they like learning English through blended learning revealed that a large majority of students (90.6%) enjoyed learning English through ICT blended instruction. Students considered ICT BL to be up-to-date and liked using ICT to search for information, finding ICT convenient, enjoyable and interesting. When asked to elaborate, students (36%) liked learning English through ICT blended instruction because it was up-to-date and expanded their worldwide vision. As online real-time communications and interactions played a part in students’ language acquisition, social media presented up-to-date news, views and comment, while removing social and geographic barriers to connecting students with others from the classroom to the other side of the world.

Furthermore, nearly a quarter of students (24.5%) said that using ICT to search for information as the reason they liked learning English through ICT blended instruction, whereas nearly one fifth of students (18%) liked BL due to its convenience. Typically, students stated they appreciated the ability to reference and compare several related resources simultaneously when studying a subject and that these resources were available to them inside and outside the classroom. Students also revealed a great interest in world news and events, accessing news and special interest websites regularly.

Almost all students were willing to try new technologies in the learning processes. Most students adapted well to the globalised environment, becoming accustomed to the rapidly changing digital world through active participation. ICT certainly began to play a big part in the learning process. The researcher witnessed students learning how to learn, how to find and evaluate information and also how to apply that information and turn it into knowledge. However, a few students (9.4%) disliked blended learning for reasons such as a perceived increase in difficulty and workload and also some students stated that their inadequate ICT skills caused difficulties for them in the learning process.
A small number of students (3.6%) disliked learning English through blended learning because it was difficult. Students said that they experienced difficulties in English language acquisition, claiming it was too complicated to learn English online. Students possessing limited or few English language abilities stated that they struggled to find resources they could understand and incorporate into their studies.

A few students (2.9%) stated that they disliked learning English through blended learning because it increased their workload. Students stated that it was too much work to learn and understand ICT and English at the same time. One student said it was more convenient to complete homework in the course textbook than to do it online.

A small number of students (2.2%) disliked learning English through blended learning because they felt they lacked ICT skills and because of inadequate online accessibility. Many students revealed that they were not experienced with computers and finding relevant materials online proved to be difficult and then understanding and manipulating those materials created further problems. These students had never experienced computers in a domestic environment and of those possessing hardware at home few could afford to access the Internet even if access was available. High demand and a low computer/student ratio placed great pressure on university infrastructure and the institution’s Internet connection was quite slow and often failed.

Only one or two students (0.7%) disliked learning English through ICT blended instruction because they lacked English skills. Although poor English skills rated marginally in this analysis, this inadequacy in English skill remained as a background factor to students’ dislike of ICT blended instruction. One of the students remarked that her English was not good so she preferred having an instructor to teach her to learn by herself.
The researcher found that a minority of students needed additional assistance and guidance through their blended learning experience. Considering that this approach is quite new in the Thai educational system, particularly in a regional context, responses suggest that instructors will need to be trained in integrating ICT in teaching and learning practices. Instructors must know how to help students gain ICT skills and help them set up suitable learning environments inside and outside the classroom.

In addition, students need to be prepared for technology assisted learning throughout their earlier education. Familiarisation with ICT during the course of students’ formative years is imperative to promoting widespread computer literacy, especially in Thailand. This study also revealed that enhanced student learning extends beyond the classroom environment. Learning how to learn is likely to become very important for students in an ever smaller, more connected world.

The responses to being asked what they liked most when learning English through blended learning were more varied. Students liked the improved interaction, up-to-date worldwide communications, access to vast resources and improved English and ICT skills. With reference to the question, “What do you like most when learning English through blended learning? Why?” just under a quarter of students (24.5%) said what they liked most was improved interaction through ICT. Primarily, students identified convenience and diversity of communication applications allowing contact with other people at any time.

Networks established through social media enabled regular interactions with friends, friends of friends and others, and also facilitated convenient contact with the instructor and researcher. Social media helped to break down barriers both inside and outside the classroom. Several students stated that they enjoyed connecting with people from around the
world via the Internet. Quite a lot of students reported that they liked to post online, expressing their thoughts and feelings to the world via Facebook and Twitter.

Many students (23.7%) revealed that what they liked most when learning English through ICT was worldwide communication. Students reported their enjoyment in expanding their circle of friends through Facebook, with many students interacting with foreign acquaintances for the first time. These students specified online contact with classmates outside the classroom as beneficial to the progress of their studies. Students also enjoyed following celebrities, newsmakers and sport stars through Twitter. Most celebrities posted comments in English, furthering language acquisition among students.

Slightly fewer students (17.3%) revealed that what they liked most when learning English through ICT was access to vast resources. These students emphasised the diversity of resources at their fingertips and the ability to research at any time that suited their schedule. Many students mentioned Google, Wikipedia or both, and liked following links to associated websites and resources in the development of their ideas and academic endeavours.

Marginally fewer students (15.8%) revealed that what they liked most when learning English through ICT was that it was up-to-date. Foremost in students’ minds when replying to this question was the notion of ICT as a modern social, workplace and academic tool. These students recognised the expanding role ICT will play in their professional development, with those with little previous ICT experience expressing relief at finally familiarising themselves with ICT in an academic context. A great number of students said that they believed it was trendy to use computers, and some students said that it felt good to understand technology, to learn English and to access the Internet. One or two students said
that learning English language through ICT was contemporary and they felt ‘really cool’ to be good at it.

A small portion of students (6.5%) revealed that what they liked most when learning English through ICT was improved English skills. A typical response from these students was that ICT could engage students with English language easily. Students could listen to the English language spoken by native speakers either as recorded media or via person-to-person contact through social media and communication applications. These learners believed frequent ICT interactions assisted them to read, write and comprehend the English language.

A few students (2.2%) revealed that what they liked most when learning English through ICT was that it improved their ICT skills and improved attitude towards ICT. A particular response in regard to improving ICT skills was students learned how to search for the information they required to construct knowledge. Students who were previously technologically illiterate soon accessed online networks, interacted widely through those networks, utilised technologies to research subjects, learned to manipulate documents, construct PowerPoint presentations, communicate and submit homework via e-mail. As students’ achievements became established and recognised, self-esteem and satisfaction also developed. These positive outcomes certainly contributed to improving students’ attitudes towards using ICT for social and academic purposes.

These findings appear to demonstrate that utilising ICT supported students’ autonomous learning and encouraged them to try new ideas, to be achievers, risk-takers, problem solvers and challengers. This is quite the opposite of F-to-F learning approaches in Asian countries, especially in the Thai educational system, which is very subject-oriented, F-
to-F, direct and exam-driven. F-to-F Thai students are good at passing tests but are not as good at critical thinking, creative problem-solving and independent learning (Finger et al., 2007, p. 63).

In contrast, blended learning led students to think outside the square, to learn by doing, to search, to be in control of their learning and to be autonomous students. Students learned how to learn and were able to be trained in technological learning environments. The research established that ICT supported students to learn within a community of students via social interaction in active environments both online and face-to-face.

When asked what they like least when learning English through blended, most students disliked their inadequate English and ICT skills when learning English through blended learning. Other factors that students liked least were the increased difficulty of their studies, the increased workload, and computer inaccessibility. Interestingly, far too many students (15.1%) did not list anything that they disliked when learning English through ICT blended instruction.

With regard to the question, “What do you like least when learning English through blended learning? Why?” nearly half the students (44.6%) revealed that what they liked least when learning English through blended learning was their inadequate English skills. As most students’ English skills were quite weak, learners felt disappointed after experiencing difficulties in conducting meaningful conversations whilst online. Inadequacies in spelling and grammar contributed to misunderstandings, requiring learners to seek clarification of words and phrases, often students referred to translation applications that rarely made sense. Consequently, student conversations beyond greetings became laborious, as students
couldn’t easily express their thoughts or comprehend the reflections of others, leading to disinterest and, to some extent, embarrassment.

Similarly, nearly one third of students (32.4%) revealed that were frustrated by inadequate ICT skills. The majority of BL students experienced ICT as an educational and academic tool for the first time as a result of this course. Consequently, learners had to overcome not only practical and technical difficulties. Consistently, many students felt apprehensive about searching online, and fearful of being responsible for infecting devices with malicious software, viruses and the like. A few students said that they experienced difficulties accessing information on the Internet because they didn’t know much about computers. This response emphasises a need for supplementary and ongoing computer training for rural Thai learners.

A small portion of students (1.4%) revealed that what they liked least when learning English through blended learning was the increased workload. The thoughts of these students extended mainly to issues related to time. Learners’ viewpoints indicated an awareness of spending too much time online researching assignments, or that resolving computer issues consumed more time than their English homework. Students also recognised that considerably more processes were involved in ICT BL than in F-to-F learning and so BL was more time-consuming.

Possibly two students (0.7%) said that what he liked least when learning English through blended learning was that he didn’t have a computer or could not access the Internet. Surprisingly, few students responded to this proposition, bearing in mind that only a small number of learners possessed computers. A greater number of learners owned hand held or mobile devices and students were observed to pool resources when participating in-
group activities. Common problems identified by students in relation to ICT infrastructure included the absence of a laptop, notebook or computer at home or the dormitory, no access to the Internet at home or the dormitory, insufficient numbers of accessible computers at the University and weak coverage and slow download speeds over the institution’s wireless network.

Considering that few, if any, students were computer or English language literate before this study, and certainly none were literate in both, this group of students obviously revelled in the challenges put before them and appreciated and enjoyed their experiences. A minority of students (15.1%) did not nominate anything in response to the question about what they liked least when learning English through ICT blended instruction. The common response among these students was that they enjoyed all aspects of their ICT BL involvement, and in doing so they liked nothing least.

In summary, the sources of student dissatisfaction with BL identified through this study included: inadequate English skills, inadequate ICT accessibility, weak ICT skills, underdeveloped infrastructure, and an inability to understand how to use the technologies. All these factors had negative impacts on students’ learning potential in technology-rich learning environments. This study illustrates that in the fast-paced 21st century digital world, those who do not understand how to learn English language and ICT skills, how to change and adapt, how to problem-solve and work in teams will be left behind and struggle.

Consequently, the demands of the 21st century necessitate early ICT instruction in a student’s education, providing skills to make use of one of the most powerful tools available to education and vocation. The early application of constructivist learning practices would provide students with the confidence, problem solving skills and learning ability to utilise
technologies to their fullest potential. These changes would provide real benefits to policymakers, institutions and educators within the Thai context.

Relatedly, when asked if learning English when using ICT was easier, an overwhelming majority of BL students (97.5%) believed ICT contributed positively toward their English learning endeavours. Further enquiries about students’ opinions regarding the means by which ICT eased their learning process produced several similar responses. Most notably, students acknowledged Google, Wikipedia and the course website as resources consistently referred to in their search for knowledge. The website YouTube also featured prominently as a resource learners regularly used for language acquisition.

Almost unanimously, students appreciated the convenience of having a wealth of information at their fingertips, the flexibility of studying at times most convenient to their schedules and the vast diversity of news, views, academic materials, social media and other communications available to them online. Many students also valued their access to the course website; learners unsure of notions conveyed in previous lessons or in doubt about assignments or homework were able to search the website for guidance or relevant information.

Only a few students (2.2%) were undecided about whether ICT made learning English easier. These students’ responses inclined towards the negative. When asked whether ICT made learning English easier, they replied that they “didn’t think so”, a few students answered that they were not sure and they had no idea or that they didn’t know and, consequently, they couldn’t answer.

Only one student (0.3%) believed that learning English was more difficult when using ICT, stating that to learn English was already difficult learning to use the computer at
the same time doubled the task for them. Additionally, these students found that there were too many barriers to negotiate in order to access the Internet. As a consequence, the student felt more comfortable learning from the course textbook and completing homework in a notebook.

In sum, the overwhelmingly positive responses to whether using ICT made learning English easier appear to confirm the effectiveness of the constructivist approach of changing the instructors’ role from the F-to-F delivery of information to one of a facilitator, organising socio-technical networks that promote the students’ construction of knowledge.

When asked to consider the question “Do you think you have learnt more English using ICT than you would have from a course that didn’t use ICT?” a great many of students (81.3%) answered in the affirmative. When prompted to elaborate, student responses suggested access to English language outside the classroom and an ability to practise English skills by themselves were most beneficial to their English language acquisition. Students valued the numerous websites, which offered English language skills practice, recorded educational media such as YouTube, Google scholar, encyclopaedias and search-engine sites that linked students to educational materials and educators from around the world. Learners specified that they enjoyed searching online for relevant information and experienced a sense of independence when learning English via ICT.

A minority of students (14.4%) believed that ICT made no difference to their English learning achievement. Although many of these students’ responses inclined towards the negative, responses also leaned towards indifference and uncertainty. One or two students answered “perhaps” and “possibly” while others responded that they didn’t know or they didn’t think so, or they refrained to give further comment.
A few students (4.3%) believed they had learnt less English using ICT than they would have done by participating in a course that didn’t utilise ICT. These learners’ responses clearly illustrated the distractions from study encountered by students using the Internet as a tool for study. For instance learners recognised they had wasted their time “surfing the Internet” on the computer instead of concentrating on learning English. On the other hand, several students expressed a preference for learning with an instructor and practising English skills in the classroom rather than by interacting with strangers online.

Despite the fact that some students felt their inadequate English and ICT skills limited their access and/or understanding, most students believed learning English with ICT was easier and that they acquired more English by utilising ICT. The study revealed that a majority of students believed they had learnt more English using ICT than they would have done by participating in a course that didn’t use ICT.

These findings reflect the increasingly use of ICT in education generally educators will increasingly use ICT to support teaching and learning in their classroom. The Thai National Educational Reform’s aim of providing students and instructors with access to ICT supports this trend. This study’s findings suggest several key areas need to be considered in implementing ICT blended instruction. These include: the instructor’s knowledge and skills, the students’ backgrounds, students’ readiness, ICT accessibility, ICT infrastructure and educational institutions policies. The semi-structured interviews revealed students liked the use of blended learning, citing improved interaction, worldwide communication and access to vast resources as major positive factors.
5.5. Summary

At the beginning of the semester, students of the BL group volunteered to engage in the research and approached the project with anxiety, nervousness and curiosity. After training in the use of ICT use for academic purposes, and after having time to familiarise themselves with the project, the instructor and the researcher, students began to relax and interact with technologies. From the outset students enjoyed their ICT experiences and looked forward to commencing class. During the research students actively explored the Internet and used it to search for information relevant to their studies and especially enjoyed interacting widely via social media. Students enjoyed updating their status, posting messages, tweeting, and sharing photos or links. The most noticeable developments throughout the course of the research were enhanced classroom participation and more positive attitudes towards ICT and English language learning within the blended learning group.

The semi-structured interview results indicate there were some barriers to blending learning in this study such as instructors’ and students’ backgrounds in English and ICT skills and also inefficiencies of the technology used. The students clearly liked the contemporary teaching strategy of blended learning and clearly enjoyed improved interactions through extensive online communications. Students reported that learning English with the assistance of ICT interactions was easier and effective and that the Internet expanded their worldwide vision and provided access to boundless resources.

Students of the F-to-F group also volunteered to be involved in the study and like the BL group, they had the advantage of ICT training and access to the computer laboratory room. As the results from the research did not affect their grades, the F-to-F group students
had nothing to lose, although they did agree to the extra workload of pre-course training and assessment and additional post-course assessment as well as the imposition of the researcher observing their regular classes. In brief, the F-to-F group improved their English learning achievements, gained some valuable ICT experience and at times took advantage of having an extra instructor. Therefore it may be safely assumed that the F-to-F cohort benefited from their participation in the research. In the next chapter, Chapter Six, the results of the quantitative and qualitative data will be discussed.
CHAPTER SIX – DISCUSSION

6.1. Introduction

The previous chapter presented qualitative data on the influence of ICT blended instruction (BL) on students’ English learning achievements, attitudes toward learning English and classroom participation. This chapter addresses the research questions and discusses the findings of the study. The research questions are as follows:

1. Does the use of ICT blended instruction affect students’ English learning achievement?
2. In terms of classroom participation, what are the observable differences between students who used ICT blended instruction and those that did not?
3. Does ICT blended instruction affect students’ attitude toward learning English?

6.2. Question 1: Does the use of ICT blended instruction affect Students’ English Learning Achievements?

The main focus in this section is whether or not students’ English language performance improved after ICT blended instruction. The participants in this study were 278 students of a rural university in the North-eastern Thailand. The sample consisted of six first-year classes and participants were enrolled in Foundations of English 1 for the first semester in 2012. This section presents a comparison of F-to-F and BL groups and of the performances of students in the six Major programs. This section also examines the correlation between students’ gender and English language achievement.
6.2.1 Comparison of F-to-F and BL groups in English learning achievement

At the beginning of the study, the participants of face-to-face (F-to-F) and blended learning (BL) classes shared similar abilities with regard to English listening, reading and writing skills (as shown in Table 4.1). However the participants of F-to-F classes demonstrated better speaking skills than the BL class.

The post-course survey investigation found that unsurprisingly participants in both F-to-F and BL classes improved in their English language skills (see Appendix H). However, the BL classes improved in English language achievement in writing skills to a greater extent than did F-to-F classes (see Table 4.2). In addition, when the changes in the means of pre-test and post-test scores of the F-to-F and BL groups were compared, the results indicated that overall the BL classes scores exceeded F-to-F scores by a significant margin (see Table 4.3). Both traditional F-to-F and BL approaches produced a positive effect on English learning achievement. The BL approach was more effective in improving writing skills (see Table 4.2) and the change in the mean scores of the four skills evaluated indicated that BL classes achieved a greater improvement than the traditional classes (see Table 4.3).

6.2.2 Comparison of the six major programs in English learning achievement

The BL classes consisted of three Major programs: Social Science, Thai Language and Public Health. F-to-F classes consisted of Mathematics, Primary and Science majors. At the time of the pre-test the six classes were not equal in English language skills: listening, speaking and reading. Nevertheless, there were no significant differences between the six Majors in writing skills (see Appendix K). The Social Science students had the highest pre-test scores. However, students of the Public Health Major recorded the lowest overall pre-
test scores. Additionally, Public Health Major pre-test scores were significantly different from Social Science, Thai Language, Maths and Primary (see Appendix I).

Post-course examination of the six Major programs scores revealed significant differences in listening and writing skill results, but no significant difference in speaking and reading skill capacities (see Appendix K). Social Science Majors recorded the highest increases in achievement with regard to listening, speaking and writing skills, while students of the Science Major performed the worst in speaking and writing. Multiple comparisons between the six Major programs post-course scores revealed there were significant differences between Social Science and Science Major Programs (see Appendix L). Mathematics Majors improved the least in reading skills. At the same time, Public Health Majors exhibited the greatest increase in overall skills. Consequently, the Public Health Major had the greatest improvement in their English achievement (see Table 4.8).

Summing up, the six Major classes participating in F-to-F and BL instruction improved their English skills through the course, *Foundation of English*1. At the beginning of the research all students shared similar abilities in writing skills (Table 4.1) however, by the end of the course, the BL class showed greater improvement in writing and listening skills (Table 4.2). As the only measure, which was equal in all classes at the beginning of the research, was an English writing skill, the clearest results were obtained for this skill. The greatest increases in scores were found for this measure in the BL group. Therefore, the research concluded that the BL approach positively affected students English writing skills the most (Table 4.3).

With regard to the integration of technology into the BL approach, initial concerns expressed by Public Health Major students regarding their lowest pre-test mean score in
learning achievement were eased after they improved from having the lowest mean to having the greatest increase in the change of mean score (English learning improvement) (see Tables 4.6, and 4.8). The Social Science Major students had the highest pre-test mean score in learning achievement and clearly improved their English by achieving the highest post-test score (see Tables 4.6, and 4.7). Thus, this study provided strong evidence from the overall quantitative analyses of student achievement that several benefits emerged from the integration of ICT into the English learning experience.

**6.2.3 Comparison of student’s gender and English language achievement**

Testing and evaluation at the commencement of the study indicated that F-to-F and BL male and female students had equal English abilities in all four skills (as shown in Table 4.9). Post-course investigation revealed male students exhibited similar learning outcomes to female students in both F-to-F and BL classes (as shown in Table 4.10). In summary, it appears that gender did not affect English learning achievements (as shown in Table 4.11).

Preliminary assessment of male F-to-F and BL students indicated equivalent English language skills (see Table 4.12) with male students of the two cohorts having similar abilities in speaking skills. Post-course testing and analysis revealed that male students of both cohorts consistently displayed similar English language learning achievement (see Table 4.13). Male students of both programs attained the highest pre-test and post-course speaking skills (see Tables 4.12 and 4.13). In brief, the English language learning achievements of male students in BL and F-to-F classes were not significantly different to each other (see Table 4.14).

At the commencement of the study female students of F-to-F and BL classes had similar English abilities. Both cohorts scored lowest in reading skills (see Table 4.15). Post-
course testing and evaluation revealed that female students of BL classes increased their writing skills to a higher degree than female students of the F-to-F classes (see Table 4.16). However, both classes showed comparable improvements in reading, listening and speaking skills. Surprisingly, female students of both groups achieved the highest increases in speaking skills (see Table 4.16). On the whole, female students of BL classes improved their English language achievements to a greater extent than female students of F-to-F classes (see Table 4.17). To sum up, both F-to-F and BL approaches produced positive effects for female students with regard to English learning achievement but the BL approach produced higher English skills overall, especially in writing abilities (see Tables 4.16 and 4.17).

6.2.4 Conclusion on students’ English learning achievement

In answer to the research question: Does the use of ICT blended instruction affect students’ English learning achievement? This study has established that the use of ICT blended instruction positively and significantly affects student’s English learning achievement. This study provides evidence in support of this statement through identifying the BL group’s significant improvement in English language writing skills when compared to improvement in English language writing skills of the traditional F-to-F classes (see Table 4.2). In addition, results of this study indicated that overall the BL group’s post-test scores exceeded the F-to-F group’s post-test scores by a significant margin. Furthermore, the change in the mean scores between both groups pre-test and post-test scores regarding the four English language skills evaluated indicated that the BL group achieved a greater overall improvement than the traditional F-to-F group (see Table 4.3). The quantitative data evidence in support of the statement is provided in Section 4.2.2.3, which presents the improvements in post-course outcomes for both groups. Section 4.2.2.4 reveals students’
changes in English ability from course commencement to completion as English learning improvement.

In addition, the qualitative data from the open-ended questions indicated that 81.3% of students believed that they had learnt more English using ICT than they would have if they had attended a course that didn’t use ICT (see Section 4.4.4). Furthermore, the qualitative data from the researcher’s field notes and the semi-structured interviews confirmed that BL classes had improved English achievement (see Section 5.2 and 5.4). Clearly, when taking into consideration these overall improvements in students’ English learning achievements, ICT blended instruction improves on traditional methods to enable learners to create knowledge which in turn promotes confidence, enjoyment and the social life skills required in an information age society.

6.2.5 Consistency of findings on English learning achievement

This section discusses the research findings in relation to English learning achievement. The discussion relates to the first research question: *Does the use of ICT blended instruction affect students’ achievements?* This focuses on the F-to-F and BL groups, gender groups and six major program groups. This study’s findings are discussed with regard to English learning achievement in F-to-F and BL groups and compare them with findings from other studies.

The findings of this study are supported by the quantitative results, which indicate ICT blended instruction students’ outperformed F-to-F student in writing post-test results (see Table 4.2). The overall changes in mean scores of the BL group were significantly higher than the overall changes in mean scores of F-to-F group (P<.05). In particular, the BL students achieved greater outcomes in listening and speaking skills (see Table 4.3).
These findings are consistent with a study by Dowling et al. (2003), which found that hybrid flexible delivery teaching methods improved accounting students' learning outcomes. The results of that study indicate that the hybrid flexible delivery model is positively associated with students’ final marks and improved learning outcomes. Likewise, a study into the use of blended learning to improve student success rates in learning programs found that the blended model provides a mixture of traditional and novel elements including the widespread use of the new online features (Boyle, Bradley, Chalk, Jones, & Pickard, 2010).

A study by Lynch and Dembo (2004) researched the relationship between self-regulation and online learning in a blended learning context found that blended education contexts, verbal ability and self-efficacy correlated significantly and positively to performance and final course grades. In addition, the hybrid course model also increased learning outcomes and student attendance (Riffell & Sibley, 2004).

The present study is consistent with several previous studies mentioned above. It supports the findings of the study by Tomlinson (2008) who claimed that ICT tools enhance students’ learning outcomes within the existing curriculum and existing learning pedagogy. Likewise, a study of e-learning in Thailand found that student outcomes were more favourable in online groups than in traditional groups (Suanpang & Petocz, 2006). This present study’s findings found that learning could be improved by integrating technology and combining online experiences (Bransford, Brown, & Cock, 2000; Haslett et al., 2011; Ono & Ishihara, 2011; Snodin, 2013). A study by Tuckman (2000) also compared hybrid and traditional approaches. The results indicated that students who were taught study skills using a hybrid method achieved higher scores than students taught via traditional instructional methods. A study by Carroll and Hsu (2003), and Stacey (2008) examined the effect of supplementing F-to-F courses with online instruction and the need to focus on the
nature of their integration. The results indicated that online course components increase the flexibility of on-campus courses.

Gruba (2004) did a study on designing tasks for online collaborative language learning for Thai students studying English at university. The results indicated no significant differences in the results of male and female students utilising ICT. Typically, both genders believed that ICT was effective for in-class learning but considered ICT used outside the classroom to be more enjoyable. The results show that entertainment media and the Internet are popular ways to learn English and could be better to utilised within the classroom (see Section 5.3.4). All in all, these previous studies have shown that ICT blended instruction revealed better outcomes than F-to-F courses in English learning development.

6.2.6 Contrasting the findings between F-to-F and BL groups in English learning achievement

This section discusses this study’s findings with regard to English learning achievement in F-to-F and BL groups’ in contrast with other studies. The present study found that BL classes achieved a greater improvement in English learning achievement than traditional classes. In comparison, a study by Garrison and Kanuta (2004) which investigated blended learning potential in higher education, found equal learning outcomes for students who had finished the program without an online component. Christensen (2003) compared blended learning and F-to-F classes and found that blended learning and F-to-F course outcomes were the same. King and Hildreth (2001) investigated online and traditional courses and found no significant differences between Internet-based and traditional students’ test scores. However, a comparison of three formats: face-to-face, blended, and independent online...
learning demonstrated that independent online courses outperformed the other types of courses (Reasons et al., 2005).

An interesting previous study of blended learning in a higher education multicultural environment indicated some types of ICT-based learning activities appear to produce better results for students with Computer Science backgrounds (Edilson, 2012). Unfortunately, the present study lacked Computer Science students and this study’s cohort expressed the view that inadequate computer skills were a barrier in the blended learning processes (see Section 4.4.4 and 5.4).

6.3. Question 2: Does the use of ICT blended instruction affect Students’ Classroom Participation, What are the Observable Differences between Students who used ICT blended instruction and those that did not?

Observations recording the classroom behaviour of students learning through BL and F-to-F treatments were conducted. Groups from each of three major classes were instructed and observed for three periods a week (50 minutes each period) over the 16-week semester. Classroom observations evaluated four aspects of instructor and student participation: quality of pedagogy related to students, quality of pedagogy related to instructors, ICT use by students and ICT use by instructors. The main focus in this section of the research is ‘what are the differences between students who used ICT blended instruction and those that did not?’

Additionally, the researcher compiled field notes for the duration of the study. The most relevant findings from these notes relate to differences in learning achievement and students’ participation between the F-to-F and BL cohorts. Observations of the two groups of students revealed anomalous student behaviour (see Section 5.3). Although participants
seemed eager and excited about the potential of the new BL approach, some nervousness and anxiety was also expressed. BL students’ understanding of the course expectations improved as they progressed and as opportunities to interact online increased, their confidence developed and anxiety levels declined. F-to-F students understood that they were part of the research. The following sections present the findings in four subsections: Quality of pedagogy related to students, Quality of ICT used by students, Quality of pedagogy related to instructor, Quality of ICT used by instructor.

6.3.1 Quality of pedagogy related to students

According to the quantitative data from the classroom observation, the quality of pedagogy in F-to-F and BL classes differed. To all outward appearances, outstanding students in the BL classes were highly engaged, while more passive students were not so engaged in classroom activities (see Table 4.18). Otherwise, students of F-to-F classes appeared to be satisfied with their classroom participation and collegial interactions.

According to classroom observations, BL instruction was more effective than traditional F-to-F classes, especially with regard to the quality of ICT used within the classroom. For example, BL students utilised ICT to interact on a worldwide scale through online communications, and instructors and students employed available resources and technologies in class to search online for information, augmenting learning activities (see Section 4.3.2). The study recognised a need for purposeful teaching as a process of knowledge building and highlighted the need to personally motivate students to take responsibility for their educational objectives (see Section 4.3.5).

The quantitative results of the classroom observation regarding the quality of pedagogy related to students found that BL group members spoke to the teacher significantly
more often than the F-to-F group did. The result indicated that the BL group contained significantly more ‘passive’ students than the F-to-F group (p<.05) (see Table 4.18). It can be argued on the basis of these results that using ICT blended instruction might be good for active students, students with good English skills, and students with good ITC skills, but that slower leaners, students with inadequate English and ICT skills are likely to struggle. The evidence from the open-ended attitude questions as presented in Section 4.4.4 particularly questions No. 5 and No. 6 show that the disadvantages of BL were related to technical problems and lack of English, ICT skills and ICT accessibility in the university.

As shown in the qualitative data from researcher’ field notes (see Section 5.3.1), the BL classes focused on student-centred learning for approximately 70% of class time, while the traditional F-to-F treatment devoted an estimated 50% of class time to student-centred learning. The pedagogy in BL classes was best suited to more engaged students who demonstrated more confidence and self-reliance. The F-to-F pedagogy stimulated a very strong sense of community among the students. In sum, ICT blended instruction was found to have increased students’ ICT and critical thinking skills, which are essential skills in the 21st century global workforce and in academic study (as shown in Section 4.4.4; the results of open-ended attitude questionnaire, Table 4.26 The advantage of learning English though ICT blended instruction). For these reasons the findings of this research provide strong support for the integration of ICT into the EFL syllabus throughout the Thai higher educational system. This study’s conclusions show that the BL approach is an effective method of teaching and learning English, grounded in constructivist practices, which motivate students to learn, understand, create and use their knowledge.

ICT blended instruction processes focus on the acquisition of English language skills through interaction both inside and outside the classroom. Beyond classroom learning,
students were required to join and/or create networks online, and the interactions within these networks fostered self-learning (see Section 5.3.1). Consequently, effective utilisation of ICT, English language competency, worldwide social and academic interactions and individuals’ positive attitudes toward learning all increased for the majority of BL participants (see Section 5.4).

However, qualitative data from the semi-structured interviews (see Section 5.4) diverged greatly with regard to behaviour outside the classroom. Over 90% of participants said that BL provided a broad range of worldwide communication while F-to-F instruction was seen as quite restricted in this regard. Considering the BL groups’ focus on ICT and student-centred learning, it may have been anticipated that BL students were likely to use ICT more frequently and possibly more effectively given their greater opportunities, than students of traditional F-to-F classes. Consequently, students in BL classes clearly developed more effective ICT skills than students in traditional classes. BL students also cultivated online networks and expanded self-learning strategies through these interactions.

6.3.2 Quality of ICT used by students

According to the quantitative data from classroom observation, the ICT employed by students of BL classes was more effective than the ICT used by F-to-F classes. There was a significant difference in ICT usage between students of the BL and F-to-F classrooms (see Table 4.19). Students of the BL cohort utilised ICT as a resource for researching and gathering information and as a worldwide communication medium both inside and outside the classroom. As the BL approach is designed to enable students to interact with ICT as much as possible, it was predictable that students would become accustomed to ICT learning practices and utilise online learning and interaction websites inside and outside the
classroom. Consequently, BL students were clearly more effective in their use of ICT than F-to-F students who only interacted with ICT when necessary. Evaluation of student participation and the employment of Internet-enabled devices within the BL environment generally indicated positive results.

With regard to the core online elements of BL, students showed enthusiasm and pleasure during ICT exercises. Students confirmed they found online researching convenient and effective as revealed in the quantitative data in Sections: 4.3 Classroom participation, 4.4 Attitude survey findings and 4.5 Open-ended questionnaire findings. The discovery of students’ attitudes towards BL were consistent with the qualitative data from the researcher’s field notes in Section 5.3.1 Quality of ICT used by students and the results from semi-structured interviews described in Section 5.4. All in all, this study establishes that BL classes produced more effective use of ICT than traditional F-to-F classes.

Students in the BL classes were more often engaged with ICT and also interacted more, both peer-to-peer and online in comparison to the F-to-F classes (see Section 5.3.2). In addition, the BL class’s communicative skills were developed both inside and outside classroom. This study confirms that the BL classes focused on student-centred learning through a constructivist approach, encouraging students to constantly evaluate how exercises aided their understanding. However the BL approach places higher demands on institutions’ ICT infrastructures (see Section 5.4). Consequently, inadequacies in infrastructure and/or limitations in student and especially instructor ICT skills may prevent the full benefits of BL from being realised.
6.3.3 Quality of pedagogy related to instructors

According to the quantitative data from the classroom observation, the pedagogy of the instructors of F-to-F and BL classes were different. Traditional F-to-F lesson plans and learning objectives based on the curriculum were found to be more rigid while BL instruction lesson plans were more flexible in their delivery (see Table 4.20). Apart from this disparity in flexibility there were few observable differences in pedagogy related to instructors. This may be due to the instructors sharing the same university technology. Pedagogical practices in F-to-F classes closely followed lesson plans based on the prescribed textbooks whereas the instructor in the BL classes was able to adapt pedagogical practices to encompass various learning resources and provide several approaches to facilitate interactions and communications with students and others. The quantitative data in Section 4.3.3 was consistent with the qualitative data in Section 5.3.3: Quality of pedagogy related to instructors. This study showed that the use of ICT in blended learning improves the pedagogical framework. Therefore, there is a need for ICT learning environments that are flexible and which respond to the need for students to access technologies.

This study’s outcomes reveal that in traditional F-to-F instruction the time spent in teacher-centred practices was approximately equal the time spent in student-centred practices. The traditional classes focused on classroom activities. Limited utilisation of ICT inside and outside the classroom was observed (see Section 5.2.1 Comparison of F-to-F and BL group). Usage was mostly dependent on socio-economic standing. Outside the classroom, further learning beyond textbook set assignments was minimal (see Section 5.3.5: Summary of classroom participation from the researcher’s field notes).
The research field notes point out the distinction between the BL and F-to-F classes with regard to learner-centred pedagogy, communication in language acquisition and the utilisation of ICT. The findings reveal that BL reinforced the student-centred approach and encouraged autonomous learning, whereas F-to-F instruction demanded instructor involvement in almost all of the learning processes (see Section 5.3: Classroom participation). This study ascertained that both instruction models encouraged students to drill English language and communication inside the classroom. While it is accepted that this outcome is at least partially an effect of the reason design, these is clearly an interaction between BL and the level of instructor involvement.

### 6.3.4 Quality of ICT used by instructors

According to the quantitative data from the classroom observation, the quality of ICT use by instructors was higher in BL classes than in F-to-F classes (as shown in Table 4.21). Obviously, this is due to the BL approach, which supports instructors in encouraging students to interact with ICT inside and outside the classroom. BL opened the way for students to interact with instructors online, at any time. Furthermore, the course website, which was new to the course, although available to all instructors and students, was mostly accessed by the BL cohort. Educational institutions’ ICT infrastructure, hardware availability and the instructors’ capacity to exploit ICT to the fullest may affect the quality of ICT used (see Section 4.3.5: Summary of classroom participation from the classroom observation).

The qualitative data from the researcher’s field notes regarding the ICT used were described in Section 5.3.2: ICT use in English language learning by students in BL and F-to-F groups, Section 5.3.4: ICT use in English language learning by instructors in BL and F-to-F...
F groups. In the F-to-F instruction, ICT use was optional, and the instructor and students only used ICT when it was necessary. On the other hand, the instructor in the BL groups assisted students to engage in ICT inside and outside classroom activities and therefore increased the instructors’ and the students’ use of ICT (see Section 5.3.5: Summary of classroom participation from the researcher’s field notes).

6.3.5 Conclusion on classroom participation

Findings from this research reveal that students engaged in BL are more likely to contribute to classroom activities, interact with their instructors, peers and others and also utilise ICT in the course of their studies than equivalent students participating in traditional classes. Also BL students exhibited greater student-centred/autonomous learning practices than traditional F-to-F students (see Section 5.3.5). Therefore, to answer the research question, Does the use of ICT blended instruction effect students’ classroom participation, what are the observable differences between students who participate in ICT blended instruction and those students that do not?, it was found that, ICT blended instruction positively affected students’ classroom participation, BL students’ contributions, interactions, quality of ICT use, frequency of ICT use, and autonomous learning practices were greater than those of students in F-to-F, traditional classes. The evidence is provided in Tables 4.18 and Table 4.19.

The quantitative data obtained from classroom observations established that BL instruction is more often effective than traditional F-to-F classes. The ICT employed by students of BL classes was more effective than the ICT used by F-to-F classes. The results of analysis of pedagogy related to instructors found that F-to-F instruction lesson plans and learning objectives based on the curriculum were more rigid while BL lesson plans were
more flexible. In addition, instructors of BL classes were more effective in the quality of ICT used than the instructors of F-to-F classes (see Section 4.3.5).

The quantitative data and the qualitative data (see Section 4.3: Results from Classroom Observation and Section 5.3: Result from Researcher’s Field Notes) indicated that BL provides for worldwide interactions via the Internet, whereas F-to-F instruction hardly ever considered worldwide communications as a learning resource. Given the BL focus on ICT, students of BL were likely to use ICT more frequently than students of traditional F-to-F classes. Consequently, students in the BL classes developed and utilised more effective ICT skills than students of traditional classes. BL obviously supports student-centred learning to a greater extent than traditional F-to-F approaches (as shown in Section 5.3.5).

In short, students gained confidence in their abilities, overcame cultural and social barriers to participate in class activities and interact widely, often conveying their out of class learning experiences to their peers through classroom and online interactions. This flexibility and expansion of the classroom into students’ every-day lives certainly contributed to enhanced student fulfilment, participation, and interaction and learning outcomes.

6.3.6 Consistency of findings on classroom participation

This section discusses overall BL student participation compared with overall F-to-F student participation in relation to the quantitative and qualitative data obtained through classroom observations and the researcher’s field notes. This section responds to the second research question: In terms of classroom participation, what are the observable differences between students who use ICT blended instruction and those that do not?
This study verified that BL instruction is more often effective than traditional F-to-F classes (see Section 4.3.5: Summary of classroom participation from classroom observation and Section 5.3.5: Summary of classroom participation from the researcher’s field notes). Regarding pedagogy the main finding of this study (i.e. that BL encourages more engaged students who demonstrate more confidence and self-reliance) is similar to many previous studies. For instance, a study by King (2002), which investigated online teacher education and professional development, found that the responses of students using a blended hybrid-model were given more often than the responses of students in face-to-face classrooms due to the time constraints faced by F-to-F students. The hybrid model also allowed for more creative interactive course assignments (Brandi, 2013; Mikre, 2011; Stracke, 2013).

ICT usage in learning had the potential to prompt critical thinking, dynamic interactive dialogue, and substantial peer-to-peer interaction (Marshall & Taylor, 2014). Meyer (2003) investigated online and F-to-F students’ critical thinking. Meyer found that there was more evidence of higher order thinking in the online discussions than in the F-to-F discussions. Story and Dielsi (2003) studied community building in blended courses and found that blended courses improve interactivity, foster peer collaboration across different learning modalities and establish a sense of community.

A study by Chetchumlong (2010) explored the effects of web-based assessment on students’ achievements and attitudes in a large enrolment tertiary English course. Results found that the large size of the classes made it very difficult for instructors and students to implement effective in-class interactive/communicative language teaching (Cooner, 2009). A study by Sutherland (2004) which investigated teaching and learning in the information age, found that experience with technology outside of the classroom can help students use these tools in a classroom setting. The results from a study by Strambi and Bouvet (2003)
which explored a mixed mode environment for language learning indicated that the course CD_ROM was authentic, relevant, flexible and useful. Similarly, a study by Sandretto (2013), which investigated rethinking literacy, found that recently students have learnt from online sources such as blogs, web pages, wiki entries, PowerPoint presentations, and even tweets. Thus, with the amazing range of tools to make texts, there is no reason why these cannot contribute to learning.

Technology is used for exploring, expressing and exchanging ideas, and obtaining information (Ono & Ishihara, 2011); therefore, the notion of blended learning has the potential to change what students learn and how they learn (Finger et al., 2007). Additionally, this study found 97.5% of students believed that using ICT makes it possible for learning English to be easier (see Section 5.4: Semi-structured interviews). Jonassen (2000), in a survey of computers as tools for engaging critical thinking, found that using ICT facilitates learning that is active, authentic, collaborative, reflective and complex.

Comparable results were obtained in a study by Parson et al. (2009), which investigated undergraduate attitudes, experiences and understanding of podcasts and podcast use. Their study found that online resources can be beneficial aids for promoting communication and assisting students to learn outside of class. This finding was consistent with a study by Cameron (2003), which investigated the effectiveness of simulation in a hybrid and online networking course. The results indicated that online interactive learning tools have the potential to increase student motivation and learning. A study by Utts et al. (2003) compared traditional and hybrid Internet-based instruction in introductory statistics classes. Their results indicated that students using the hybrid formats felt the course was more work, with some feeling that the workload was excessive.
The present study’s findings confirmed those of a study on student perceptions of hybrid learning by Riffell and Sibley (2003) who compared a hybrid learning format with traditional instruction with regard to student perceptions in an environmental biology course. The results indicated that students experienced more interaction with the instructor in the hybrid courses than in traditional courses. The results for the hybrid courses indicated that students’ time-management and learning were aided by online homework. Similarly a study by King (2002), and Hoic-Bozic et al. (2009) that investigated online teacher education and professional development concluded that an Internet-based course was worthwhile and that one-on-one contact between the instructor and students was higher in Internet-based courses.

The results of the studies discussed above are consistent with the results for BL in the present study, suggesting that the reasons behind the success of BL are their different course formats and the increased interaction they provide (Dziuban, Hartman, & Moskal, 2004; Kanthawongs & Kanthawongs, 2013; Monsakul, 2008; Wang & Shen, 2009). A study by Swan (2000) that investigated a constructivist model for thinking about learning online found that a constructivist approach could be applied to improve online learning environments. Many students perceive using ICT facilities as an enjoyable way of researching a subject. Similarly, a study by Bullock (2001), which evaluated the impact of using ICT upon student motivation, found that websites and e-mail are interactive, and involve students in reading and making decisions.

The quantitative results of the open-ended questionnaires (see Section 4.4.4) and qualitative data from the semi-structured interviews (see Section 5.4) indicated consistencies with several studies with regard to student difficulties and suggestions. For instance, two fundamental problem areas, which challenge students, are shortfalls in English proficiency and ICT skills. A minority of this present study’s participants stated that a disadvantage of
learning English through ICT instruction was the additional task of learning to use computers. Sometimes, gaining access to the technology was also a problem. This finding is similar to a study by Melor et al. (2009), which investigated the limitations of using technology for teaching and learning. The study found that the limitations amongst blended hybrid-models were computer viruses, power failures, access problems and cost.

A case study by Howison (2010), which investigated a Bachelor of Applied Management Program at Griffith University, states that to achieve deeper knowledge, students need to be engaged in reflective practice. Thus, there needs to be more interactive discussion online coupled with regular contact by supervisors and the coordinators through ICT to strengthen the students’ cooperative learning experiences. This would assist in supporting an environment of engagement, reflection and deeper learning. This is consistent with a study by Cox et al. (2004), which evaluated the use of asynchronous communication in two blended courses. The study found that online chats, course design, group dynamics and facilitation style strongly influenced the successful use of this medium and student participation.

The quantitative results of classroom observations with regard to the quality of ICT used by students indicated that the BL group performed better than the F-to-F group (p<.05), (see Table 4.17). The qualitative results from the open-ended attitude questionnaire also showed that BL students improved their communication, enhanced their English skills and developed their ICT and critical thinking skills (see Section 4.4.4. The result from the open-ended attitude survey). The qualitative results from the research field notes (see Section 5.3.5 The Summary of the Classroom Participation) and the qualitative results from the semi-structured interviews (see Section 5.4) showed that the BL group utilised ICT more effectively and with more variety than the students in the F-to-F group. This study concluded
that the BL group’s ICT use was greater in areas such as: worldwide communication, searching for information, use of current resources, and use of technologies in the classroom, enhanced self-learning and participation in ICT.

Evidently, students considered ICT blended instruction as a useful approach for the following reasons. Firstly, students of the BL group were able to learn and practise English at their own speed in numerous ways. Secondly, students believed ICT blended instruction was more motivating, as ICT BL provided students with vast resources and authentic learning materials. Thirdly, ICT blended instruction offers a communicative approach to EFL pedagogy, supporting worldwide communications inside and outside the classroom. Fourthly, ICT blended instruction was deemed an interactive approach, allowing students to contact instructors, peers and others via the worldwide web and social media in real-life interactions. Fifthly, ICT blended instruction was perceived as a contemporary approach, teaching the skills that students require in this technology-driven decade. Therefore, BL approach is an essential environment for students to create knowledge and solve problems by themselves, in line with government and administration objectives to promote independent, autonomous learning, leading to lifelong education.

These findings are consistent with a study by Gibbs and Philip (2005) who studied the changing teaching and learning environment in the 21st century. Their results suggest that ICT is a meaningful contributor to teaching and learning. Edilson (2012) examined BL in a higher education multicultural environment and found that BL improved student levels of interaction and participation. These findings were consistent with a study by Downes (2005), which investigated e-learning. The results revealed that the use of ICT for teaching and learning encouraged students to engage with big ideas and skills. The participants used technologies in apprentice knowledge-worker relationships with their peers, instructors,
families and other experts in their communities. A study by Nykvist (2008), which investigated the role of e-learning in knowledge building, found that students spent most of their time connected online with social media websites.

Similarly this work alights closely with a previous study by Gibbs and O'Sullivan (2005) who investigated thinking outside the square. They found that BL could be used effectively for both active students and quiet or reluctant students as the BL model is flexible and caters to a wide range of students (as presented in Table 4.17). However, only a few of this study’s participants indicated they believed they had improved their thinking skills (see Table 4.25). The researcher found that lack of access to technology caused students in rural areas to fall behind relevant to studies by Kastsinas and Moeck (2002), Lim et al. (2011), and Sivaraks (2008) who studied the digital divide and rural community colleges.

The quantitative results from classroom observations indicated that traditional F-to-F lesson plans and learning objectives based on the curriculum were more rigid than BL instruction lesson plans (see Table 4.20). Qualitative data obtained from the research field notes indicated that BL classes focused on student-centred instruction more than F-to-F classes (as presented in Section 5.3.1). These are consistent with those of a study by Chetchumlong (2010) who found that traditionally, Thai students study English as a foreign language by listening to lectures and taking notes. They generally attend two-period lectures in which they passively listen rather than practicing the skills they require to enhance their language skills. They have few, if any, opportunities to use English outside the classroom. Traditional English classes in Thailand do not support an interactive approach (Sanprasert, 2010). Additionally, English is taught by means of translation into the Thai Language and, as a result, students are likely to lack motivation to learn.
Likewise the work of Hockly (2013), which investigated the use of digital technologies in low-resourced English language teaching contexts, is confirmed in these findings. Results found that while on the surface, it may look like a teacher’s ICT-mediated practice is not changing; there can be non-observable changes in their individual characteristics and professional identity which precede observable changes to classroom practice. Dashwood (2005) studied teacher roles in classroom discussions and reported results indicating that there had been an expectation among students from particular education systems that the teacher was to provide all the information in the classroom.

The findings from the present study are consistent with a study by Story and Dielsi (2003), which examined whether community building is easier in a blended learning environment. On the other hand, the lack of acceptance of technology within the classroom was due to questions about the legitimacy of online education in Thailand, which have been raised by people who have received their education by more traditional routes (Phornphacharaphong, 2012). Hipsher (2010) studied trends and opportunities in higher education and indicated that there has not been widespread acceptance of the online presentation of university classes. This is consistent with a study by Johnson (2002) who investigated reflections on the teaching of a large enrolment course using a hybrid format. Johnson found that accessibility to course content and connectivity with students increased in hybrid formats, while no differences were found in terms of effectiveness of instruction.

In relation to pedagogical issues, it is essential to reconsider teacher-student interactions online. A study by Heinemann (2003) investigated teacher-student interactions online and learning in web-based graduate theological education. Heinemann found that interaction is an important factor in cognitive and affective learning. In an age of rapid changes in information and communication technologies, instructors and students need to
change perceptions of what counts as literacy and what kinds of texts they work with (Jung & Latchem, 2013; Monsakul, 2008). In the digital age, ‘text’ is a term used broadly to refer to visual, gestural, spatial, and audio and linguistic forms of communication (Bunnag, 2009; Karimi et al., 2013).

Likewise, a study by Sandretto (2013) found that instructors should be concerned about how we support students to be able to attack any text that they come across. Sandretto (2013) and Snodin (2013) examined how best to support instructors to develop a flexible literacy programme that will prepare students to engage with any text they encounter. In consequence of it, the development professional of instructor is an international context (Albright & Mastural, 2006). A study by McShane (2006) which investigated how technologies are transforming academics found that BL establishes the conditions for a new module in university education, with the move to online facilitation best understood as a move to management-centred regulation of teaching and student learning. This is corroborated by Nykvist (2008) who concluded that the majority of the world’s population are using ICT in their daily lives; Universities’ pedagogy must meet the requirements of society.

These findings about ICT use by instructors are consistent with the classroom observations of the ICT used by instructors. Results indicate that instructors of BL classes were more effective in their ICT use than the instructors of F-to-F classes (as shown in Table 4.21) BL instructors indicated that increasing pressure is being exerted on language education by technological developments.

However, the potential of ICT is not being realised, because instructors are not familiar with ICT and do not use it often in their teaching (Latchem & Jung, 2010). This
issue may be similar in many developing countries in which ICT is underdeveloped. For example similar issues are apparent in research into Malaysian ESL instructors’ use of ICT in their classrooms, such as Melor (2007) who investigated the expectations and realities of ICT use in teaching and learning. Results found that instructors of English as a second language in Malaysia are anxious to exploit the potential of ICT. In online learning, students can contact instructors anytime while in traditional classes they can only interact in the classroom. Similarly, a study by Edilson (2012) of BL in a higher education multicultural environment found there were instructors who favoured the traditional approach, and who perceived the use of technology only as complementary to traditional F-to-F teaching.

Dudeney and Hockly (2012) conducted the research on ICT in English language teaching. They investigated the complex interrelationships between context, engagement with context, and development in individual instructors’ ICT-mediated practice over time. Two factors were found to contribute to the complexity. One was the central role of professional identity in instructors’ ICT-mediated practice. It was found that change begins in a teacher’s professional identity before it is manifests as changed classroom teaching practice. A second factor was instructors’ consistent use of particular aspects of their context: the syllabus, their own status in the school hierarchy, non-school uses of ICT and individual factors. Likewise, Felix and Zeitlinger (2004) suggested there is now an expectation that educators will use ICT to support teaching and learning in their classrooms and this position is evident in many curriculum documents and educational policies where the aim is to provide each child with access to ICT. Kose (2010) noted that BL enables students and instructors to perform effective education that combines F-to-F education and online learning activities.
These is consistent with other studies by Ng (2009) who found that many institutions in rural communities provide students with limited access to computers, and rely mostly on instructors to present materials via textbooks and blackboards. Ng’s results revealed that Thai schools were making slow progress in ICT. Thai universities utilise different forms of media in classes due to the institution’s access to external funding with some universities providing computers and projectors for faculty use. Santipaporn (2010) studied information and communication technology statistics in Thailand and found that computer and Internet use is very limited in many parts of Thailand. Slightly less than 30% of households in the country have computers, while roughly 20% have access to the Internet. These numbers are much lower in many of the rural parts of the country.

Moyosore and Mayo (2009), and Melor et al. (2009) researched language learning via ICT and distance learning in developing countries. They both found a deficiency in computing resources among the general public in Thailand. This lack of acceptance is not uncommon in many developing countries, and online aspects of education have not caught on well. Similarly, Wing and Pratt (2013) found that rural schools benefit from virtual learning and online teaching materials. ICT has also shifted from using a ‘talking heads’ approach, delivering as much information as possible, to an approach, which transforms the lesson to a tutorial-style situation where students are motivated to ask questions.

Likewise, the study of Armstrong and Caseman (1998), which investigated how computers put children’s education at risk, found that teacher training and professional development for the use of ICT has often been inadequate. This is consistent with research by Yang (2014) who indicated that language instructors’ problems with blended teaching included instructional processes, community concerns and technical issues. Similarly, Wongsuriya (2012) investigated the teaching of interactive listening comprehension via ICT.
and suggested that educational reforms in Thailand have lost momentum due to inadequate telecommunications infrastructure, underdeveloped skill-sets, teacher-led education and a deficiency in critical thinking skills development and problem-solving skills that are required of people working in the ICT sector. This finding is supported by the national education reforms and the National Information Technology Commission 2011–2020 that expects the implementation of ICT to help with the promotion of education in Thailand (NECTC, 2011).

6.3.7 Contrasting findings on classroom participation

This section discusses the F-to-F and BL groups’ participation in the classroom: the pedagogy related to the students, the ICT used by students, the pedagogy related to instructors, and the ICT used by instructors.

In regard to the pedagogy related to students, the quantitative results of classroom observations indicate that the BL classes encouraged more engaged students who exhibited confidence and self-reliance (see Table 4.18 and Table 4.19). In the F-to-F classes students had a very strong sense of belonging to a community (as presented in Section 5.3.1.1). This study’s findings contrast with the previous study by Priluck (2004) who investigated web-assisted courses for business education. Results from Priluck’s study indicated that students in the traditional courses were more satisfied with their learning experiences. Students revealed that their courses helped them develop their skills in critical thinking, team building and social interaction.

The present study found the F-to-F pedagogy stimulated a very strong sense of community (see Section 5.3.3) whereas the ICT blended instruction was found to have increased students’ ICT and critical thinking skills (see Section 4.4.5: Summary of students’
attitude from open-ended questionnaire). However, a study by Rovai and Hope (2004) suggests that blended courses produce a stronger sense of community among students than either traditional or fully online courses. These findings are in contrast to the studies by Junhong (2012) and Liu (2009) who found that students lack communication in distance English learning. Brew (2008) concludes that BL is effective and may be most appropriate for courses with small enrolments.

Regarding the ICT used by students, this study established that ICT employed by students of BL classes was more effective than the ICT used by F-to-F classes. This study revealed a significant difference in ICT usage between students of the BL and F-to-F classes (see Table 4.19). This contrasts with a study by Hofstede (2005), which investigated cultures’ and organisations’ software of the mind and investigated international students from the subcontinent and other Asian counties where teacher-centric approaches have a strong tradition.

In comparing the use of ICT with traditional approaches to teaching, Hofstede found that participants preferred F-to-F instruction, with the use of ICT as complementary rather than an integral tool to teaching and learning. A study by Meyer (2003) found that both types of learning have value and students appeared to prefer one over the other based on their learning preferences. Nevertheless, school location and socioeconomic background were also closely linked to the presence of computers and related technologies in the home. Higher average family income was related to an increased likelihood and frequency of students acquiring IT skills at home (Finger et al., 2007). This researcher found that it is sometimes assumed that students come to school with inadequate ICT skills and knowledge. Thus, access to and familiarity with ICT resources is a critical requirement for any ICT blended instruction.
In regard to pedagogy related to instructors, the quantitative results of classroom observations of pedagogy related to instructors (see Table 4.18) and the qualitative data obtained from the researcher’s field notes indicated that Thailand’s traditional teaching methodologies are mainly focused on a teacher-centred approach rather than a learner-centred approach (see Section 5.3.3). A study by MacDonald and McAteer (2003) investigated the strategies and factors influencing the use of media in BL environments. Their results established that many of the principles underlying effective strategies apply in both distance and campus-based university study.

Regarding of ICT used by instructors, the quantitative results of classroom observations (see Table 4.21) and qualitative data obtained from the researcher’ field notes indicate instructors of BL classes employed ICT more efficiently than the instructors of F-to-F classes (see Section 5.3.4). This contrasts with the case study by Howison (2010) who investigated the benefits of integrating information and communication technologies in the process of cooperative education placement learning. A study by Gibbs and Philip (2005) explored the change and development in instructors’ information and communication technology mediated practice over time. The results established that participants felt relatively unsupported by the school and the education system in their ICT-mediated practice, and their disconnectedness was a reflection of that. As schools are resistant to reform, it is likely that there will continue to be a discrepancy between the ICT skills that instructors need in order to work effectively with students and the skills they actually have (Fullan, 2001). Findings from this study suggest it is worthwhile to approach utilising ICT in an interactive approach. The BL approach uses an implicit theory of interactive acquisition to stimulate interest and encourage networking whilst providing extensive resources to develop students’ language participation.
In contrast, other studies have highlighted the negatives associated with the implementation of blending learning. Ginns and Ellis (2007), and Parkinson et al. (2003) researched student satisfaction with a traditional course and a blended distance course. Both studies found that students in traditional courses expressed satisfaction in all of the following areas: classroom climate, learning needs, learner efficacy, interactions and appropriate format for the content. Blended distance learning students lacked a sense of community and belonging and revealed they were often confused or uncertain about course materials. This implies greater achievement possibilities are fostered through BL.

6.4. Question 3: Does ICT Blended Instruction affect Students’ Attitudes toward Learning English?

This section discusses students’ opinions of ICT blended instruction from the students’ attitudes survey and semi-structured interviews. The main focus in this section is whether or not BL affects student attitudes toward learning English (see Section 4.4 and 5.4). The following section discusses the comparison of BL students’ pre and post attitudes towards learning English through ICT blended instruction. The influence of students’ gender and student majors’ programmes on attitudes toward learning English through ICT blended instruction was also investigated.

6.4.1 Comparison of pre-survey and post-survey attitudes towards learning English through ICT blended instruction

According to the attitude survey, the study established that at the commencement of the course students felt concerned about learning English through a blended model. After training and experience using newfound ICT skills, students became more comfortable with employing the Internet as a regular part of their studies. By the end of the course, students
had positive attitudes toward learning English using BL (see Table 4.2). During the learning process, students appeared to enjoy and appreciate applying ICT to their English learning experience and were noticeably excited to communicate globally with native English speakers. In addition, the results from qualitative data from the researcher’s field notes found that students preferred to participate in creative ICT learning environments (see Sections 5.3.5 and 5.4). The findings from this study indicated that students increased their positive attitudes toward learning English as a result of blended learning. This study also pointed out those students increased their negative attitudes toward ICT as an obstacle to learning English due to their inadequate ICT skills (see Table 4.2).

Open-ended questionnaire results reveal that BL supports independent study and creates enthusiasm for learning English. Participants believed BL helped improve English skills through worldwide communications (see Section 4.4.4). Students’ opinions of ICT blended instruction as revealed in their responses to the six open-ended attitude questions were gathered from the BL cohort at the end of the course. Participants’ replies were analysed and the results were expressed as percentages. The main focus in this section is on how participants valued their experiences of learning English through ICT blended instruction. The study revealed that although 4 in 10 students thought BL increased the difficulty of the course, almost all participants believed learning English through ICT instruction was a positive experience, which enhanced their enthusiasm for learning English.

Furthermore, the open-ended attitude questionnaire results revealed that most students supported the proposition that learning English through ICT blended instruction promoted independent study. Only 2.9% of participants did not support the proposition (see Section 4.4.4). When invited to reflect on skills that students believed they acquired or improved the most when learning English through ICT instruction, the majority of
participants believed that they improved their interaction through worldwide communication or that they enhanced their English skills (see Table 4.25). Participants were prompted to consider the advantages and disadvantages of learning English through ICT blended instruction. The study found that participants believed learning English through ICT instruction expanded their worldview and provided instant access to learning materials, current affairs and worldwide networks (see Table 4.26).

However, the majority of participants considered the major disadvantages of learning English through ICT instruction were the difficulty of developing new skills and increased course costs because they had to pay at an Internet café to access the Internet. In addition, participants indicated the Internet presented many distractions, in some cases encouraging addictive behaviours (see Table 4.27). The research findings indicate the problems of BL included: Internet failure, increased workloads, students and instructors being unprepared for using ICT, students having inadequate English skills, and an underdeveloped ICT infrastructure in the university. Also, online classes may be associated with the absence of a classroom community. In addition, some participants indicated that the English language and ICT skills of participants and instructors should be improved (as shown in Table 4.28).

The open-ended questions about attitude prompted participants to comment or make suggestions with regard to their experiences of ICT blended instruction; however half of the participants made no additional comments. The responses from just under half of the participants suggested that the university should improve ICT systems by updating infrastructure and increasing the availability of computers (see Table 4.28). In summary, to keep up with advances in education and globalisation in the digital age, rural Thai universities need to improve their educational resources, maintain and upgrade their ICT
infrastructure, enhance professional development programs for teachers and provide effective technical support.

Students’ opinions of ICT blended instruction expressed in the semi-structured interviews were used to discover students’ opinions about learning through ICT blended instruction (see Section 5.4). Participants were asked five open-ended questions about learning English through ICT blended instruction and the results reveal that a majority of participants enjoyed learning English through the ICT blended instruction. ICT/BL was considered by students to be modern and up-to-date and they liked using ICT to search for information, finding it convenient, enjoyable and interesting. Participants liked the improved interaction possibilities and learning strategies afforded by ICT and BL, and appreciated their increased access to worldwide communication and resources, and informative up-to-date resources. They reported that these resources helped them develop their English and ICT skills (as presented in Section 5.4).

Interestingly, 15.1% of participants disliked learning English through the BL classes (see Section 5.4: Interview question No.1). A few participants declared they disliked learning English through BL because of an increase in difficulty and workload, and some participants stated that their inadequate ICT skills caused difficulties for them in the learning process. The majority of participants suggested that the combination of learning English and learning to use ICT increased course difficulty and workload. Another factor that participants disliked was computer inaccessibility (see Section 5.4).

Section 5.4: interview question No. 4 shows that a large majority of participants (97.5%) believed that learning English was easier when using ICT. Only a few participants (2.2%) were indifferent as to whether ICT made learning English easier and only one
participant (0.3%) stated that learning English was more difficult when using ICT. A great number of participants (81.3%) considered they learnt English better by using ICT than if they had not used ICT. However, 14.4% believed that ICT made no difference to their English learning achievement and a few participants (4.3%) believed they learned less English using ICT than they would have if participating in a course that didn’t utilise ICT (see Section 5.4: Interview question No.5). In summary, the semi-structured interview analysis showed that participants liked the contemporary nature of ICT blended instruction. Participants suggested that the enhanced interactions, worldwide communications and access to vast resources were major favourable factors.

The findings from the semi-structured interviews revealed participants appreciated the contemporary nature of ICT blended instruction. Participants broadened social and academic interactions, engaged in worldwide communications and gained access to vast resources. Students regarded the course website as a useful hub for these activities (see Section 5.4). Briefly, semi-structured interview results showed that ICT blended instruction’s strengths included the provision of vast resources, expanded vision, and improved interaction. In addition, students considered BL to be a contemporary learning approach. On the other hand, participants revealed some perceived disadvantages, such as increased course difficulty and higher costs. Also, students identified online distractions while using the Internet as an obstacle to ongoing studies. Possible solutions to some of these disadvantages may be improvements to institutions’ ICT infrastructure and Internet access, further student education and instructor training (see Section 5.4 question No. 3).

The study found that when students overcome the barrier of ICT inexperience they gain a sense of achievement and are more likely to enjoy learning English via the blended learning model. In conclusion, blended learning instruction, using the Internet, affords
students access to vast academic resources and provides a means for convenient interactions through local and worldwide communications, encourages student-centred autonomous learning, and learning by doing. Also BL interactions support communication inside and outside classroom frequency (see Section 5.2.4). Clearly, BL revolutionises traditional interactions and communication among instructors, students and communities.

6.4.2 Comparison of major programs on attitudes toward learning English through ICT blended instruction

This study revealed that the three Major classes reflected on the BL classes’ in different ways. Social Science Majors considered the BL model caused difficulties but indicated BL encouraged independent learning and improved both their English and ITC skills (see Table 4.2). On the other hand, Public Health Majors identified the BL classes as valuable, helpful or constructive for learning English and conventional practices. Thai Majors said ICT-based blend learning encourages learning and is valuable for learning English (see Table 4.2). To sum up, the three Major programs had different points of view about ICT blended instruction.

The results of this study imply those students’ attitudes towards teach English through ICT blended instruction affects their English learning improvement. For instance, the Social Science Majors revealed the weakest pre-course positive attitude levels, recording the lowest mean scores in SCALE 1: ICT valuable for learning English, while they had the highest attitude mean scores in SCALE 2: ICT an obstacle to learning English. These results suggest that the Social Science Majors had more negative attitudes towards learning English through BL. Pre-test outcomes revealed prior English learning achievement was highest among the Social Science Majors as they had the highest pre-test mean score (see Table 4.4)
and the post-test outcomes verified that the Social Science Majors were the most competent with the highest post-test mean score (see Table 4.7). However, the Social Science Majors had lower improvements in English learning achievement than the Public Health Majors as indicated by the changes in pre-test to post-test mean scores (see Table 4.8).

The Public Health Majors revealed the strongest positive attitudes towards learning English through ICT blended instruction. They had the highest mean score in SCALE 1: ICT valuable for learning English and the lowest attitude mean score in SCALE 2: ICT an obstacle to learning English. These results suggest that the Public Health Majors maintained the most positive attitudes towards learning English through ICT blended instruction. Pre-test results for prior English learning achievement indicated that the Public Health Majors were the least accomplished as they had the lowest pre-test mean score (see Table 4.6) and their post-test results revealed they improved to register an average English competency (see Table 4.7). Remarkably, the Public Health Majors accomplished the highest increase in English learning achievement according to the changes in mean scores (see Table 4.8).

However, all three Major groups had improved positive attitudes toward learning English through ICT blended instruction at the end of the course (see Table 4.24). In summary, the BL approach may be successfully introduced to students of any subject in tertiary level studies. BL approach supports students’ self-actualisation when they explore new technologies to build knowledge through gathering and evaluating information, and developing their self-esteem. In addition, the greatly increased interactions fostered through the BL model impart students with a sense of belonging to local and national communities and global citizenship as they become a part of diverse networks and social media platforms, which are a large part of the present and the future for academic studies in the 21st century (see Section 5.4.1).
6.4.3 Comparison of student genders on attitudes toward learning English through ICT blended instruction

Male and female students expressed different views about the difficulties they encountered due to ICT skills barriers. Male students reported difficulty in understanding and overcoming challenges posed by ICT integration, whereas generally, female students shared a capacity to overlook the difficulty and focus on the value of Internet accessibility, seeking support within the classroom and online, broadening their exposure to English, creating networks and consequently gaining knowledge (see Table 4.2). There was little difference between what male and female students thought of ICT in the BL context. According to the attitude survey results, participants overwhelmingly considered BL to be a positive and more effective approach to implementing the curriculum (see Section 4.4.2: Students’ attitude toward learning English through ICT blended instruction/ Student genders).

This study indicated that male students experienced more difficulties overcoming challenges encountered while learning English via the BL classes than female students. This may have resulted in the finding that female students found more value in the BL classes than male students (see Table 4.2). However, both male and female students had improved positive attitudes toward learning English after experiencing the blended learning model. In summary, male students found some aspects of the blended learning classes difficult, but as the semester progressed, male students assumed increased positive attitudes toward learning English. Therefore, the BL model may be successfully applied to male, female or mixed gender classes.
6.4.4 Conclusion on students’ attitudes towards learning English through ICT blended instruction

The findings derived from the quantitative data; attitude questionnaires (as presented in Table 4.2) and open-ended attitude survey (see Section 4.4.4), together with findings derived from the qualitative data; semi-structured interviews (as presented in Section 5.4), indicated that students’ attitudes towards learning English through ICT blended instruction improved throughout the study and progressively became more positive. To answer the research question, “Does ICT blended instruction affect students’ attitude toward learning English?” the simple answer is positively yes. The evidence is provided in Section 4.4.1, where the findings indicated there was a significant difference between pre and post survey results of the BL groups in the three subscales (see Table 4.2). The qualitative data also presented evidence in support of improved student attitudes, Section 5.4: results of students’ attitude analysis from semi-structured interviews and Section 5.4: Students’ attitudes from the semi-structured interviews.

This study’s documented increases in student participation, interactions and learning outcomes may all be dependent on these recorded elevations in positive student attitude. When given an opportunity to construct their own knowledge, the BL students in this study became active, interested and responsible students; positive attitudes flourished, life-long learning skills were acquired and shared with peers and greater collective learning outcomes were the result.
6.4.5 Consistency of findings on students’ attitudes toward learning English through ICT blended instruction

This section discusses the research findings in relation on students’ attitudes toward learning English through ICT blended instruction. The discussion relates to the third research question: Does the use of ICT blended instruction affect students’ attitudes toward learning English? This study investigated BL groups, the influence of genders and major programs. The study’s findings are discussed with regard to students’ attitudes towards English learning through ICT blended instruction and compared with the findings of other studies.

The attitude survey and semi-structured interview results are consistent with the findings of several studies regarding students’ attitudes toward learning English (Kemwimuttiwong, 2012; Zhang, et al., 2008). With respect to results regarding language pedagogy in the BL classes, there was evidence that BL students exhibited a favourable attitude toward ICT implementation. Respondents in BL classes expressed positive attitudes towards the BL learning environment and greatly valued the extensive interaction and communication potential provided by ICT. These positive attitude gains are clearly demonstrated by comparing the post-survey and pre-survey scores (see Table 4.22).

These results are similar to Melor et al. (2009) who studied language learning via ICT and found that students perceived themselves as having high positive attitudes towards the use of ICT in learning English. This finding is consistent with a study by Forcier and Descy (2002) on the computer as an educational tool, which found that students increased their ability to produce more authentic and meaningful work. Students also demonstrated improved information searching and retrieval skills. These findings are consistent with an investigation of blended learning in an accounting course, which noted that students...
preferred the BL approach to traditional F-to-F instruction (Cottrell & Robinson, 2003). These conclusions are consistent with many previous studies such as a study of blended learning by Humbert and Vignare (2005), which investigated language learning via ICT, and a study by Melor et al. (2009), which investigated blended learning in a higher education multicultural environment. All these studies found that students perceived the use of learning technologies in their courses as useful, convenient and flexible. A study by King and Hildreth (2001), which examined an Internet course, concluded that Internet-based courses provided multiple sources of information for students and delivered improvements in student-to-student communications.

This current study revealed that 81.3% of students believed they had learnt more English using ICT than they would have done by participating in a course that didn’t use ICT (see Section 5.4). Similarly, a study by Leh (2002) investigated hybrid courses and their online communities where the results showed that students believed they learned as much or more than they would have done in traditional courses, they considered themselves more motivated and declared they preferred hybrid courses to traditional instruction. Some students and instructors indicated they have made changes to effectively utilise ICT on web-based lecture courses (Kemwimuttiwong, 2012). As students felt a greater sense of belonging in courses that used synchronous communications (F-to-F), although they enjoyed the flexibility of asynchronous communication (BL) (Phillips et al., 2007). Likewise, a study by Cottrell and Robinson (2003) that investigated blended learning in an accounting course noted that students preferred the BL approach because classroom time was reduced.

An analysis of the effect of gender on the attitude survey responses found that male and female students exhibited different attitudes towards ICT blended instruction (see Table 4.23). This was consistent with the study by Grubb (2012) which investigated the influence
of student gender on attitudes toward learning English through BL. Grubb’s results suggested that few differences were found with respect to gender in the BL classroom environment. A study by Grubbs who investigated gender preferences for educational media among Thai students studying English at university found that overall both genders expressed a great interest in ensuring more technologically focused media is made available to help them learn English. Similarly, a study by Colley (2003), which investigated the interrelationships between informal and formal learning, found that females used computers for accomplishing tasks, while males approached computers as a form of play to be mastered. A study by Panyametheekul and Herring (2003) which investigated gender and turn allocation in a Thai chat room noted that computer ownership is limited for Thai students, but both female and male students participated regularly online. Volman and Vaneck (2001) studied gender equity and information technology in education and found that there were few gender differences in media interests and preferences among Thai students. While Martinez, Ana, Juan, and Alducin (2014) investigated education platforms and learning approaches in university education and found that female students obtained higher scores for deep motivation than did male students.

6.4.6 Contrasting of findings on students’ attitudes toward learning English through ICT blended instruction

The quantitative results of the attitude survey and the qualitative data from the semi-structured interviews suggest that although male students considered ICT a greater obstacle when learning English than females, both genders had more positive attitudes toward learning English through blended learning at the end of the course. Participants overwhelmingly considered BL as a positive experience and that it was a more effective
approach to implementing the curriculum. The open-ended questionnaire results revealed BL supports independent study and creates enthusiasm for learning English.

This study’s conclusions are inconsistent with findings of several studies investigating students’ attitudes toward learning English through ICT. The results of this study contrasted with a previous study, which found that high school girls avoid professionally oriented ICT subjects and that the female students had negative attitudes toward computers (Anderson et al., 2008). Volman and Vaneck (2001) reported that more male students than female students indicated that the Internet was a source that could be utilised better for practising English. Studies by Finger et al. (2007), Wehrwein, Lujan, and DiCarlo (2007) found that boys and girls had similar levels of basic skills, but more boys had advanced skills than girls, and they were also more confident in their ability to use computers. The study found that boys were more likely to have learned basic skills at home than girls, whereas girls were more likely to have learnt their skills at school. However the influence of gender on the place where students acquired their basic skills was not as great as the influence of school sector and income area. Wehrwein et al. (2007) examined gender differences in learning style preferences among undergraduate physiology students and found distinct differences between male and female students. This present study also shows that BL can be used for male and female or mixed classes, which are in contrast to the previous study by Sax (2006), which investigated why, gender matters. Sax’s results suggested that female and male students learn best in separate classes.

The present study found a significant correlation between attitude and English learning achievement. However, an examination of motivations and attitudes towards learning English among university students in the Northern region of Malaysia revealed that student motivation did not significantly correlate with students’ English learning
achievement (Bidin, Jusoff, Aziz, Salleh, & Tajudin, 2009). Another conclusion of this study, relating to student gender, was that while students believed contemporary media are effective learning tools, males and females either employed different media resources or utilised similar resources in a different manner. Wright et al. (2001) investigated American children’s use of electronic media in 1997 and found diverging media interests between male and female students. These findings contradict the findings of a study by Grubbs (2012), which investigated gender preferences for educational media among Thai students studying English at university. The results indicated similarities between the male and female choices when using ICT. Grubbs found a strong consistency between male and female students’ media preferences in class. Also unlike this study, a study on blended learning in a higher education multicultural environment reported some participants expressed a strong preference for conventional F-to-F teaching and learning (Edilson, 2012).

6.5. Summary

The evidence-based findings in this mixed-methods research revealed that the ICT blended instruction model produced positive effects on students’ English learning achievements, classroom participation and students’ attitudes towards learning English. The quantitative results indicate that students of BL classes attained a significantly higher English language achievement in writing skill than F-to-F classes. Also, the change in mean scores (English learning improvement) of BL classes was higher than F-to-F classes in writing, listening and speaking skills. In short, this study demonstrated a positive correlation between using BL and students’ English learning achievement when ICT was integrated into the English course. Positive attitudes towards learning English through BL are an important requirement.
It is clear that BL provides flexible access to global resources and supports interaction and communications to advance English language acquisition. The BL approach guides students toward autonomous learning strategies. The use of ICT was seen as beneficial to students for providing up to date information, increasing the sense of belonging and providing opportunities for interactions between staff and other students (Preston et al., 2010). Appropriately, the BL approach prepared students with English and ICT skills enabling everyday life communications, competition in the international employment marketplace, higher education and self-improvement. Consequently, the BL approach is ideally suited to preparing students for becoming 21st century, digital citizens (Sanprasert, 2010). The next chapter presents the conclusions and implications of the ICT blended instruction of English.
CHAPTER SEVEN - CONCLUSION AND IMPLICATIONS

7.1. Introduction

This chapter presents the conclusion and implications of the study. The first section presents theoretical frameworks used in this study of blended learning, and includes a discussion of the implications and value of the research findings for entities and individuals involved in teaching English as a foreign language (EFL) and in pedagogical practice and education policy. Following this is a discussion of the value of the research findings with regard to rural Universities of North-eastern Thailand and ICT implementation policies. This chapter closes with a discussion of the limitations of this research, recommendations for EFL pedagogy, future research and concluding remarks.

This study has explored the use of ICT in teaching English as a foreign language and examined Thai students’ English language achievements, attitudes and participation. The study examined both traditional face-to-face learning (F-to-F) and ICT blended instruction (BL) approaches and was motivated by the researcher’s notion of an absence of opportunities for students in remote areas of Thailand to practice English in their daily lives. Some additional difficulties common to these remote, mostly agrarian communities are: large class sizes, limited access to learning materials and ICT hardware, inadequate ICT infrastructure, insufficient numbers of English native speakers teaching English, socio-economic disadvantage and traditional rote learning. These difficulties were identified in similar studies as discussed in Section 2.2 of the literature review (Orlando, 2009; Pornwasin, 2012; Rahim & Rohani, 2011; Sivaraks, 2008; Tamrackitkun, 2010; Thepmi, 2012; Vonganusith, 2008; Waddoups, Crowther, & Keller, 2004).
By all appearances, ICT blended instruction imparted an effective, positive influence on student achievement, participation and attitudes towards learning English (Section 4.5 and 5.5). Web-based lecture technologies have gained popularity in many higher education institutions as tools to provide flexible access to lectures for students (Preston et al., 2010). The research findings suggest that BL would be more effective with increased ICT accessibly through the expansion of ICT hardware infrastructure within the university and as students’ private usage increases through rising living standards and ever cheaper hardware and access. This research indicates that rural Thai Universities may successfully integrate ICT into areas of the English as a foreign language curriculum and contributes to academic knowledge and methods of research appropriate to further study into improving the practice of teaching English through the BL approach.

7.2. Blended Learning

This research study has investigated English language learning achievements via BL and this section aims to discuss the research methodology and data collection and attempts to identify how the use of BL can facilitate English learning achievement. The study project commenced with a review of literature related to utilising ICT in teaching and learning English as a foreign language through a BL approach. This review assisted with the design of the course website, www.bl-ict-efl-esl.com and encouraged students to use Twitter, Facebook and Skype for learning English skills through interaction and communication. This project encouraged students to relate to native English speakers across the country and the world, which has been shown as an appropriate way to acquire language skills (Banados & Jauregi, 2008; Fatouros & Moore, 2007; Kabilan et al., 2010). In addition to the ICT based learning activities, students attended classroom lectures and participated in ordinary classroom activities. Outside classroom hours, students continued their learning activities by
interacting with the course website, other websites, social networks and fellow students (Goodwyn, 2000; Huw, 2005).

In brief, the results of the pre-test/post-test, pre-survey/post-survey, semi-structured interview and the researcher’s field notes all verify that most students participating in ICT blended instruction were satisfied with the approach. The findings from this study reveal that the application of ICT blended instruction in the instruction of the *Foundation of English 1* course had beneficial impacts on students’ learning achievement, classroom participation and attitudes towards learning English. The increased overall mean scores of students in the BL group, the quality of ICT employed by BL students and increases in class participation and positive attitudes toward ICT blended instruction, all suggest that ICT could help change the current practice of Thai students learning by rote. The research findings also appear to verify that rural Thai students are able to increase their achievements when they are encouraged and provided with independent opportunities to learn by themselves. Therefore, this research may encourage instructors to advocate strategies inspiring students to be independent, autonomous learners, essential skills for lifelong learning (Goad, 2012).

This study is consistent with previous studies, which investigated whether the provision of course materials on the Internet had a positive effect on student achievement and course outcomes (Kabilan et al., 2010; Stracke, 2013; Wang & Shen, 2009). This research found that students who attended lectures and used Internet-derived course materials performed better in test results than students who only attended lectures, or who only studied Internet-based course materials, which was similar to the findings of previous studies (Higgins, 2011; O’Toole & Absalom, 2003; Suwannasom, 2010; Tamrackitkun, 2010; Vonganusith, 2008). In order to discuss issues concerning theoretical frameworks for the study of BL, three topics have been identified and are described as follows: ICT’s role as
an interactive approach, ICT’s contribution to communications, and the role of BL in teaching English as a foreign language (TEFL).

### 7.2.1 ICT’s role as an interactive approach

In order to learn English as a foreign language, learners need to practice communication with people fluent in the target language, both inside and outside the classroom. Therefore the BL environment, which offers learner centred practice within the classroom and autonomous learning outside the classroom, compels students to expand networks and learn through interactions. Learners may apply this educational culture to formal and non-formal academic situations, distance learning and higher education, in scholarship, which leads to lifelong learning (Klamma et al., 2007). According to constructivist theory, through active engagement with ideas and materials, students add to or change their previous knowledge sets. Learning involves constructing one’s own knowledge from one’s own experience (Finger et al., 2007). Therefore, BL involves students in the use of software, applications, social media and websites in ways that are based on constructivist theory, directing learners to discover new or higher-level knowledge, concepts and skills for themselves (see Section 5.3.2.2). BL promotes a pragmatic use of online media within a well-grounded teaching and learning strategy (MacDonald, 2006). ICT have been well received by many students who appreciate them as study tools offering flexibility and convenience (McNeill et al., 2007).

Findings from this study suggest it is worthwhile to approach learning utilising ICT’s in an interactive approach. The BL approach uses an implicit theory of interactive acquisition to stimulate interest and encourage networking whilst providing extensive resources to develop students’ language competence. BL students were inspired to take control of their studies, strengthening the autonomous-learner strategies through their BL
instruction (Snodin, 2013). Similarly, online interactions and learning experiences were transferred into the classroom through face-to-face communication (see Section 5.2.1.2). These findings are consistent with many previous studies such as Higginson (2011), Suwannasom (2010), and Thepmani (2012). Online learning can improve F-to-F real life conversations Lee (2009), and increased ICT interaction has the potential to increase the individual’s ability to communicate (Pornwasin, 2012; Vonganusith, 2008; Alexander and Mellett, 2013; and Wongsuriya, 2012).

These findings are consistent with those previous studies that, suggest that ICT learning is transferable to different types and levels of students (Wongsuriya, 2012) and recognise an increased learning outcome through the use of blended interactions, indicating that students can acquire more knowledge and learn more rapidly through empowering communities of practice with the right technological tools (Wenger and Snyder, 2000; Liu, 2009). Computer-supported education and training courses enhance English grammar learning by using interactive multimedia activities which integrate language skills and multi-tasking that result in increased motivation to learn and improved learning (Vonganusith, 2008). This study contributes to previous research highlighting the possible contribution of ICT use in EFL classroom teaching and learning.

This study suggests that BL is beneficial to students of both lower and higher abilities, as illustrated through the Social Science class attaining the highest pre-test and post-test scores (see Table 4.6 and 4.7), and the Public Health class recording the lowest pre-test mean score (see Table 4.6), progressing considerably post course to attain the highest change in mean score (see Table 4.8). All blended learning Major programs exhibited increases in students’ scores from pre-test to post-test (see Appendix J, K) and this reflected advances in every instance similar to the previous study by Kanthawongs and Kanthawongs
Furthermore, after recording the lowest pre-test scores, Public Health Major students registered the most significant improvement between pre-test and post-test scores (see Table 4.8), suggesting that blended learning is beneficial to under-performing or lower ability students (Higginson, 2011; Reima, 2005).

**7.2.2 ICT’s contribution to communications**

The use of ICTs in teaching English can assist students to prepare themselves for real life situations, students familiar with ICTs will be well placed to implement technologies and practise English throughout their higher or further education, their workplace and their daily lives (see Section 5.3.1.2). This study indicates that using ICT in the teaching of English as a foreign language introduces several communication options to instructors and students, such as websites, blogs, social networks, e-mail, and messaging, such as reported by Kabilan et al. (2010), Miyazoe and Anderson (2010), and Shin (2011). These ICT tools can be used to enhance English language acquisition due to conceptuality, increase student participation due to fascination with new ideas and presentation, foster positive attitudes and expand students’ communicative interactions with practical experience, similar to the studies of Wang and Shen (2009), and Wudthayagorn (2000).

The findings from this study are also consistent with the previous studies, of Jones and Muldoon (2007), Liu (2009), and Pornwasin (2012) which compare the effects of the traditional classroom, blended learning and fully online course formats with regard to participants’ sense of community. The results in this Thai study indicated that the blended course produced a greater sense of community than both traditional and fully online courses and encouraged students to communicate with one another no matter where they are, via ICT. These findings suggest that the major role of ICT in teaching English was to facilitate
student interactions and communication as was illustrated by the students in this study and found in previous studies (Banados & Jauregi, 2008; Chetchumlong, 2010; Dudeney & Hockly, 2007; Fatouros & Moore, 2007).

The results of this study indicate that blended learning courses allow instructors time to focus on producing a learning culture through reaching out to students, fostering student networks and encouraging communications as was found by Hockly and Clandfield (2010), and Goodwin (2010). These findings are similar to those of Schweizer, Paechter, and Weidenmann (2003), Kanthawongs and Kanthawongs (2013) who examined how groups of students work together in blended learning and e-learning environments.

Similar to the previous recent studies all participants received joint learning materials in order to build shared knowledge, and sought individualised information to build unshared knowledge, fostering critical thinking and problem solving skills (Brandi, 2013; Na-Songkhla, 2011). By analysing the extent of students’ online activities, the groups’ task performances and coherence of the groups’ discourses, this study suggests that BL provided students with opportunities to communicate widely and often, interacting on a local and worldwide scale, which are similar to the findings by Phuwijit and Meepong (2012), Mann (2008), Miles (2014), and Nykvist (2008).

Essentially, this study provides evidence to reinforce the argument that the use of ICT blended instruction, guided by constructivist theory, was a valuable and worthwhile experience for the EFL students who were the focus of the research as shown in Section 5.3.2.1. Additionally, the BL classes introduced students to a new form of pedagogy that helped them gain confidence to learn more independently, promoting interactions and communications both locally and worldwide, again which is similar to the findings by
Wongsuriya (2012). Consequently, this study presents strong evidence that ICT blended instruction should be adopted for implementation in future educational curricula.

### 7.2.3 The role of blended learning

The evidence-based, quantitative results from the attitude questionnaires show that participants expressed more positive attitudes towards learning English via the BL classes after completion of the course than they did prior to the course (see Section 4.4.5). This study of BL has shown that the course website, Internet resources and social networks may be successfully incorporated as teaching tools into the English as a foreign language syllabus (see Section 5.2.1.2). With reference to this study’s findings, employing BL in teaching English creates real life communication potential for students who lack opportunities to interact with native speakers within their communities (Leh, 2002; Wenger & Snyder, 2000).

These findings build on conclusions from previous studies, as noted by Rheingold (2002), Wang and Shen (2009), and Cox et al. (2004), that technology is changing F-to-F interactions. Researchers have suggested networks of people can be empowered through technology to work smarter and faster (Carroll & Hsu, 2003; Warschauer, 2012; Xian Tang, 2008). As suggestion Section 4.3’s report on students’ participation similarly, the potential benefits of using technology to improve the quality of student learning were presented in Section 4.2 on student learning achievements. Additional outcomes included a positive increase in students’ attitude towards the subject matter (Section 4.4), and increased student satisfaction with the mode of instruction (Section 5.4), which is similar to the findings by Wang and Shen (2009). Similarly increased sharing and collaboration appears to be associated with blended learning hybridisation (NECTC, 2013; Tamrackitkun, 2010). These outcomes were highlighted in this study, in Section 5.2.1.2, where students exhibited a
growing confidence, an appreciation of ICT skills attainment, and their online interactions developed to support English skills acquisition.

As described in Section 5.3.3, instructors disclosed the need for supplementary teacher training in ICT based instruction and expressed a desire to understand new technologies and the methods to deliver contemporary teaching theories. These sentiments accord with the research by Garrison and Vaughan (2008), Rahim and Rohani (2011) in recommending that faculties be trained to understand how to improve students’ cognitive processing development through online discussions to achieve the greatest advantage from blended learning environments which included online discussions. Furthermore, this study appears to substantiate the case that BL offers greater opportunities to access the Internet and relate to the real world (Alexander & Mellett, 2013). And as documented in Section 4.4.4 and 5.4, BL students revealed that they were having a great time researching and interacting via the Internet.

Detailed in Section 4.4 and 5.4, students related that ICT interactions afforded access to enormously varied and differing opinions and authentic learning materials, as reported in previous studies (Alagic, Gibson, & Doyle, 2004; Wongsuriya, 2012). As noted in these previous studies and others (Demiray, 2012; Kawashi & Shama, 2012), ICT provides cheap and/or free multi-faceted teaching resources (Section 5.3.2). Employing ICT in language learning facilitates broad and frequent student interaction (Suwannasom, 2010; Tamrackitkun, 2010; Waddoups et al., 2004; Wedell & Malderez, 2013). Similarly, this study suggests (Section 4.2 and 5.2) that using ICT for online language learning supports students to improve their language proficiency.
In conclusion, ICTs provide access to extensive online resources and authentic learning materials; however the volume of information available may overwhelm students. The great strengths of the blended learning model are: instructor-facilitated F-to-F guidance, in-class and online peer discussion and student-developed information sharing networks. These strengths provide the support and direction students require to successfully navigating the online information superhighway (see Section 5.4).

7.3. Discussion and Implications: the Value of the Research Findings for Entities and Individuals involved in Teaching EFL Pedagogical Practice and for Education Policy

Results achieved in this study reveal some of the positive effects BL offers to English language teaching and learning in a real EFL context, particularly in Thailand. Blended learning students experienced additional positive improvement in learning English skills and employed ICT more effectively than the F-to-F students (see Section 4.3: Classroom participation, Table 4.19). Additionally, BL students agreed that they enjoyed their online experiences and liked this learning approach as revealed in Section 4.4: Students’ attitude toward learning English through ICT blended instruction from attitude survey, Section 4.4.4: Students’ attitude toward learning English through ICT blended instruction from open-ended questionnaires, and Section 5.4: Students’ attitude toward learning English through ICT blended instruction from semi-structured interviews.

However this study also yielded evidence of an increase in the level of cognitive load experienced by students unfamiliar with computing technology and online teaching/learning tools. The extra effort of learning how to use ICT tools whilst learning English was revealed as frustrating and an irritation for many students participating in this study. This finding is consistent with a previous study by Smart and Cappel (2006) which
investigated blended learning in a higher education multicultural environment and also accords with similar findings produced in studies by Ng (2009), Sirirongthawon et al. (2006) and Edilson (2012) which all investigated students' perceptions of online learning. Results of this study suggest that the important factors were students’ preparedness and readiness to learn within the BL environment (see Section 5.4). Similar results were obtained by Strambi and Bouvet (2003) in a study, which investigated the flexibility and interactions of distance education students. Results found that negative feedback submitted by students of ICT classes mostly related to technical problems. Strambi and Bouvet (2003) also warn of the risk of developing materials that are driven by technology rather than pedagogy.

These less positive findings outline in this study reflect the findings by Nykvist and Lee (2013) who investigated the mixing of higher education teaching and learning with mobile devices and social media. Their results indicated that there is a need for deep knowledge building to occur in these environments, in order for students to be active scholars in a society where new technologies are constantly emerging. Similarly, the introduction of blended learning in requires substantial and ongoing investment in professional development (Edilson, 2012). This is reflected in this study by the comments by instructors in Section 5.3.4 This study also suggest that BL should not overlook students’ prior knowledge and previous learning experiences (Section 5.4), as is noted by Garrison and Kanuta (2004).

This study provides a strategic, constructive argument for the advancement of teaching EFL pedagogy in rural Thai education. This research is raises awareness of new knowledge and understanding in successfully implementing ICT in EFL/ESL courses and in doing so reinforces the argument for ICT implementation in other curricula (Sirirongthawon et al., 2006). It’s findings also illustrates the influence of gender on students’ ideas about
ICT utilisation and makes a case for instructors to consider gender differences when preparing ICT learning materials and resources (as presented in Sections 4.2.4, 4.4.2 and 5.2.3), and is reported in Lindley (2010), Panyametheekul and Herring (2003), and Colley (2003).

This research seeks to assist educational development by suggesting possibilities for expanded learning practices, anticipating emerging trends and academic priorities through ICT. This research hopes to generate public discourse and knowledge through online availability to policy makers, educators, researchers, students and others. This study’s findings may reinforce education administrator’s justifications to improve the quality and availability of ICT infrastructure, helping to inform the planning, decision-making and policies used to promote the efficient and effective implementation of ICT in the rural Thai educational system.

**7.3.1 The value of the research findings for teaching EFL pedagogical practice**

The results obtained from analysis of the attitude questionnaires (see Section 4.4.5) and semi-structured interviews (see Section 5.4) indicated that students enjoyed increased positive attitudes toward the ICT blended instruction treatment. BL certainly encouraged learners to be more analytical and autonomous, which are significant steps in the journey to lifelong learning (Na-Songkhla, 2011). This study suggests that when students are provided with appropriate facilities within learning institutions, and as ICT hardware becomes cheaper and more widely available; learners will be more motivated and place more emphasis on studying by themselves at their own convenience regardless of time and place.

The issues raised by the findings in this study may be suitable subjects for further research, which could contribute to developing effective and efficient online learning...
ICT blended instruction systems in rural Thailand and in other countries with similar educational contexts. This study also revealed that English language instructors at the university experienced limited access to ICT infrastructure and therefore were constrained in gaining knowledge and experience concerning the effective use of ICTs in formal learning (See Section 4.3.4 and Section 5.3.4: The quality of ICT used by instructors).

These findings are relevant to the literature reviewed in Section 1.3: Problems in teaching English in Thailand. This indicates that governments and institutional hierarchies should contemplate providing the necessary hardware and services to enable instructors and students to take part in educational innovation as previously reported by ICT 2020. Given the tools to innovate, instructors must be qualified to make the most of technology through training and the development of an Internet-engaged curriculum as discussed by Cooner (2009), Marshall and Taylor (2014), and Stacey (2008). The findings from this study are consistent with previous studies (Albirini, 2006; Dziuban et al., 2005; Johnston & Webber, 2003; Makura, 2014; NECTC, 2011; Pelgrum, 2007) and support the Thai National ICT policy 2011–2020, by stating that supported by infrastructure and innovative instructors teaching contemporary lessons, students will be well positioned to realise their academic goals as presented in Chapter 5 on Section 5.2: English learning achievement.

BL may provide information and communication benefits to lecturers and students of Thai EFL classes, as shown by the comments made in the Sections 4.4.4: Students’ attitudes towards learning English through ICT blended instruction from the open-ended questionnaires; Section 5.3: Classroom participation, in which the classroom observations were presented from the researcher’s field notes; and Section 5.4: Students’ attitudes towards learning English through ICT blended instruction from the semi-structured interviews. As students found ICT helpful, Thai EFL instructors can make use of websites
such as the one created for this research to study course materials, investigate reference links, explore tasks and lesson plans, and view course timetables, as suggested by Johnston and Webber (2003), Kanokpermpoon (2012), and NECTC (2013). In addition to this, the website created for this research also provided lecturers with many options to contact the researcher at any time via course website links to e-mail and social networks (www.bl.ict.efl.esl.com). This was a benefit to the lecturers / instructors because they could search the website for course information, learning materials and research instruments conveniently.

Students reported that they enjoy reading news, discovering trends and social media via the website Twitter, as it allowed them to follow debates, share interests, and write and express their ideas with like-minded people all over world, as shown in 4.3.2: Quality of ICT used by students, and Section 4.4 which presented the increasingly positive attitudes towards ICT blended instruction. In addition, Section 4.4.4: Open-ended questionnaire, revealed the advantages to students, which BL provides. Thus, BL incorporates the online world into the learning environment by making the learning process easier, more flexible and more affordable (see Section 5.4). Significantly, instructors may also take advantage of ICT for time management and to implement autonomous learning strategies (see Section 4.3.4, 5.3.4 and Section 5.4).

The goal of education today is the development of autonomous leaners (Alagic et al., 2004; Romo, 2013; Zou, 2011). A global learning environment with associated ICT tools provides favourable conditions for the development of this autonomous leaning (Alagic et al., 2004). This is similar to Tamrackitkun (2010)’s finding that ICT was used for searching, studying, leisure; presentations, entertainment, social communication, self-improvement, and career-development (see Section 5.3.4). The study found that after signing up to social...
networks, BL students regularly used social media, which increased their interactions and communications online (see Section 5.3.2.2). Moreover, participants in this study were very excited about using Skype to communicate with foreign friends (as presented in the Research field note week 2 in Section 5.3.2.2: ICT use in language learning in BL group), as it was helping students gain more international contacts, even though online connections often failed, which then became a barrier to communication (as shown in Section 5.4: Semi-structured interviews of negative responses to Question 3). However, the great advantages of using Skype in this situation were the low cost and convenience in real time, F-to-F interactions with people around the world. Skype was also used by participants to contact or leave messages for instructors and/or the researcher when they were in need of assistance. Students can practise their English conversation skills by using Skype and students in this study (Tamrackitkun, 2010; Wongsuriya, 2012). Additionally, this study found that students increased their use of constructive and productive communication strategies (Wongsuriya, 2012). This is revealed in Section 5.4 when, in answer to Question 2, students reported that what they most liked about BL was the improved interaction it provided. Their frequency of responses, and learning to make use of interactive strategies promoted more meaningful student conversations and improved the students’ confidence in their ability to interact with native English speakers.

Overall, the requirements of innovative education for the 21st century demand educational institutions incorporate ICTs into curricula. Essential to effective ICT integration is the development of instructor qualifications and ICT training courses to enable instructors and instructors to contribute to modern teaching methods (Monsakul, 2008; Ono & Ishihara, 2011). According to the results of the open-ended attitude questionnaire (Section 4.4.4: The results of open-ended questionnaires, Table 4.26), students suggest that the
university should improve the ICT system through up-to-date infrastructure and the provision of more computers. This study shows that future students will benefit enormously through access to vast Internet-based resources, timely and conveniently presented course materials, and networking on a local, provincial and worldwide basis.

7.3.2 Implications for policy and practice

A unique aspect of BL, when considered within this rural Thai educational context, is that it provided the course timetable and program information with related links to vast Internet based learning resources. In addition, BL supported learners to cultivate new, and enhance existing, networks through greater interaction with instructors, classmates and others outside the classroom (see Section 4.5 and 5.5). Furthermore, BL offered the opportunity to supply individualised and flexible course materials for lecturers and learners as recommended by Phornphacharaphong (2012) and instructors and students could select any websites for practice or to engage in their learning development.

This research shows that BL should be integrated into rural Thai tertiary ELF pedagogy because BL fills the gaps between online learning and traditional learning. BL deals with the weaknesses of online learning such as a lack of real-time discussion, a lack of a sense of community and belonging; and the limitations of the traditional approach; constrained resources, and narrow communication and interactions (Limsuwat et al., 2009; Pelgrum, 2007). Blended learning does so through an amalgamation of the two approaches. This study observed that the BL approach utilised the best of both methods such as they increased real-time discussion, and expanded their horizons through social Medias (see Section 5.4.1). Additionally they were provided resources through online learning materials. Therefore BL may go a long way toward solving some problems, with which the Thai
government and educational systems now struggle such as: low English language competence among instructors and students, inadequate ICT skills among instructors and students, out-dated pedagogy, the need to keep up with globalisation, unemployment and work force competition in the global marketplace (Kripanont & Tatnall, 2011).

The results of this study may be applied to advance the argument for institutions to utilise new infrastructure effectively and economically by providing distance e-learning courses and educating part-time and mature-age students, again supporting the lifelong learning ideal (Edilson, 2012). Progressive, innovative universities should focus on the acquisition and integration of technologies and ICT-enhanced curricula in order to prepare students, and therefore their nation, to participate in the global economy (Kemwimuttiwong, 2012). These ideals could be promoted and protected through inclusion in university policy as suggested by Hipsher (2010), Bhuasiri et al. (2012), Sivaraks (2008), and Sotiriou et al. (2006).

This study’s findings are consistent with research conducted by Sue (2006) and Phornphacharaphong (2012), which suggests that ICT-based lifelong learning may be an effective way of reducing the exclusion of various groups in society. The recent emergence of web-based lecture technologies has heralded a growing use of digital web-based lecture recording for all students (Gosper et al., 2007). This study has revealed that students’ English learning achievement was enhanced when learning through BL (Sections 4.2 and 5.2: English learning achievement). Therefore, students should be encouraged and supported to use ICT in the learning process.

Furthermore, it is suggested that instructors should provide more opportunities for students to interact with native speakers, both F-to-F and online similar to the recent report
by Karimi et al. (2013). These conclusions are consistent with previous studies (Fatouros & Moore, 2007; Jones & Muldoon, 2007; Tamrackitkun, 2010; Zou, 2011), which observed that online instructors and advanced pedagogical techniques positively influenced students, stimulating greater learning satisfaction and effectiveness, and increasing learning participation. The other implications for practice include the need to encourage EFL instructors to use ICT in tertiary teaching and the maximisation of the use of available technology, instruments and methods to support technology-mediated teaching (Bhuasiri et al., 2012; Suwannasom, 2010).

Concurrently, this study has revealed that students of all major blended learning classes, both male and female, improved their capacity in English language achievement (as shown in Section 4.2, Table 4.3, 4.14 and 4.17). Blended learning students in this study exhibited improved, ongoing positive attitudes (as presented in Section 4.4.1: The result of attitude survey, Table 4.22) when learning and practising English via ICT-enhanced instruction. This is similar to Liu’s (2009) findings. Murray (2012) noted that education is changing and EFL instructors have to understand the fundamental concepts from innovation theory, in terms of the nature of change and how it can be successfully initiated and implemented. Therefore, in the context of tertiary education, curricula need to change through the introduction of innovative plans such as the Thailand National Education Act (Albirini, 2006; NECTC, 2011).

The introduction of technologies to traditional learning settings has implications for teaching and learning designs, compelling instructors and students to embrace new technologies and advance the new education environment (Xian Tang, 2008) as shown in Section 5.3.4. Contemporary educational technologies should be integrated into traditional F-to-F instruction for students and instructors to explore and experience alternative resources
(Boonnoon, 2012). This is consistent with concepts from previous studies by Ferneda, et al. (2011), Johnston and Webber (2003) that reveal successful implementation of contemporary learning technologies within a course requires the provision of appropriate scaffolding, guidance, monitoring and feedback to students is a fundamental requirement. In both traditional and online classes, the most important factor in student satisfaction and community formation is the degree of structure in a course (Stein, 2004). In this study students highlighted the need for clearly defined objectives (Section 5.2.1), assignments, deadlines and they had expectations for dialogue or interaction as shown in the course website (www.bl-ict.efl.esl.com).

There are five key areas for individual instructors and institutions to consider when transforming learning and teaching: people, infrastructure, content, policies and regulations (Finger et al, 2007). This study agrees with Shank et al. (2007), Wongsuriya (2012), and Puakpong (2005) that to effectively implement ICT in teaching and learning practices students and instructors need to possess adequate ICT skills or prior training and ongoing guidance and assistance.

Nonetheless, rural University students can become active students through learning by doing. BL can be a positive, pro-active step in this direction. This study observed that BL will be more beneficial to student language achievement if rural Thai university instructors make use of ICT in their teaching by using real-life English communication through worldwide interaction.

This study’s findings are consistent with the Tamrackitkun’s (2010) research, who observed that students’ individual attitudes toward web communication technology instruction is a significant determinant of web CT use. Universities have recognised the
value of incorporating eLearning for making teaching more professional and offering higher quality learning experiences (Gonzalez, 2009). Once they have acquired the appropriate skills at university, students are likely to use online resources for many of their everyday activities such as: preparing presentations, seeking employment, research, further education, and communication (Boonnoon, 2012). It is likely that employers will require future professionals to be skilled information technology users, effectively promoting the uptake of eLearning (Kemwimuttiwong, 2012). To sum up, this study suggest that integrating BL into rural Thai University curricula has great potential to assist in the development of student-centred, self-directed autonomous learning and independent study among students (see Section 5.4).

7.4. The Value of the Research Findings with regard to Rural Thai Universities’ ICT Implementation Policy

The findings drawn from the quantitative results of the classroom observation showed that students of the BL group significantly differed with the F-to-F group in relation to the quality of ICT use throughout the course (see Section 4.3.2). Furthermore, the qualitative findings derived from the semi-structured interview data analysis indicated that participants enjoyed and appreciated the ICT components of the Foundation of English 1 course. They were encouraged to participate through social network interaction and worldwide communication as had students in previous studies (Jeon et al., 2005; Kabilan et al., 2010). Learners’ demonstrated enthusiasm and motivation to employ online interactions, real-time communication, real-life activities and online research to enhance their educational experiences via the ICT blended instruction (see Section 5.4). These findings reveal that the BL classes provided valuable interaction with instructors, peers and subject specialists while providing access to resource websites related to subject topics and several social networks.
(Runapongsa et al., 2010). Therefore, in future, these resources should be integrated into the course.

The most important improvements to ICT implementation within the Thai educational system may originate from the universities’ policy makers (Santipaporn, 2010). Policies should facilitate the funding, uptake and use of ICT within the broader educational community (Finger et al., 2007). Policy makers should provide a legal and regulatory framework that supports the use of new technologies to enhance learning, and then administrators, instructors, staff and students would be trained in and provided with access to advanced ICT infrastructure that supported good learning and teaching practice (Woo et al., 2008).

This and a number of previous studies suggest that, several factors impede the teaching of English as a foreign language in Thailand (Bhuasiri et al., 2012; Boonnoon, 2012; Chetchumlong, 2010; Pelgrum, 2007; Sanprasert, 2010). These factors include large class numbers, traditional pedagogy and learning culture, inadequately qualified instructors and student socio-economic disadvantage which contribute to the wider difficulties faced by the Thai educational community (see Section 1.3: Problem of teaching English in Thailand). This study’s results indicate that BL could help to solve some of these problems by integrated of ICT to provide flexibility in learning for both students and instructors.

7.4.1 The importance of this research to pedagogy – improving the learning of English as a foreign language in rural Thai universities

Due to large class sizes, students are limited in their ability to interact in class activities and discussion (Wedell & Malderez, 2013). Many students lacked the chance to practise effective communication and develop language competence (as shown in Section 1.3.1:
Educational structure). Typically, English instructors at universities are compelled to dominate the class to maintain order (Chetchumlong, 2010). Consequently the classroom may become uninteresting, leading to passive students and low achievement as shown in Table 4.3 which shows the significant difference between the change in mean scores of BL students and the change in mean scores of F-to-F students.

Even though there is insufficient time for individual instructor–student face-to-face interaction within the large class structure, BL students were afforded the flexibility to contact instructors via websites, e-mail, Facebook, Twitter, and Skype regardless of time and place. This flexibility also presented students with further opportunities to connect with their social networks and worldwide information resources. This means that students could take control of their study and become more independent, autonomous students, consistent with the needs of 21st century digital citizenship (Shin, 2011). These findings (as shown in Section 4.3.1: The result of classroom observation; Section 4.4, which presents the students’ attitudes towards BL, and Section 4.4.4 which presents responses to the open-ended attitude questionnaire) are consistent with the previous studies on teaching a hybrid course using Web CT (Vonganusith, 2008; Willett, 2002). Although classroom interactions were limited, student online responses and interaction were greatly increased (Willett, 2002) as shown in Section 5.3: The observable difference of students’ participation.

In the sphere of traditional Thai pedagogy, educational instruction predominantly relies on employing direct methods: repetitive rote learning, text memorisation and revision in preparation for examinations (as presented in Section 1.3: The problems of teaching English as a foreign language in Thailand). Established learning processes based on an instructor-centred model leave little time for personalised instructor–student, student–instructor and student–student interactions as identified by Chetchumlong (2010), and
Sanprasert (2010). Interaction difficulties are compounded within the classroom as there is an inadequate provision of teaching materials. Hardware is required such as microphones and speakers to enable all students in large classes to hear the instructor, also computers, projectors and smart boards to clearly display course materials. Dictionaries, reference and textbooks, are also limited in supply and are in high demand in these classes (Siritongthawon et al., 2006). Consequently instructors spend most of their time straining to be heard while students are unable to hear and/or clearly see the blackboard and they become disengaged (Hudson, 2010).

However, the present study has established that ICT has enabled students and instructors to interact inexpensively and conveniently inside and outside the classroom. Because they have instant access to each other and to a vast resource of teaching/learning materials and networks, students find ICT compelling to use (see Sections 4.3.5, 4.4.5 and Section 5.4). This confirms findings by Lowry and Turner (2007), Thomas (2002), and Liu (2009) who found that in constructive learning, websites provide several advantages. Firstly, they provide access to boundless resources of information; secondly, the Internet supports worldwide interaction; and thirdly, it is a contemporary modern tool.

Thai culture within rural educational communities is conservative and very conformist. To a large extent, traditionally educated Thai students are shy and timid. Fear of inaccuracy, impoliteness, speaking out, volunteering opinions, leading classroom activities or simply being considered different by peers are barriers faced by a majority of students (as presented in Section 1.3: Problem of culture and traditional learning style in the Thai education system). This reserved attitude impedes student learning outcomes throughout their higher education, further education, and working lives. Within the traditional, large class size EFL classroom, only a few extroverted or eager students engage in real-time
conversations and interactions, leaving the bulk of the class as passive students (as shown in Table 4.18: Comparison of classroom participation between F-to-F and BL groups)

The finding that the BL students spoke to instructors more often than the F-to-F students (Section 4.3.1 and Table 4.18) was similar to the results of Jones and Muldoon (2007), Suwannasom (2010), and Chetchumlong (2010). Due to a shortage of native English speakers working as instructors in Thailand, students often become over familiar with Thai English accents and inaccuracies and are unfamiliar with English speakers’ accents. Compounding these problems are a lack of practical interaction and conversation due to an absence of native English or English as second language community environments outside of the university campus, minimising further opportunities for students to practise English. It has been demonstrated in this study that it can be overcome by the strategic use of selected appropriate ICT.

As opposed to traditional teaching methods, BL afforded all students opportunities to exercise effective communication and interactions online. The results of this study indicate students’ English learning achievements were enhanced, as revealed in the student attitude questionnaire responses in Section 4.4, coupled with the closed and open-ended questionnaire survey responses presented in Section 4.4.4 and the semi-structured interview data in Section 5.4 which confirmed that BL helped motivate students by cultivating enthusiasm toward learning and practising English through interaction. Students developed networks, consisting of local and/or international friends, contemporaries, instructors, native English and English as second language speakers which enabled students to acquire and practise language competence (see Section 5.2: English learning achievement, and Section 5.4: Students’ attitudes from Semi-structured interviews). Students found ICT use enjoyable and compelling with their newfound achievements motivating them with the confidence to
speak out more frequently and communicate freely. Consequently, students expanded their English communication networks, developed critical thinking skills and broadened their horizons to incorporate worldwide visions. This is similar to the findings of the studies of Suwanbenjakul (2002), and Tamrackitkun (2010).

Traditional education practices have not only constrained contemporary students but also students of earlier generations, the instructors of the present. Trained before affordable ICT development and the evolution of the Internet, many present-day educators possess limited ICT skills and, coupled with their limited access to ICT infrastructure, this means they do not factor online resources into their teaching strategies (Section 4.4.4), (Suwannasom, 2010). Institutions deficient in technological infrastructure such as computers and Internet access prevent faculties, and therefore students, from having the opportunity to implement autonomous learning strategies or improve English programs through ICT (Jung & Latchem, 2013; Snodin, 2013).

In relation to student attitudes toward BL, students embraced the course enthusiastically. Beginning the course as nervous, shy students in the pre-testing, they progressed into, inquisitive students in the pre-course ICT training, and then into confident, outspoken students at the post-testing. Noticeable improvements in student attitude were observed and verified (see Sections 4.3 and 5.3: Classroom Participation), and this study produced evidence that a majority of students had positive attitudes toward BL learning (Section 4.4: The results from attitude survey, Section 4.4.4: The results from open-ended attitude questionnaire and 5.4: The results from semi-structured interview).

Promising results such as these may reassure lecturers intending to implement this type of instruction in the future to feel more confident about introducing ICT in their classes.
The findings here support the results of Suwannasom (2010) in assessing the impact of Web-based enhancements on teaching and learning activities taking place in traditional classrooms. Results here indicate higher levels of interaction and comfort among course participants (as presented in Section 5.3.2: Quality of ICT use by students and Section 5.3: Classroom Participation) and faculty members suggested the availability and convenience of presenting updated material on the web increased their efficiency.

As previously discussed in Section 1.3 the problem of teaching English in Thailand is that students learning English as a foreign language seldom practise English outside the classroom. Students from socio-economically underprivileged communities deficient in ICT infrastructure and hardware, who have poor ICT and English skills, have very limited opportunities to practise effective autonomous learning strategies (Monsakul, 2008). It appears that many students practise English in order to pass course examinations and complete the curriculum (Sanprasert, 2010).

However, essential to BL design is prior ICT skills training for instructors and students, access to inexpensive hardware, such as Internet-enabled hand-held devices, and cheaper broadband Internet access. In time increasing numbers of students should be able to practise autonomous learning strategies at their own pace, anytime, anywhere (Phornphacharaphong, 2012). The student attitude questionnaire responses, classroom observations and semi-structured interview results revealed that BL students created English user communities by networking through online websites and social media which significantly increased opportunities for the students to exercise English skills in daily academic and social pursuits (see Sections 5.2.1.2, and 5.3.1.2). The use of ICT increased tremendously due to the explosive growth of the Internet and the reduced costs of the hardware (Ramachandiran, 2011).
ICT blended instruction

This study suggests that, to encourage successful educational experiences for students’ traditional teaching where instructors and students only interact face to face in class must be revolutionised. Communications exchanged through course websites, e-mail, social media and messaging applications should be used to supplement classroom interactions within rural Thai universities. From this study’s findings, it becomes clear that overall student learning achievements were improved through BL. Especially, listening and speaking skills which increased significantly when compared with the traditionally taught (F-to-F) students (see Sections 4.2 and 5.2).

Students’ lack of preparedness and experience in using ICT tools for learning contributed to difficulties associated with the effective integration of ICT tools in learning (Ferneda et al, 2011; Goad, 2012). Consistent with these conclusions, the outcomes of this study imply that although the current generation of students may have a wide array of dialogical, critical thinking and knowledge sharing skills acquired through social networking, this does not mean that they are ready and willing to embrace digital technology for formal learning. Participants of this study, instructors and students alike, recognised their own personal shortcomings in ICT skills prior to embarking on the blended learning journey (Section 4.4.4: Result from open-ended questionnaire and 5.4: Results from semi-structured interviews). These identified weaknesses were mostly overcome through educating instructors and students in the necessary ICT skills prior to the course.

7.4.2 The value of the research findings to ICT policies of rural Universities in North-eastern Thailand

The results of this study reaffirm that technology integration is advantageous for students and instructors of EFL classes and can be employed as evidence that distance learning or e-
learning are the possible future direction of university policy to support the life-long learning principle (Ferneda, et al., 2011). This is consistent with the previous studies that found distance learning is valuable in education and asynchronous discussion is a very powerful learning strategy (Demiray, 2012; Garrison & Vaughan, 2008; James, 2008; Kanokpermpoon, 2011; Stracke, 2013).

Results from this study imply that BL could be positively employed in other subjects requiring basic communicative competence practice and researching skills. In addition, BL may prove more effective for higher level students competent in computer skills or students possessing higher English skills and autonomous-learner abilities such as students in English Majors or Computer Majors and post graduate students as recently suggested by Kawashi and Shama (2012), Snodin (2013), and Zou (2011). This is consistent with the findings of Dumridhammaporn (2007), and Tamrackitkun (2010). As providers of formal education universities have a moral obligation to help their students develop such competencies, empowering them to see the big picture of what it is to live and practise in a borderless world (Edilson, 2012). This study found that instructors’ attitudes towards BL are generally positive as presented in Section 5.3.4: ICT use in language learning in the BL group which is similar to the previous studies of Ono and Ishihara (2011), and Albirini (2006).

This is in accordance with Thailand ICT national ten-year plan 2011–2020, NECTC (2013) and policies developed for rural universities in North-eastern Thailand for the implementation of technology to support teaching staff (Maynard, 2013). The University plans to enhance technology infrastructure with the aim of advancing the academic outcomes of the entire community (Hallinger & Pornkasem, 2001; NECTC, 2011). This policy indicates that a significant challenge of the digital education revolution is the use of technologies in a way that enhances students’ approaches and levels of learning and this
change is expected to happen quickly. When supported by administrators, ICT specialists and lecturers, collaboration on ICT introduction could help enhance teaching and improve learning outcomes (Hoic-Bozic et al., 2009; Mikre, 2011; Na-Songkhla, 2011).

It is important for EFL lecturers to be aware that BL encourages students to engage in more communicative activities than ever provided by traditional F-to-F teaching (Melor et al., 2009; Miyazoe & Anderson, 2010). BL is an advanced method, advantageous for motivating students to become an independent, autonomous learner, which leads them to cultivate life-long learning capabilities (Snodin, 2013). Findings here are consistent with this study, which indicates that the benefits of combined F-to-F instruction and online learning improve learning outcomes, and satisfaction among the majority of faculty and students.

Another issue to be considered is that government, through education policies, can ensure that institutions educate and qualify teaching staff in BL methods. Qualified instructors who are involved in the formulation of Internet-strengthened curricula and who are familiar with ICT advantages and disadvantages will feel more confident to integrate this method into their classrooms (ISS, 2010; Pejovic, 2012). Consequently, funding for universities to install and upgrade hardware, educate instructors and develop innovative curricula must be a consideration of governments faced with ever-increasing student numbers and an ICT based global economy.

Participants in this study were drawing on resources and networks outside of regular university sources to develop their ICT-facilitated practice in ways they considered useful and valuable. This raises questions around the ways policy makers may enable instructors to develop skills for utilising ICT in their teaching practices. ICT policies development and professional learning programs could also contribute to bridging breaks in communication
between university administration and staff (Lindley, 2010; Orlando, 2009; White (2007). This is supported by previous studies revealing that instructors feel they have little or no agency in their own ICT-mediated practice (Kanthawongs & Kanthawongs, 2013; Ourairat, 2011; Pavasajjanant, 2014).

7.4.3 The value of the research findings to Instructors in rural Universities of North-eastern Thailand

From every point of view, this research shows that blended learning can harness the values of traditional higher education institutions and has the proven potential to enhance both the effectiveness and efficiency of meaningful learning experiences. Adequate access to digital technologies, the Internet and the worldwide web should be available to instructors and students wherever and whenever they choose to research (Johnston & Webber, 2003). Technical assistance of a high standard should be available. Instructors need the knowledge and skills to use modern digital technologies, and the resources to facilitate student-centred approaches to learning for all students (Shawer, 2013). BL has added value when it is facilitated by educators with good interpersonal skills and is accompanied by reliable, easy-to-use technology (Derntl and Motschnig-Pitrik, 2005). This research concludes that educational systems should consider a shared systemic vision for ICT and that educational material needs to be created for the implementation of technology at all levels. Policy that supports the implementation of ICT in education should be in place (Siritongthawon et al., 2006).

The findings of this study demonstrated students’ ability to make use of a diverse range of English language resources without face-to-face input from a native English-speaking instructor. Students demonstrated abilities in listening to and understanding
authentic English accents and texts through favourable interactions with native English speakers and online resources. Additionally, BL not only positively affected students’ achievement scores in comparison to the traditional F-to-F group, but also students’ attitudes were positively affected and the quality of ICT used by students improved. Consequently, this study reinforces previous research which found that Thai EFL instructors should be made aware of the advantages of BL learning in empowering and inspiring students, developing student networks and exploiting the vast, contemporary source of knowledge the Internet provides (Albirini, 2006; Bhuasiri et al., 2012; Boonnoon, 2012; Kripanont & Tatnall, 2011; Sanprasert, 2010).

The vast majority of university instructors experience heavy workloads, and therefore their time is limited (as presented Section 5.3.4: Quality of ICT used by instructors; form the researcher field notes Week 1/ 28 May 2012). Mindful of this situation, the researcher ensured that prior to the research study a specially created course website was designed as an effective resource for instructors and students for instruction in the BL approach. Instructors and students were trained in ICT skills and sufficient ICT infrastructure was made available to participants (see Section 5.3.1.2). Different forms of knowledge, information and social media are increasingly released on the Internet and currently include Facebook, Twitter, audio and videotext, and are mostly shared and discussed online. As a consequence, if instructors have little experience of ICT, or because of inadequate ICT skills, they may be unable to utilize their learning, teaching and researching strategies to their fullest potential (Bhuasiri et al., 2012; Kripanont & Tatnall, 2011; Siritongthawon et al., 2006).

Instructors should encourage and support students as independent learners, stimulating and developing their intellectual abilities, and creating active open-minded
contemporary students equipped for international digitalised citizenship (Suwannasom, 2010; Bhuasiri et al., 2012; and Shin, 2011). This study showed that instructors could improve their students’ communication proficiency in ESL by providing ICT content such as podcasts and websites and through interactive real time conversations using Skype to assist students to develop their communication strategies. Drawing on instructors’ practices could also provide clarity around what change is necessary, for both instructors and leaders of change, (Demiray, 2012; Dominic, 2012; Jones & Muldoon, 2007; NECTC, 2011; Ourairat, 2011; Singh & Han, 2005).

The demand for significant improvements in infrastructure, development of innovative instructor training programs, and the design and construction of course specific online resource hubs are obvious implications of this research as recommended by students (as shown in Section 5.4: Students’ attitudes toward learning English through BL from the semi-structured interviews), previous studies (Kemwimuttiwong, 2012; Mikre, 2011; Stracke, 2013) and the Thailand National ICT Plan 2011–2012 (NECTC, 2011). While governing bodies of educational institutions appear to be aware of these inadequacies, this study presents evidence of the advantages ICTs deliver to education with the potential to support future directional policies in Thai education. As it appears likely that ICT skills are in high demand and there is a shortage of skilled ICT workers in the employment market. Similarly, in Australia, DETYA (2001) suggested that instructors need to consider the educational rationale for using ICT, and the advantage of planning and implementing ICT, which will enable learning to be transformed. In conclusion, to improve the effectiveness of blended learning integration educational institutions should develop technology resources and support instructors to gain knowledge and qualifications with a view to using technology inside and outside the classroom.
7.5. The Identified Limitations of this Research

Participants’ use of ICT throughout the research was less than ideal due to the limited ICT infrastructure and high demand typical within rural Universities of North-eastern Thailand in 2012. In addition, instructors and students shortcomings in ICT skills and inexperience with BL concepts and practicalities combined to produce some difficulties throughout the research. This section presents other limitations of the research related to the narrow time frame, standardised TOEIC Testing and the sample choices.

7.5.1 Time frame

More comprehensive documentation of the attitudinal changes of participants and provide could have provided more insightful evidence. Data collection over a longer time period would have been preferable. Due to time and economic constraints, the data relied on for this research was collected within one semester, the first semester of 2012. This brief timeframe may have produced some uncertainty in assessing the implications of the results as instructors and student’s ICT skills were not fully developed.

This study observed that students needed some time to learn and understand new technologies and their function in the learning process in order to become competent employers of newfound skills while adjusting to the blended instruction, learner-centred approach. Subsequent to students becoming familiar with ICT and its place in the curriculum, learners enthusiastically applied Internet information searching skills in their studies and began to interact widely through social media. Learner’s enjoyment in studying through the BL approach was apparent throughout the experiment. With these considerations in mind, this research study conducted over one semester may appear to be too short a time to measure further improvements in students learning achievement and classroom
participation, and whether or not positive increases in attitude toward the subject matter could be maintained. However, time frame limitations placed on this research were unavoidable due to fitting in with the specifications of the University’s curriculum, the course timeline, students’ enrolment, instructor availability, the research timeline and certainly not least of all, funding.

### 7.5.2 Standardised TOEIC Testing

The standardised TOEIC (Test of English for International Communication) tests, in this instance used to assess student achievement, are designed to measure participants’ ability to use every day English in an international workplace environment (ETS, 2008, 2010). Consequently, these tests may not be appropriate for measuring students’ learning achievements accurately over a short time span. Furthermore, participants’ unfamiliarity with the international standardised tests, combined with the use of the oral examination tools required in the listening test (such as the speaking test with English native speakers and listening to recordings), may have restricted participants’ English learning achievement outcomes.

These finding are consistent with Cynthia (2002) in suggesting that TOEIC should not be used to determine communication abilities and should not be used as a measure of these abilities. If this study had used the course examination results for post-test scores, there may have been significantly different outcomes. In addition, academic difficulties might be related to cultural differences in the testing style that caused tension in students and some students in this study reported ‘culture shock’ as. This issue has also been mentioned in a previous research study by Ferneda et al. (2011). However, TOEIC testing was chosen for this study because Thai higher education criteria requires standardised testing of students.
and to develop a curriculum based standardised testing procedure would have exceeded timeline and financial restraints.

7.5.3 Sample choice

The small study group size of 139 participants created limitations in the BL research design. Moreover, the data collection was based on first-year undergraduate students, studying in a remote, developing institution i.e. a rural University in North-eastern Thailand. This university was chosen because it is the university where the researcher is employed as a lecturer and it was the only University that the researcher could access. Under these circumstances, the application of the results of this study to other larger and more developed university situations may be limited.

7.5.4 An observer

During the semester 32 observations of the F-to F and BL groups were conducted. Classes were observed from beginning to end, with field notes taken and the classroom observation checklist completed on each occasion. However, there was only one observer, the researcher, and this may be a potential source of observer bias (Pethrod & Chamnipran, 2004).

7.6. Recommendations for EFL Pedagogy and Future Research

Overall, this study establishes that BL presents productive impacts in terms of student English learning achievement (as presented in Sections 4.2 and 5.2), classroom participation (as presented in Sections 4.3 and 5.3) and attitudes toward learning English (as presented in Sections 4.4 and 5.4). This may be reassuring to the limited number of EFL lecturers in Thailand willing to accept and implement ICT in the classroom. Lecturers should be encouraged to focus on the quality of their approach to teaching, using several
authentic resources and supporting learners to practise their approach to increase their language competence (Stockwell, 2012). Lecturers of EFL classes should be trained to integrate technology into their courses and must be supported by their institutions through the provision of ICT infrastructure (Vonganusalith, 2008). Blended learning is suitable for EFL classes because ICT offers benefits for learning and teaching (Suanpang & Petocz, 2006) and supports independent learning/self-study, which is in accordance with contemporary constructivist theory (Snodin, 2013).

Student TOEIC test results indicate that BL positively affected student achievement over the course of the research, as the post-test scores of BL students were significantly different from their pre-test results. Furthermore, when comparing the change in mean scores of the two groups’ achievement scores, the BL group recorded a greater increase than the F-to-F group. For future research, with regard to BL in an EFL context, it should be noted that where possible, the researcher should consider the use of course-related pre-test/post-test examinations rather than the TOEIC tests. However, issues regarding the reliability and validity of the tests, and the question of whether selected test methods are standardised or not, would need to be considered. The advantages of using course-related pre-test/post-test examinations are that students may feel more comfortable with the content, and therefore more confident to sit the tests, while the researcher may assess students based on more relevant material. Further research could extend the study by adding course scores per group in order to arrive at more generalised results.

Based on the findings of this study, further studies investigating the problems students faced with regard to ICT skill deficiencies and possible solutions would certainly be warranted. This study recognises a need for further research incorporating studies of different levels of student computer proficiency, such as undergraduate Computer Majors or
postgraduate computer science degree scholars that would effectively overcome the difficulties associated with ICT inexperience (Stacey, 2008).

Furthermore, this study confronted problems associated with poor ICT skills, coupled with instructors and students inexperience with applying ICT in a BL environment. Based on these findings, there is a need for further research on the best ways to introduce instructors and students to the BL experience. These considerations are consistent with recent research conducted by Ferneda et al. (2011), and Suwannasom (2010) which has found that there is a need for further study on the best way to facilitate the adjustment and adaptation process of instructors and students to a new learning environment. There is also a need to investigate ways of helping students develop the online critical and cultural skills required for the effective use of ICT tools for learning purposes.

Another consideration for researchers developing future studies of BL first-year rural students’ lack of Basic English skills. If future researchers are to address these difficulties, studies of EFL students with different levels of proficiency, such as postgraduate English degree scholars, undergraduate English Majors or third- and fourth-year English Major Students would more easily address the difficulties associated with language proficiency (Dziuban et al., 2005). This is confirmed by the previous studies of Ferneda et al. (2011), and Pornwasin (2012) who note that blended learning should be undertaken with highly proficient students such as fourth-year students or postgraduate students in order to see how ICT facilitates English language acquisition.

Future research considering the BL approach could be conducted to investigate other specific areas of language learning skills such as: vocabulary development, multicultural awareness, communicative competence and learning strategies, etc. These suggestions are
consistent with Chen, Shen, Xiong, Tan, and Cheng (2006), Cooner (2009), and Shin (2011) in stating that a more flexible teaching method associated with online learning should be investigated.

Furthermore, further research might consider investigating the variables of interlocutors and intercultural difference as well as online communications extending to other social networks such as LinkedIn, chat rooms, web blogs, Line.com, What App, Google+ and other online forums in order to investigate how communications in these mediums may promote English language acquisition and communicative competence.

This study of BL reflects on computer-mediated communications such as Internet websites, social media and e-mail and their roles in English language acquisition. Results here clearly indicate that online communication contributed to a remarkable improvement in student attitudes toward learning English as a foreign language. Another outcome established in the findings of this study was BL’s effectiveness in facilitating English competence when compared to F-to-F traditional classroom instruction.

This study also indicated students’ independent learning potential and self-learning experiences were greatly increased through BL because it provides effective, flexible and convenient communications and access to resources. To this day, past and present students are able to access and use the course website as a hub for resources, communications and continued learning. Therefore, the study of website productivity is worth investigating, and further research studying different forms of online self-learning may also prove to be valuable. Beyond that, further research could extend this present study by investigating the effects of learning English by utilising the course website in other institutions or contexts.
The final area of potential further research, identified through this study and others, should examine how instructors could be supported in attaining ICT teaching skills, develop Internet-enabled courses and the updating and enhancing of ICT skills and practices on a regular basis as technologies develop rapidly (Hoic-Bozic et al., 2009; Siritongthawon et al., 2006). Furthermore, as the 21st century progresses, more and more students will be able to access and research current and established information as readily as their instructors. As the results presented in Section 4.5.1, Table 4.28: Students’ comments and suggestions, reveal that students and instructors required additional English and ICT skills. Consequently, if instructors do not acquire and improve their technology skills, it is possible that they will be left behind, redundant in the information age.

This study provides evidence of the potential of BL environments to assist students and instructors overcome ICT and language barriers in rural Thai Universities. In general, the present study’s conclusions and implications with regard to combined F-to-F and online learning parallels the findings of numerous educators in the field of educational technology research (Karimi et al., 2013; Ono & Ishihara, 2011; Phornphacharaphong, 2012; Picciano et al., 2014; Siritongthawon et al., 2006).

Furthermore, this study found BL improved the lowest level students the most, as presented in Section 4.2.3.1. where the Public Health Major class registered the lowest pre-test mean score (see Table 4.6) but increased significantly to attain the highest change in mean score post course (p<.05), (see Table 4.8). These finding may be related to students’ attitude, as the Public Health Major held the highest positive attitude on SCALE 1: ICT valuable for learning English. In short, this study indicated that the BL approach improved progressive learning outcomes for those students with the least background knowledge who held the highest positive attitudes towards the subject matter. The future researcher could be
exploring this correlation in students’ learning levels, learning achievements and their attitude.

7.7. Concluding Remarks

The most satisfying feature of this study was the successful introduction of the course website which was developed exclusively for this study of blended learning (BL) of English as a foreign language. The website proved to be a valuable, practical and accepted educational tool for instructors and students alike and continues to be employed by educators, learners and researchers (as shown in Appendix N).

Results indicated that BL students’ English learning achievements increased in at least three skills to a degree equivalent to those achieved by F-to-F students. In addition, BL students’ writing skill levels were significantly higher than those of the F-to-F students. Revealingly, the changes in the mean scores of BL students were significantly higher than those of students taught via the traditional F-to-F approach. Consequently, this study observed that students’ attitude towards learning English through BL may directly affect their English learning improvement. Additionally, more positive attitudes towards learning English through BL may be more effective to English learning improvement than their background knowledge.

One outcome of most importance to this researcher was the positive findings of student attitudinal change toward learning English. significantly increased positive attitudes fostered through BL may inspire institutions and instructors to embrace this instructional approach. Certainly, to an increasing extent, students will adopt ICT as integral to their learning experience into the future, either with or without their education providers. These notions are supported by this study’s student participation results, which reveal that students
taking part in BL were more engaged in the learning process. BL students established their own online information and communication networks, and while emboldened by online successes and encouraged by their networks, these students engaged and interacted more freely within and without the classroom.

These remarkable findings have substantial implications for instructional design, considering the explosive growth in higher education and rapidly changing educational technologies. Overall, this study of BL reveals significant changes to students’ everyday lives and especially their communications through new technologies. In particular, this study established that the introduction of BL in the learning of English as a foreign language provided students with worldwide resources, communications and vision while promoting multicultural interaction and understanding. BL was proven to be effective in facilitating student communications in English. In addition, students developed more positive attitudes toward learning English through ICT blended instruction and became more aware of globalisation in the digital age while preparing themselves for society, higher education and the modern workforce through attaining life-long learning skills.
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APPENDICES

Appendix A: A survey of students’ attitudes towards ICT blended instruction

(ICT: Information and communication technologies)

A Likert scale is the key for responding to the questions concerning attitude about learning English through ICT blended instruction are as follow: Strongly agree (5), Agree (4), Neutral (3), Disagree (2), Strongly disagree (1)

The questionnaire is designed to gather information about your attitude towards learning English through ICT blended instruction. The questionnaire is divided into 2 parts.

Part 1: Instruction: Read each item in the questionnaire, put a cross (x) in the space corresponding to your opinion.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree (5)</th>
<th>Agree (4)</th>
<th>Neutral (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree (1)</th>
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</thead>
<tbody>
<tr>
<td>1. Learning English through the ICT blended instruction provides resources for learning the world’s news.</td>
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<td>2. It was difficult to adjust my habits to the use of ICT blended instruction.</td>
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<td>3. Learning English through the ICT blended instruction develops groups of online networks.</td>
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<td>4. Technical difficulties of using the ICT blended instruction to enhance English.</td>
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</table>
A survey of students’ attitudes towards ICT blended instruction

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<tr>
<th>Statement</th>
<th>Strongly agree (5)</th>
<th>Agree (4)</th>
<th>Neutral (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree (1)</th>
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<tr>
<td>5. Learning English through the ICT blended instruction encourages me to make links to learning topics.</td>
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<td>6. The use of ICT blended instruction made the course more complicated.</td>
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<td>7. Learning English through the ICT blended instruction introduces me to worldwide communications.</td>
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<td>8. I get bored when learning English through the ICT blended instruction.</td>
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<td>9. Learning English through the ICT blended instruction provides vast resources in learning English.</td>
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<td>10. I feel the ICT blended instruction was not a valuable addition to the course.</td>
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<td>11. Learning English through the ICT blended instruction improved my computer and Internet skills.</td>
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</table>
A survey of students’ attitudes towards ICT blended instruction

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<tr>
<th>Statement</th>
<th>Strongly agree (5)</th>
<th>Agree (4)</th>
<th>Neutral (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree (1)</th>
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<tr>
<td>12. I found using the ICT blended instruction in the course is an inefficient use of my time.</td>
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<td>13. Learning English through the ICT blended instruction provides vast resources in learning English.</td>
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<td>14. The ICT blended instruction is superior to classroom experience for some portions of the course.</td>
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<td>15. Learning English through the ICT blended instruction is difficult.</td>
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<td>16. The ICT blended instruction is inappropriate to learn English.</td>
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</table>
## A survey of students’ attitudes towards ICT blended instruction

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree (5)</th>
<th>Agree (4)</th>
<th>Neutral (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree (1)</th>
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<tbody>
<tr>
<td>17. Learning English through the ICT blended instruction helped me understand the lessons better.</td>
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<td>18. Learning English through the ICT blended instruction made the learning process uninteresting.</td>
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<td>19. I am more enthusiastic when learning English through the ICT blended instruction.</td>
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<td>20. The ICT blended instruction is just another step toward depersonalized instruction.</td>
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<td>21. Learning English through the ICT blended instruction makes me more interested in learning English.</td>
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<td>22. I get worried when learning English through the ICT blended instruction.</td>
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<td>23. Learning English through the ICT blended instruction expands my vision.</td>
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</table>
A survey of students’ attitudes towards ICT blended instruction

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. I lack concentration when learning English through the ICT.</td>
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<td>25. Learning English through the ICT blended instruction assists me in learning other countries’ cultures and events.</td>
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<tr>
<td>26. Learning how to use the ICT blended instruction detracted from the study of English.</td>
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<tr>
<td>27. Learning English through the ICT blended instruction encourages interaction and discussion between students and others.</td>
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<tr>
<td>28. My work load for the course was greatly increased by including the computer-oriented materials.</td>
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<tr>
<td>29. Learning English through the ICT blended instruction builds learner confidence.</td>
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<tr>
<td>30. The use of ICT blended instruction hindered my ability to learn English.</td>
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</table>
Open-ended attitude questionnaire

Part 2 Instruction: Express your ideas or give suggestions about learning English through ICT blended instruction.

1. Does learning English through the ICT blended instruction affected your enthusiasm towards English?

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2. Does learning English through the ICT blended instruction support your independent study?

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3. What skill have you improved the most when learning English through the ICT blended instruction?

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4. What is the disadvantage of learning English through the ICT blended instruction?

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5. What is the advantage of learning English through the ICT blended instruction?

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6. Other/ comment/ suggestion

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Appendix B: Classroom Observation

<table>
<thead>
<tr>
<th>English Learning Observation</th>
<th>Agreed focus of observation:</th>
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</thead>
<tbody>
<tr>
<td>Group:</td>
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<tr>
<td>Class:</td>
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<tr>
<td>Number of students:</td>
<td></td>
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<tr>
<td>Date:</td>
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<td>Observation Time:</td>
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</table>

Lesson context:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always (4)</th>
<th>Often (3)</th>
<th>Occasionally (2)</th>
<th>Never (1)</th>
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</thead>
<tbody>
<tr>
<td>Quality of pedagogy/students</td>
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</tr>
<tr>
<td>1. Listening to the teacher.</td>
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<tr>
<td>2. Listening / speaking to peer.</td>
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<tr>
<td>3. Speaking to the teacher.</td>
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</tr>
<tr>
<td>4. Answering questions.</td>
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<td>5. Reading / writing assigned materials.</td>
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<td>6. Completing a task / hand in assignment.</td>
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<td>7. Passive students.</td>
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<tr>
<td>8. Active students.</td>
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<tr>
<td>9. Students learn by doing.</td>
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<tr>
<td>10. Students have a chance to expand out their experience.</td>
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</tbody>
</table>
### Classroom Observation

<table>
<thead>
<tr>
<th>Quality of pedagogy/ instructors</th>
<th>Always (4)</th>
<th>Often (3)</th>
<th>Occasionally (2)</th>
<th>Never (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Quickly engages interest.</td>
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<tr>
<td>2. Establishes an appropriate level of challenge.</td>
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<tr>
<td>3. Builds on previous learning.</td>
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<td>4. Plans a clear and objectives base on the curriculum.</td>
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<tr>
<td>5. Give clear instruction, explanation, and demonstration, summary.</td>
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<td>6. Uses questioning to encourage thinking.</td>
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<tr>
<td>7. Use the results of both informal and formal assessment to help students to know how well they have done.</td>
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<td>8. Involves learner actively in learning.</td>
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<tr>
<td>9. Encourages students to reflect on what they have achieved and how they achieved it.</td>
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<tr>
<td>10. Draw together what has been learned, highlighting key facts, ideas, vocabulary and skills.</td>
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</tbody>
</table>
### Classroom Observation

<table>
<thead>
<tr>
<th>Quality of ICT/ students</th>
<th>Always (4)</th>
<th>Often (3)</th>
<th>Occasionally (2)</th>
<th>Never (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students used technologies in class.</td>
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<tr>
<td>2. Students learn to create multimedia reports.</td>
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<tr>
<td>3. Students participate in ICT for their assignment.</td>
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<tr>
<td>4. Students spent time online and expanded their vision.</td>
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<tr>
<td>5. Students search information online, use ICT on learning process.</td>
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<tr>
<td>6. There is communication and interaction explicitly worldwide (e.g. msn, face book).</td>
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<tr>
<td>7. There is enough material to support the learning process.</td>
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<tr>
<td>8. Students clearly supported English language to communicate.</td>
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<tr>
<td>10. Students use current resources (e.g. data projector, whiteboard, digital cameras, mobile, and cyber dictionary).</td>
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</tbody>
</table>
### Classroom Observation

<table>
<thead>
<tr>
<th>Quality of ICT/ instructors</th>
<th>Always (4)</th>
<th>Often (3)</th>
<th>Occasionally (2)</th>
<th>Never (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Makes clear the function of the ICT and how to make better use of issues in ICT capability or problem that is to be tackled in the lesson.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. Makes clear the learning objectives and why it matters in terms of understanding in ICT.</td>
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<tr>
<td>3. Use ICT effectively and creatively.</td>
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<tr>
<td>4. Use ICT capability to describe, explain analyse.</td>
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<tr>
<td>5. Use technical language appropriate to ICT, including ICT tools.</td>
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</tr>
<tr>
<td>6. Reinforces the use of using ICTL.</td>
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</tr>
<tr>
<td>7. Builds students pride in their work and fascination with ICT.</td>
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</tr>
<tr>
<td>8. Plan clear objectives based on the ICT national curriculum.</td>
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<tr>
<td>9. Teaching acceptance of the ICT.</td>
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<tr>
<td>10. Students were taught critical thinking and critical viewing skills to equip them to counter propaganda and media distortions.</td>
<td></td>
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</tr>
</tbody>
</table>
Appendix C: Semi-structured Interview

Instruction: Express your ideas about learning English through the ICT blended instruction.

1. Do you like learning English through the ICT blended instruction?
   Why? Why not?
   .............................................................................................................................
   .............................................................................................................................
2. What do you like most when learning English through the ICT blended instruction?
   Why?
   .............................................................................................................................
   .............................................................................................................................
   .............................................................................................................................
3. What do you like least when learning English through the ICT blended instruction? Why?
   .............................................................................................................................
   .............................................................................................................................
   .............................................................................................................................
4. Do you think learning English is easier when using ICT?
   .............................................................................................................................
   .............................................................................................................................
   .............................................................................................................................
5. Do you think you have learnt more English using ICT than from a course that didn’t use ICT?
   .............................................................................................................................
   .............................................................................................................................
Appendix D: Criteria for evaluating course websites

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Detail</th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>weak</th>
<th>poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Purpose</td>
<td>Is the purpose clear?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Accuracy</td>
<td>Is the content, spelling, grammar accurate?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Currency</td>
<td>Does the website update regularly?</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4. Authority</td>
<td>Is there information on the author?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5. Loading speed</td>
<td>Does the website download fast?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. Usefulness</td>
<td>Does the website provide useful information?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7. Organization</td>
<td>Is the website well organized?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8. Navigation</td>
<td>Is the website easy to navigate?</td>
<td></td>
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</tr>
<tr>
<td>9. Reliability</td>
<td>Are the website links errors free?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10. Authenticity</td>
<td>Are the learning materials authentic?</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
### Criteria for evaluating course websites

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Detail</th>
<th>Excellent (5)</th>
<th>Good (4)</th>
<th>Fair (3)</th>
<th>Weak (2)</th>
<th>Poor (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.Feedback</td>
<td>Is feedback on learner responses encouraging?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.Multimedia</td>
<td>Does the website make effective use of graphics, sound and colour?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13.Communication</td>
<td>Can the user communicate online through the website?</td>
<td></td>
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<tr>
<td>14. Interesting</td>
<td>Does the website interesting?</td>
<td></td>
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</tr>
<tr>
<td>15. Integration</td>
<td>Can the website be integrated into a curriculum?</td>
<td></td>
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</tr>
</tbody>
</table>

The assessment adapted from Dumridhammaporn (2007), and Zang et al. (2008).
### Appendix E: SCALES for Assessment Students’ Attitude

**SCALE1 / ICT blended instruction is valuable for learning English**

<table>
<thead>
<tr>
<th>Items</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Learning English through ICT blended instruction introduces me to worldwide communications.</td>
</tr>
<tr>
<td>9</td>
<td>Learning English through ICT blended instruction provides vast resources for learning English.</td>
</tr>
<tr>
<td>11</td>
<td>Learning English through ICT blended instruction improved my computer and Internet skills.</td>
</tr>
<tr>
<td>13</td>
<td>I enjoy learning English through ICT blended instruction.</td>
</tr>
<tr>
<td>14</td>
<td>ICT blended instruction is superior to classroom experience for some portions of the course.</td>
</tr>
<tr>
<td>17</td>
<td>Learning English through ICT blended instruction helped me understand the lessons better.</td>
</tr>
<tr>
<td>19</td>
<td>I am more enthusiastic when learning English through ICT blended instruction.</td>
</tr>
<tr>
<td>21</td>
<td>Learning English through ICT blended instruction makes me more interested in learning English.</td>
</tr>
<tr>
<td>23</td>
<td>Learning English through ICT blended instruction expands my vision.</td>
</tr>
<tr>
<td>25</td>
<td>Learning English through ICT blended instruction assists me in learning other countries’ cultures and events.</td>
</tr>
<tr>
<td>27</td>
<td>Learning English through ICT blended instruction encourages interaction and discussion between students and others.</td>
</tr>
<tr>
<td>29</td>
<td>Learning English through ICT blended instruction builds learner confidence.</td>
</tr>
<tr>
<td>Items</td>
<td>Components</td>
</tr>
<tr>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>Q8</td>
<td>I get bored when learning English through ICT blended instruction.</td>
</tr>
<tr>
<td>Q10</td>
<td>I feel ICT blended instruction was a not a valuable addition to the course.</td>
</tr>
<tr>
<td>Q12</td>
<td>I found using ICT instruction in the course is an inefficient use of my time.</td>
</tr>
<tr>
<td>Q15</td>
<td>Learning English through ICT instruction is difficult.</td>
</tr>
<tr>
<td>Q16</td>
<td>ICT blended instruction is inappropriate to learn English.</td>
</tr>
<tr>
<td>Q18</td>
<td>Learning English through ICT instruction made the learning process uninteresting.</td>
</tr>
<tr>
<td>Q22</td>
<td>I get worried when learning English through ICT instruction.</td>
</tr>
<tr>
<td>Q24</td>
<td>I lack concentration when learning English through ICT blended instruction.</td>
</tr>
<tr>
<td>Q26</td>
<td>Learning how to use ICT instruction detracted from the study of English.</td>
</tr>
<tr>
<td>Q30</td>
<td>The use of ICT blended instruction hindered my ability to learn English.</td>
</tr>
</tbody>
</table>
## SCALE 3/ ICT blended instruction encourage learning English

<table>
<thead>
<tr>
<th>Items</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Learning English through ICT blended instruction provides resources for learning the world’s news.</td>
</tr>
<tr>
<td>3</td>
<td>Learning English through ICT blended instruction develops groups of online networks.</td>
</tr>
<tr>
<td>5</td>
<td>Learning English through ICT blended instruction encourages me to make links to learning topics.</td>
</tr>
<tr>
<td>Q2</td>
<td>It was difficult to adjust my habits to the use of ICT blended instruction.</td>
</tr>
<tr>
<td>Q4</td>
<td>I was apprehensive of the technical difficulties of using ICT blended instruction to enhance English.</td>
</tr>
<tr>
<td>Q6</td>
<td>The use of ICT blended instruction made the course more complicated.</td>
</tr>
<tr>
<td>Q20</td>
<td>ICT blended instruction is just another step toward depersonalized instruction.</td>
</tr>
<tr>
<td>Q28</td>
<td>My work load for the course was greatly increased by including the computer-oriented materials.</td>
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</table>
### Appendix F: Research Time Line

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<tbody>
<tr>
<td>1. Review related literature</td>
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<td>2. Develop proposal</td>
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<td>3. Commence method section</td>
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<td>4. Develop measurement tools</td>
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<td>5. Apply for ethics approval</td>
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<td>6. Develop instrument</td>
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<td>7. Experiment</td>
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<td>8. Data collecting</td>
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<td>9. Data analysis</td>
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<td>10. Write result and discussion</td>
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<td>11. Submit Thesis</td>
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</table>
## Appendix G: Descriptive Statistics of Evaluating Website

<table>
<thead>
<tr>
<th>Question</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is the purpose clear?</td>
<td>139</td>
<td>3.00</td>
<td>5.00</td>
<td>4.27</td>
<td>.52</td>
</tr>
<tr>
<td>2. Are the content, spelling and grammar accurate?</td>
<td>139</td>
<td>3.00</td>
<td>5.00</td>
<td>4.28</td>
<td>.54</td>
</tr>
<tr>
<td>3. Is it up to date?</td>
<td>139</td>
<td>1.00</td>
<td>5.00</td>
<td>4.36</td>
<td>.77</td>
</tr>
<tr>
<td>4. Is there information of the author?</td>
<td>139</td>
<td>1.00</td>
<td>5.00</td>
<td>3.86</td>
<td>.91</td>
</tr>
<tr>
<td>5. Does the web site download fast?</td>
<td>139</td>
<td>1.00</td>
<td>5.00</td>
<td>3.95</td>
<td>.86</td>
</tr>
<tr>
<td>6. Does the website provide useful information?</td>
<td>139</td>
<td>2.00</td>
<td>5.00</td>
<td>4.45</td>
<td>.60</td>
</tr>
<tr>
<td>7. Is the website provide well organized?</td>
<td>139</td>
<td>1.00</td>
<td>5.00</td>
<td>4.12</td>
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</tr>
<tr>
<td>8. Is the website providing easy to navigate?</td>
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<td>1.00</td>
<td>5.00</td>
<td>3.97</td>
<td>.82</td>
</tr>
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### Descriptive Statistics of Evaluating Website

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Is the website provide free link?</td>
<td>139</td>
<td>1.00</td>
<td>5.00</td>
<td>4.21</td>
<td>.91</td>
</tr>
<tr>
<td>10. Are the website providing authentic materials?</td>
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<td>1.0</td>
<td>5.00</td>
<td>4.25</td>
<td>.72</td>
</tr>
<tr>
<td>11. Is feedback on learner responses encouraging?</td>
<td>139</td>
<td>1.00</td>
<td>5.00</td>
<td>3.82</td>
<td>.85</td>
</tr>
<tr>
<td>12. Does the website make effective use of graphics and color?</td>
<td>139</td>
<td>2.00</td>
<td>5.00</td>
<td>4.20</td>
<td>.69</td>
</tr>
<tr>
<td>13. Can the user communicate online through the website?</td>
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<td>2.00</td>
<td>5.00</td>
<td>4.20</td>
<td>.69</td>
</tr>
<tr>
<td>14. Is the website interesting?</td>
<td>139</td>
<td>1.00</td>
<td>5.00</td>
<td>4.38</td>
<td>.66</td>
</tr>
<tr>
<td>15. Can the website be integrated into curriculum?</td>
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<td>3.00</td>
<td>5.00</td>
<td>4.68</td>
<td>.48</td>
</tr>
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</table>
Appendix H: The comparison between pre-test and post-test scores of the F-to-F and BL Groups

<table>
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* Paired Samples Correlations Significant at 0.05 level (2-tailed)
## Appendix I: Multiple Comparisons between Major Programs on Total Pre-Test Scores

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* The mean difference is significant at the .05 level.
Multiple Comparisons between Major Programs on Total Pre-Test Scores

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* The mean difference is significant at the .05 level.
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*Significant at the 0.05 level (2-tailed)
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* Significant at the 0.05 level (2-tailed)
# Appendix L: Multiple Comparisons between Major Programs in Total Post-Test Scores

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* Significant at the 0.05 level (2-tailed)
### Appendix M: Multiple Comparisons between the Six Major Programs in the Change of Mean Scores

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<th>Std. Error</th>
<th>Sig.</th>
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* The mean difference is significant at the .05 level.
Appendix N: Monthly Visitors of the Course Website

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<th>Month/ Year</th>
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<td>4</td>
<td>September 2012</td>
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<tr>
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<tr>
<td>6</td>
<td>November 2012</td>
<td>707</td>
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<td>13</td>
<td>June 2013</td>
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**Total 13 months June 2012 - June 2013** 11,903 visitors
อ้างอิง

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<th>เห็นด้วย (4)</th>
<th>ไม่มีความคิดเห็น (3)</th>
<th>ไม่เห็นด้วย (2)</th>
<th>ไม่เห็นด้วยอย่างยิ่ง (1)</th>
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<tbody>
<tr>
<td>1. การเรียนโดยระบบเทคโนโลยีสารสนเทศทำให้เข้าถึงข่าวสารทั้งโลก</td>
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<tr>
<td>2. เป็นเรื่องยากในการปรับตัวต่อการเรียนโดยระบบเทคโนโลยีสารสนเทศ</td>
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<td>3. การเรียนโดยระบบเทคโนโลยีสารสนเทศทำให้มีการติดต่อผ่านเครือข่ายอินเทอร์เน็ต</td>
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<td>4. ความยากของระบบเทคโนโลยีสารสนเทศเป็นอุปสรรคในการรู้ภาษาอังกฤษ</td>
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<td>5. การเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศทำให้พร้อมรับเรียนรู้ประเด็นอื่น ๆมากขึ้น</td>
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<td>6. การเรียนโดยระบบเทคโนโลยีสารสนเทศทำให้เรียนรู้ขั้นตอนมากขึ้น</td>
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<td>7. การเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศทำให้มีความคิดเห็นต่อบริการและระบบอินเทอร์เน็ตมากขึ้น</td>
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<td>8. ฉันรู้สึกสบายในการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ</td>
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<td>9. การเรียนภาษาอังกฤษโดยระบบสารสนเทศทำให้เข้าใจ แหล่งข้อมูลที่ต้องเรียนภาษาอังกฤษได้อย่างหลากหลาย</td>
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<td>10. การเรียนโดยระบบสารสนเทศไม่มีประโยชน์ต่อรายวิชา</td>
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แบบประเมินทัศนคติต่อการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ

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<th>ไม่เกินด้วย (2)</th>
<th>ไม่เกินด้วยอย่างยิ่ง (1)</th>
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<td>13. การเรียนภาษาอังกฤษโดยระบบสารสนเทศมีแหล่งค้นคว้าข้อมูลที่หลากหลาย</td>
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<td>19. การเรียนภาษาอังกฤษโดยระบบสารสนเทศทำให้ออกตลอด ความกระตือรือร้นในการเรียน</td>
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Research instruments in Thai
แบบประเมินทัศนคติต่อการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ

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<th>ไม่เห็นด้วยอย่างยิ่ง</th>
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<td>21. การเรียนภาษาอังกฤษโดยระบบสารสนเทศทำให้เกิดความวิตกกังวล</td>
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<td>26. การเรียนรู้ระบบสารสนเทศเป็นอุปสรรคต่อการเรียนภาษาอังกฤษ</td>
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แบบประเมินทัศนคติการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ

วัตถุประสงค์: ให้ชี้แจงถึงความคิดเห็นเกี่ยวกับการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ

1. การเรียนภาษาอังกฤษโดยระบบสารสนเทศมีผลต่อความกระตือรือร้นในการเรียนภาษาอังกฤษของคุณหรือไม่?

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2. การเรียนภาษาอังกฤษโดยระบบสารสนเทศส่งเสริมความเป็นอิสระในการเรียนของคุณหรือไม่?

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3. ทักษะใดที่คุณพัฒนามากขึ้นจากการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ?

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4. อะไรคือประโยชน์หรือข้อดีของการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ?

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5. อะไรคือโทษหรือข้อเสียจากการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ?

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6. ข้อเสนอแนะอื่น ๆ

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Research instruments in Thai

แบบประเมินทัศนคติการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ

วัตถุประสงค์: ให้ชี้แจงถึงความคิดเห็นเกี่ยวกับการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ

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2. การเรียนภาษาอังกฤษโดยระบบสารสนเทศส่งเสริมความเป็นอิสระในการเรียนของคุณหรือไม่?

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3. ทักษะใดที่คุณพัฒนามากขึ้นจากการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ?

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4. อะไรคือประโยชน์หรือข้อดีของการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ?

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5. อะไรคือโทษหรือข้อเสียจากการเรียนภาษาอังกฤษโดยระบบเทคโนโลยีสารสนเทศ?

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6. ข้อเสนอแนะอื่น ๆ

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ICT blended instruction  Page 315
款式วิทยานิพนธ์ภาษาอังกฤษ

<table>
<thead>
<tr>
<th>กลุ่ม</th>
<th>ตัวแปร</th>
<th>จำนวนผู้เรียน</th>
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บริบทที่เรียน:

คุณภาพของการเรียนของนักเรียน

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<td>6. ที่ช่วยและส่งงานที่ได้รับมอบหมาย</td>
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การวิจัยการเรียนรู้ภาษาอังกฤษ

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<td>9. กระตุ้นผู้เรียนให้แสดงผลงาน</td>
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<td>10. มีการสรุปในสิ่งที่ได้เรียนรู้ในที่สุด เช่น ประเด็น ข้อคิดเห็น คำศัพท์ ทักษะ</td>
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ICT blended instruction Page 317
### Research instruments in Thai: แบบสังเกตการสอน

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<td>คุณภาพของการใช้เทคโนโลยีของนักเรียน</td>
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<td>2</td>
<td>ผู้เรียนรายงานผ่านสื่อที่หลากหลาย</td>
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<td>ผู้เรียนใช้คอมพิวเตอร์เพื่อพิมพ์ข้อความ ผ.</td>
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<td>5</td>
<td>ผู้เรียนทำการข้อมูลที่ต่าง ๆ ทางคอมพิวเตอร์ที่ใช้เทคโนโลยีในการรวบรวมข้อมูล</td>
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<td>6</td>
<td>มีการตั้งกล้องสื่อสารออนไลน์ เช่น Skype, face book, tweeter</td>
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<tr>
<td>7</td>
<td>มีสื่อการสอนที่หลากหลายในการสนับสนุนกระบวนการเรียนรู้</td>
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<td>8</td>
<td>ผู้เรียนได้รับการส่งเสริมให้ใช้ภาษาอังกฤษในการสื่อสาร</td>
</tr>
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<td>9</td>
<td>กระบวนการเรียนใช้เทคโนโลยีส่งเสริมผู้เรียนให้เรียนรู้ด้วยตนเอง</td>
</tr>
<tr>
<td>10</td>
<td>ผู้เรียนใช้แหล่งข้อมูลที่ต่าง ๆ ในการเรียนรู้ เช่น data projector, whiteboard, digital cameras, mobile, dictionary</td>
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Research instruments in Thai: แบบสังเกตการสอน

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<th>บริบทที่เรียน :</th>
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<tbody>
<tr>
<td>คุณภาพของการใช้เทคโนโลยีของผู้สอน</td>
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</tbody>
</table>

1. แก้ปัญหาด้านเทคโนโลยีในระหว่างการเรียนการสอนได้  (4)  (3)  (2)  (1)  
2. ใช้เทคโนโลยีได้ตรงจุดประสงค์การเรียนรู้  
3. ใช้เทคโนโลยีอย่างมีประสิทธิภาพและสร้างสรรค์  
4. ใช้เทคโนโลยี อิจฉา หรือวิวัฒนาการ  
5. ใช้ภาษาและเครื่องมือทางเทคโนโลยีได้อย่างเหมาะสม  
6. มีการให้แรงเสริมในการใช้เทคโนโลยี  
7. สร้างความภูมิคุ้มกันให้ผู้เรียนในการสร้างผลงานที่ใช้เทคโนโลยี  
8. แผนการสอนจัดตระเบียนจุดประสงค์ของหลักสูตรด้านการใช้เทคโนโลยี  
9. วิธีสอน เหมาะสมกับเทคโนโลยีที่ใช้  
10. สอนให้ผู้เรียนเกิดวิจารณ์  ข้อความสื่อที่อาจมีผลต่อนิยม  |
Research instruments in Thai: ข้อสัมภาษณ์

คำถาม: ให้ตอบคำถาม แสดงความคิดเห็นต่อการเรียนภาษาอังกฤษโดยใช้สื่อสารสนเทศ

1. คุณชอบการเรียนภาษาอังกฤษที่ใช้เทคโนโลยีสื่อสารสนเทศหรือไม่? ทำไมชอบ? ทำไมไม่ชอบ?
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2. คุณชอบอะไรบ้างที่สุดในการเรียนภาษาอังกฤษโดยใช้เทคโนโลยีสื่อสารสนเทศ? ทำไม?
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3. คุณชอบอะไรน้อยที่สุดในการเรียนภาษาอังกฤษโดยใช้เทคโนโลยีสื่อสารสนเทศ? ทำไม?
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4. คุณคิดว่าการใช้เทคโนโลยีสื่อสารสนเทศทำให้เรียนภาษาอังกฤษได้ง่ายขึ้นหรือไม่?
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5. คุณคิดว่า การใช้เทคโนโลยีสื่อสารสนเทศทำให้เรียนภาษาอังกฤษได้มากกว่า การไม่ใช่ เทคโนโลยีหรือไม่?
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Appendix P: The print screens of the course website

Screen 1 Website home page

Website home page

The website home page is an introduction page presenting three topics. The first: About us, describes Sisaket Rajabhat University, The University of Newcastle and researcher and supervisor information. The Introduction includes the purpose of blended learning, the English curriculum in Thailand, and the use of ICT in teaching English. The third section details the Theoretical frameworks, by introducing the need for student centred learning, the change in teaching English, and Constructivism Theory. The home page also presents navigation bars linking students to other pages within the website and work sheets, contact information and links to the researcher’s social media pages (Oravec, 2010; Prapaisit, 2008; Shank, 2007).
**Blended learning**

The blended learning page provides links that explain the definition and background of Blended learning. This page also provides links to information on blended learning interactivity, blended learning in teaching English, acronym and emoticon help and reasons why the Internet is popular.
Course

The course page introduces links to the course description; course objectives, course outline, student activities, lesson plans, and assignment structure and presentation. This page also explains to students the objectives of learning Foundation of English1.
Course materials

The course materials page offers several linked pages with numerous website links on topics such as: search engines, e-mail services, educational resources, connection to social networks, entertainment and sport. Throughout the experiment students were encouraged to utilise these links to research course topics.
The contents page presents the course content in detail. Each of the 7 units’ components of: Grammar, Vocabulary, Skills work, Everyday English and Writing exercises, and the topics contained within them linking to a sub-page containing links to topic related websites and online resources. All sub-pages incorporate a comments box for student remarks, ideas and statements.
Blackboard

Blackboard page provides links to pages that display course events, news, research instruments, tests, and test results.
Contact

Contact information for the researcher appears at the bottom of each page enabling students to easily contact the researcher online when questions or problems arise while they are learning or completing homework.
Screen 8 Web Links

Web link

Web link is a feature of each page providing lists of useful English learning resources that students can access by themselves.
**Comment**

Located in the sub-pages of the contents page, comment box`s provide students with a forum to post their ideas, questions, comments and suggestions about the course or the website.
Share or follow

Share or follow the researcher is a link to established web communication forums, such as Google+, Facebook and Twitter, allowing for communication between teacher and students or students and their peers.
Appendix Q: Pre-test and post-test items.

Pre-Test

**Directions:** Write your answer on the Answer Sheet.

1. What changes has the TV brought to your life?
2. What can we do to help children in under developed areas to complete their basic education?
3. How does Thailand government deal with the flooding problem?
4. How does Thailand government deal with the economics problem?
5. If you win the lottery, what would you do with your money?
6. What kinds of music do you like and why? Please support your ideas.
7. What kinds of food do you like and why? Please support your ideas.
8. People do not have the right to damage the health of other people.
9. In the future, most children will be taught by using computers. Do you agree?
10. Do you believe that the Internet is making it easier for people to communicate with each other?

Post-test

**Directions:** Write your answer on the answer sheet.

1. What changes has the internet brought to your life?
2. What changes has the English language brought to your life?
3. How does Thailand’s government deal with the poverty’s problem?
4. How does Thailand’s government deal with the drug addiction problem?
5. What are your opinions toward the problem of traffic jams in your country?
6. What kinds of movies do you like and why? Please support your ideas.
7. What kinds of sports do you like and why? Please support your ideas.
8. What are you plan for the ten years in the future?
9. What should we do about the traffic?
10. People usually make friends with people who are similar to them. Do you agree?
Appendix R: Lesson plans

<table>
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<tbody>
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<td>1.</td>
<td>Orientation</td>
<td>Instructors conduct research orientation. Consenting students to complete pre-course testing and pre-course attitude surveys.</td>
</tr>
<tr>
<td></td>
<td>Pre-test</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>ICT Training</td>
<td>Students to attend ICT training. Student introduction to course website and the University website. Students to sign up for e-mail, Face book, twitter and skype.</td>
</tr>
<tr>
<td>3.</td>
<td>Hello Everybody</td>
<td>Class activities determined by the course text book. Students group work, researching and preparing a class presentation.</td>
</tr>
<tr>
<td>4.</td>
<td>The presentation</td>
<td>Student groups’ presentation. Class discussion.</td>
</tr>
<tr>
<td>5.</td>
<td>Meeting people</td>
<td>Students to practice topical activities set from the course text book. Students to pair off and rehearse real time communications. Students to utilize the course website to complete the tasks.</td>
</tr>
<tr>
<td>6.</td>
<td>The world of work</td>
<td>Students to follow up the previous lessons activities through class discussion. Students to discuss social media interaction. Students to collaborate in groups to prepare a presentation set from the course text book: The world of work.</td>
</tr>
<tr>
<td>7.</td>
<td>Take it easy</td>
<td>Students present the topic: The world of work. Class discussion.</td>
</tr>
<tr>
<td>8.</td>
<td>Midterm Test</td>
<td>Students to undertake midterm examination</td>
</tr>
<tr>
<td>Period</td>
<td>Lesson Title</td>
<td>Activities</td>
</tr>
<tr>
<td>--------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>9.</td>
<td>Where do you live</td>
<td>Instructor to present topical lecture. Students to complete exercises set from the text book. Students to submit assignment via e-mail</td>
</tr>
<tr>
<td>10.</td>
<td>Real time communication</td>
<td>Students to describe where they live. Students to share their stories in class.</td>
</tr>
<tr>
<td>11.</td>
<td>Can you speak English?</td>
<td>Students to learn about countries and languages. Students conduct text book set activities as individuals, in pairs and groups. Students to interact online. Students to search online for a job vacancy and prepare employment application.</td>
</tr>
<tr>
<td>12.</td>
<td>Integration</td>
<td>Students to learn to share ideas with people around the world through social medias. Students to discuss how ICT affects their daily lives.</td>
</tr>
<tr>
<td>13.</td>
<td>Then and now</td>
<td>Students to practice real-time communication within the classroom. Students research text book set topics: vacation and Special occasions. Students to prepare a presentation on the topic.</td>
</tr>
<tr>
<td>14.</td>
<td>Presentation</td>
<td>Students to present their topics. Students to participate in real-time discussion regarding presentations. Students to evaluate the course web site.</td>
</tr>
<tr>
<td>15.</td>
<td>Final examination</td>
<td>Students to undertake final examination.</td>
</tr>
<tr>
<td>16.</td>
<td>Post-test</td>
<td>Students to complete the post-test. Students to complete the post-course attitude survey.</td>
</tr>
<tr>
<td>17.</td>
<td>Semi-structure interview</td>
<td>Students to be interviewed by the researcher.</td>
</tr>
</tbody>
</table>
Appendix S: Student interview responses

Instruction: Express your ideas about learning English through the ICT blended instruction.

1. Do you like learning English through the ICT blended instruction?
   Why? Why not?
   Yes, I like ICT blended instruction because it was enjoyable and interesting to learn.

3. What do you like most when learning English through the ICT blended instruction?
   Why?
   I like most when I used computer to search for diverse information.

4. What do you like least when learning English through the ICT blended instruction?
   Why?
   I don’t like it when I couldn’t access internet or the network failed.

5. Do you think learning English is easier when using ICT?
   Yes, I think learning English was easier when using ICT.

6. Do you think you have learnt more English using ICT than form a course that didn’t use ICT?
   Yes, I think so.
Appendix T: Student responses to the open-ended attitude questionnaires

Part 2 Instruction: Express your ideas or give suggestions about learning English through ICT blended instruction.

1. Does learning English through the ICT blended instruction affected your enthusiasm towards English?
   Yes, it does.

2. Does learning English through the ICT blended instruction support your independent study?
   Yes, ICT supported my independent study.

3. What skill have you improved the most when learning English through the ICT blended instruction?
   I improved online communication skills.

4. What is the disadvantage of learning English through the ICT blended instruction?
   It was difficult when internet was slow or the connection failed

5. What is the advantage of learning English through the ICT blended instruction?
   I can search any topics online.

6. Other/ comment/ suggestion?
   University should provide more computers and improve ICT system.
Appendix U: Research field notes

Experimental group/ Week 1/ 28-05-12 (Orientation)

Three classes of students attend the lecture, instructor welcomes students and conducts the orientation and explains his role as lecturer. The researcher addresses the lecture and explains the course outline, the research’s aim and the research process. Students who decide to participate in the experiment sign the consent form. Students who do not participate in the experiment are excused from the lesson. Some students express their concerns regarding an increase in course difficulty that might affect their grade. The researcher explains the availability of ICT specialist assistance and the researcher to help students and instructors with ICT technical difficulties.

Students ask for the researcher’s contact number and e-mail address and express their concerns about the difficulty of the project and the possibility that the instructor might not have much time for them. Also some students state that their weak English and ICT skills may burden the project. The researcher assured students of her availability during the experiment.

The instructor conducts the whole class through the pre-course attitude survey and the pre-test listening examination. Participants listen to recorded questions and complete the answer section of the examination. Participants express complaints about the listening test such as: “It’s too complicated!”, “I can’t catch it”, “I don’t get it, why do they speak so differently from us?” The researcher cheers up students, encouraging them that they will improve and become more familiar with English native speaker accents through listening to English more often and practice.

The instructor facilitates the reading and writing assessment. Meanwhile, the researcher observes and assesses participants speaking skill individually through an interview with a native English speaker. The speaking tests are time consuming and can’t be finish on time. Most participants are quite excited to speak with a foreigner. The majority are shy and seem afraid to make a mistake and they giggle when unsure or don’t understand. Some participants stay quiet when they don’t know the answer or don’t understand the question. Participants who are waiting to speak look nervous and excited.

All students complete the attitude survey. All students complete listening, reading and writing pre-test. Half the class complete the speaking skill assessment within class time. The balance complete speaking skill assessment after class in their own time. A majority of participants are visibly nervous, shy and self-conscious, although participants display excitement and a willingness to participate by staying back after class.

BL-Instructor, states that the experiment will place him in a difficult situation and increase his work load. The researcher assures the instructor that she and the ICT specialists
ICT blended instruction

will be a great assistance. All participants, including instructors, were asked to attend the ICT training class the following week at the computer laboratory room, Library building.

Week 2/ 04-06-12 (The ICT Training)

The researcher and ICT specialists arrive at the computer laboratory room early to discuss training expectations and objectives and the participants’ needs during the course. Participants and instructor attend ICT training on time, interacting with technology in the computer room. Instructor’s role as facilitator, researcher observing and assisting where necessary, ICT specialists instruct participants in the use of computers.

There are 139 participants so the training requires 3 computer rooms. Three ICT specialists conduct the training. All participants acquire e-mail addresses. The researcher introduces participants to the course web site www.bl-ict-esl-esl.com.au, the university website www.sskru.ac.th, also the English department website www.sskru.english.ac.th. Participants are encouraged to search the course, University and English department web sites.

Participants are introduced to social network sites and join web sites: Facebook, Twitter, and Skype. Participants are excited to sign up for social media such as Facebook. They look happy with the success of their membership. Most students like Facebook because they can interact with their classmates, friends and others. Some participants are unable to upload profile photos and are assisted by classmates. Participants start to post status information, request and accept friend requests.

A majority of participants sign up for Twitter, the balance sign up in their own time. Participants follow the researcher, instructors, friends, famous idols, singers, movie stars, news reporters, celebrities, etc. The researcher notes that participants prefer to write in Thai even though they follow and befriend English speakers. Participants do not communicate much in English, they only re-tweet or quote tweets they like. This strategy develops their reading and thinking skills and opens their minds to learn multicultural contexts and worldwide news.

Skype is new and exciting to most participants as they can see and communicate with others online for the first time. At first participants have just friends, instructors and the researcher to make contact with. Participants need time to befriend and add others to interact on Skype as worldwide social media.

One participant, told the researcher that she contacted one of the researcher's Facebook friends (Marion Schaefer) from Germany via Skype. She was very excited by the interaction and world-wide connection making a small world. A problem encountered by participants using social media is connection failure. Also participants aren’t fluent in English beyond formal greetings and personal information. Participants are genuinely interested in the training. Many participants are computer literate and don’t need much help.
Approximately 80% of students complete tasks with the balance completing the tasks in their own time.

Week 3/11-06-12 (Unit 1: Hello Everybody!)

Instructor’s role as facilitator, face to face class room lecture; Participants attend the lecture, class discuss issues associated with using English & ICT for academic purposes. Instructor gives some background to the lesson plan of unit one. Participants mostly listen quietly, responding to the instructor’s questions. The researcher notes some participants seem awkward to have a researcher observing their behaviours, as they often look at the researcher when they respond to the instructor or when participating in class activities. Participants’ discuss issues among themselves in small groups and seem to enjoy interacting with classmates, completing several tasks from the text book.

An assignment is set for participants organised into small groups. Groups are required to use the course website www.bl-ict-efl-esl.com and a search engine to find relevant research sources and give a power point presentation on the topic: Countries. The researcher and some groups move to the library, the instructor and the other groups move to the computer room to prepare their presentations. Participants enjoy the activities, are noisier, more alive and giggle during the activities. Participants were guided in preparing the presentation utilising the course web page: Planning a presentation. Participants are enthusiastic, interact with ICT, study with their group members independent of the instructor. Some participants who didn’t finish the task from last week continue to sign up for social networks.

Week 4/18-06-12 (The Presentation)

The Instructor’s role as facilitator with the researcher assisting with the learning process; Presentation of set assignment, participants interact with technology to present Power point assignment to class: Countries. Participants are excited to present their projects as group works. Participants help each other to set up ICT equipment and upload files. Participants share presentation roles: greetings and introduction, presentation components, questions and answers.

Participants look nervous and excited to speak in front of the class. Meanwhile the audience also worry about their own presentations. Presentations and resources are quite varied and interesting. The whole class participates in presentation question and answer component using both Thai and English languages. The learning atmosphere is fun and very active. Participants engage in class discussion, online information and resource sharing, facilitated by the instructor. At the end of the class, participants and instructor look, and the researcher feels, relieved presentation of the assignments went well.
Week 5/ 25-06-12 (Unit 2: Meeting people)

Instructor’s role as facilitator; this unit’s focus is on meeting people and learners activities relate to the topic. Participants are paired off and work on real-time communication in the classroom. Participants complete several tasks set from the text book such as: greeting family, ordering in the cafe, food and drink etc.

Participants like activities and enjoy working in pairs. They look relaxed, giggle, during several drills in different contexts. Participants communicate using both Thai and English languages. They like to discuss tasks with their friends; a few students do the tasks alone. Groups seem more confident to discuss tasks and find the same or quite similar answers.

Assignment set for participants to interact with technology; find more information about the current topics from links on the course website. Participants utilise the course website to research and complete unfinished tasks set from the text book then use social networks for worldwide interaction. Participants enjoy communicating with their close friends at first, then try to make international friends. Participants seem happy to contact new people and interact with multicultural friends.

Week 6/ 09-07-12 (Unit 3: The world of work)

The instructor roles as facilitator, the researcher assisting; Participants actively follow up on the last week’s activities. The instructor guides participants through previously set activities, asks several questions on each topic. Participants answer, edit, and check-over their homework.

Participants discuss social media interaction. Group members speak about their online experiences. Most participants respond or react to the discussion, relating to similar or different experiences meeting people. Mostly, participants like the chance to practice their English online, but state that they can’t communicate fluently and needed to refer to Google translate and on-line dictionary making the conversation go slowly.

The instructor explains unit three topic contexts then participants complete exercises from the text book. Participants sitting at the front of the class pay more attention and respond more often than participants sitting at the back of the class. Participants sitting at the front of the class seem to like learning and have a good attitude toward English.

Participants collaborate in small groups to prepare a power point presentation: Jobs. Participants interact with technology searching, collating and sharing information about a possible future vocation. Search engines such as Google and the course’s web site can be used for finding information.

Week 7/ 16-07-12 (Unit 4: Take it easy!)
Instructor’s role as facilitator, researcher observing and assisting, focus on student-centred learning; after greetings, participants prepare for the lesson, instructor reviews the last lessons. Participants present their group projects, sharing presentation roles. Presentations are across a variety of careers from several interesting fields. The whole class participates in the presentation. Participants communicate using both Thai and English languages. The learning activities are very lively and cheerful. There are some jokes and participants make fun of each other during the presentation. The presenters look nervous at first then grow in confidence.

Next, participants learn and practice real-time communication in the classroom about leisure activities. Participants were guided to utilise the course website for searching, collating and sharing information. Participants were encouraged to interact with English native speakers through online social networks. Participants reminded to prepare for the midterm test, planned for next week.

Week 8 / 23-07-12 (Midterm examination)

Participants take the midterm examination for all subjects. The examination based on the curriculum, objectives and contents.

Week 9 / 30-07-12 (Unit 5: Where do you live?)

The instructor’s role as facilitator, researcher observing and assisting; The instructor gives some background to unit 5: Where do you live? Participants research individual activities relating to the topics: housing, things, places, directions. Participants complete exercises set from the textbook.

Participants conduct activities in groups and pair’s, they look active and enjoy exercises on topics in different contexts. Participants communicate using both Thai and English languages. Instructor facilitates online research, individual activities related to the topics housing, things, places, directions, encouraging participants’ role as self-learners. Participants are set an assignment on the topic to be e-mailed to the instructor.

Week 10 / 06-09-12 (Real time communication)

Teacher’s role as facilitator, researcher observing and assisting; Participants attend a lecture reviewing the previous lessons activities. Instructor reports on assignment completion rate, compliments compliant participants and encourages remaining participants to complete the task.

Instructor states that his work load had increased and time consumed due to: some projects unidentifiable, some participants lodge assignments multiple times, some plagiarism identified. Instructor facilitates class discussion and real-time communication in the classroom about previous topics: housing, things, places. Participants give individual spontaneous talk describing where they live, with whom, and their neighbourhood. The
whole class use both Thai and English languages. The learning atmosphere is entertaining and lively.

Week 11/ 13-08-12 (Unit 6: Can you speak English?)

The instructor’s role as facilitator, researcher observing and assisting; The instructor gives some background to unit 6: Can you speak English? Participants research individual activities relating to the topics: Countries and Languages. Participants complete exercises set from the text book. Participants conduct activities in groups and pair’s, they look active and enjoy exercises on topics in different contexts. Participants communicate using both Thai and English languages. Participants seem more comfortable and familiar with the instructor and the researcher; there are no signs of awkwardness during class activities.

Assignment set for participants to interact with technology; find more information about the current topics from links on the course website to assist completion of exercises set from the text book. Participant’s research topics relevant to: Countries and Languages. Instructor sets an assignment: Participants to search internet for relevant positions vacant advertisement then prepare employment application and cover letter to be e-mailed to the instructor. Seemingly, as time went by, participants felt more comfortable with the researcher, often asking for help or to discuss their tasks, assignments and website information. Almost all participants follow the researcher on twitter, contact on Skype and request friendship on Facebook. The researcher accepts all requests to observe their English and ICT skills online. Unfortunately, the researcher found most participants still use more Thai than English online.

Week 12/ 20-08-12 (Online Interaction)

Teacher’s role as facilitator, researcher observing and assisting; Participants attend a lecture reviewing the previous lessons activities. Instructor reports on assignment completion rate, compliments compliant participants and encourages remaining participants to complete the task. The learning atmosphere look

Participants interact with technology using social networks: Facebook, twitter, Skype to make contacts and communicate with the instructor and native English speakers online. Participants like Facebook for several reasons such as: “I like Face book for interact with classmates, friends and others on a regular basis, presenting my daily activities’, photos, etc.”

A majority of participants request to befriend the researcher and instructors. Participants state that befriending and communicating with native English speakers online is difficult. During the experiment, the researcher accepted friends request on Facebook from participants to observe how they practice and improve their English and online interaction.
Participants sign in for Twitter; 432 participants and some other students follow the researcher. The majority of participants follow friends, famous idols - singers, movie stars, and celebrities, etc. The researcher finds that although participants prefer to write in Thai, most follow and read English speakers tweets. This strategy develops their reading skills and vocabulary. In 2012, twitter is a new website to Thai university students therefore participants like Twitter as they feel cool to follow someone famous and proud to be associated with them, some of participant states that: “I like Twitter, when I tweet, I feel trendy, contemporary, smart so it helps me enjoy using ICT to learn English language”

In 2012, Skype is new to most Thai participants, most have never used it. On the other hand, Skype is a very exciting concept for participants as Skype is an inexpensive medium for international and local face to face, real time communications. The cost of Skype online is $19 per month. Since Skype was introduced to the participants in week 2 of the experiment, of 278 participants, 161 participants added the researcher on their contact lists. Several participants have good feedback on using Skype, such as: I’ve contacted my foreigner friends via Skype! I really like it because I can see people, type and talk. I had heard about Skype before but I’ve never used it because I didn’t understand it until I took this course. Feedback such as this made the researcher feel the research was worthwhile and that she had done the right thing at the right time. Anyway, there was some feedback or statements made that created awkward moments, such as: “Teacher, can you find foreigner friends online for me?”

Week 13/ 27-08-12 (Unit7: Then and now)

The instructor’s role as facilitator, researcher observing and assisting; the instructor gives some background to unit 7: Then and now. Participants conduct activities in pairs: Verbs, Time Expressions, Spelling and Silent Letters. Participants are paired off and work on real-time communication in classroom then complete exercises set from the text book. Participants enjoy practicing exercises on topics in different contexts.

Obviously, participants like to work with their close friends, working with the same person or the same group and it’s likely they won’t change groups for other new activities. Participants communicate using both Thai and English languages. Classroom activities are dynamic with the learning methods becoming more familiar and routine.

Participants in groups are set an assignment: research a topic: Vacation, Special Occasions. Participants utilise links from the course website and search engines to prepare a Power point presentation for the next class. An instructor guides participants to go the computer room or library to research information and prepare group work.

The researcher attends the computer room and library to observe participants’ learning behaviours. Participants act like the researcher is spying on them so they seem well behaved and stay within their groups. Generally, students search the web for assignment information, but some students take the opportunity to browse Facebook, You Tube or
Twitter. It seems like participants enjoy online searching for several reasons beside study. However, in the process they learn world views and practice ICT and English skills as a digital age, world citizen.

Some participants ask the researcher for helping with some problem they encounter such as: spelling, related websites, attachments, etc. At the end of each day, the researcher can see the progress of the participants in their confidence, ICT skills, online interactions as well as English language.

Week 14/ 03-09-12 (Presentation)

Teacher’s role as a facilitator, researcher is observing and assisting; today the class begins with participants given the course website evaluation. The researcher explains each item to ensure participants are clear about the questionnaire requirements. Participants complete the questionnaire to assess the course website www.bl-ict-efl.com. The course website has been used by participants as a gate-way to the internet and course materials. Researcher collects all the website evaluation sheets and records who missed the website evaluation, meanwhile the instructor is checking the class attendance.

Participants prepare to present assignments to class: vacation, special occasions. Participants are excited to present their projects as group works. Participants share presentation roles: greetings and introduction, presentation components, questions and answers. Participants interact with class members by way of question and answer and resource sharing.

Power point presentations are interesting. The whole class participates in presentation question and answer component using both Thai and English languages. The learning atmosphere is fun and very active facilitated by the instructor. Participants are reminded to prepare for Final examination and the experiment post–test.

Week 15/ 10-09-12: Final examination, testing based on the curriculum, objectives and contents.

Week 16/ 17-09-12 (Post-test, 1st week)

Participants complete post-course attitude survey. Participants complete post-test: listening, reading and writing, conducted by the instructor and the researcher. Some participants complain that: The TOEIC test didn’t examine course materials and was more difficult than the course examination. Participants also state that: The listening test is spoken too quickly for them to understand. Some participant’s state that: “The experiment has imposed upon our leisure time”,

More than 50 % of participants found they integrated English into everyday activities and improved ICT skills and confidence. The researcher asks participants to come next week to complete the speaking test and attitude interview.
Week 17/ 24-09-12 (Post–test, 2nd week, Interviewing)

Participants who missed the website evaluation or any previous activities were contacted by phone, e-mail and/or other students to participate today’s tasks. Therefore, participants absent from previous lessons complete the post-course attitude survey, post-test: listening, reading and writing and any outstanding work. Dr. Lumyai Singsook, a course instructor, facilitates these tasks.

Researcher conducts semi–structured interview with participants. Participants perform the speaking skill post-test with a native English speaker. Participants complain they must wait too long to finish the speaking test as the process takes a long time, many participants complete this task after class in their own time.

The gathering of outstanding data was completed approximately two weeks later. Some participants are uncomfortable with the audio recording of the speaking skill post-test and refuse to be recorded, however all speaking test are completed.

Researcher thanks all participants and instructors for supporting her through to the end of the experiment. Finally, it’s the end of the semester; definitely participants, instructors and the researcher really feel relieved. The researcher is really grateful to all participants, instructors and supporters, such as the English native speaker and ICT specialists who helped the researcher reach this milestone!

Summary

At the beginning of the semester participants engaged the experiment with nervousness and curiosity. After ICT training and interacting online for a while, participants seemed to enjoy their experience and appreciate ICT as learning tools. During the experiment, participants enjoyed researching information, surfing the internet and especially, they loved to interact with the social media. Participants eagerly updated their status, posts, tweets, shared photos or links to web pages or media content to impress and share contemporary views, fashion, news and social activities. To sum up, from the beginning through the end of the experiment, the importance of ICT and English language for on-line study and worldwide social interaction grew with almost all participants.

The control group / Traditional class

Week 1/ 31-05-12 (Orientation)

Three classes of students attend the lecture, instructor welcomes students and conducts the orientation and explains their role as lecturer. The researcher addresses the lecture and explains the course outline, the research’s aim and the research process. Students who decide to participate in the experiment sign the consent form. Students who do not participate in the experiment are excused from the lesson.
Some students ask for more details of the experiment. Students express their concerns that the researcher’s observation might affect their behaviour or their grade. The researcher assures students that the experiment will not affect their grade.

The instructor conducts the whole class through the pre-test listening examination. Participants listen to recorded questions and complete the answer section of the examination. The instructor facilitates the reading and writing assessment. Meanwhile, the researcher observes and assesses participants speaking skill individually through an interview with native English speaker. The researcher notes participants in control group and the experimental group experience the same difficulties with the listening test, for instance: “It’s hard to understand”, “It’s too fast”

All students complete listening, reading and writing pre-test. Half the class complete speaking skill assessment within class time, the balance complete the speaking skill assessment after class in their own time. The researcher found that participant’s Thai language interferes with English language use, not only in writing tasks but also speaking.

A majority of participants are visibly nervous and excited. Students display a willingness to participate in the study by staying back after class. Participants were informed to attend basic ICT training in the computer laboratory next week.

Week 2/ 06-06-12 (ICT Training)

Researcher, Instructor and ICT specialists arrive at the lab early and plan the ICT training for the day. Researcher and ICT specialists review the objectives of the course and the basic ICT skills that participants will require. Instructor’s role as facilitator, researcher observing and assisting where necessary, ICT specialists instruct participants in the use of computers; Participant attendance was checked at the beginning of the period. There are 139 participants so the training requires 3 computer rooms. Three ICT specialists conduct the training. All participants acquire e-mail addresses and the researcher introduces participants to the course web site www.bl-ict-efl.com.au, the university website www.sskru.ac.th, also the English department website www.sskru.english.ac.th. Participants are encouraged to search the Course, University and English department web sites and are guided to social network sites from the course web site and urged to join: Facebook, Twitter, Skype.

Participants are excited to sign up for social media such as Facebook. Most students like Facebook as they can easily interact with others. Some participants are assisted by ICT specialists and classmates. Participants post status information, request friends and accept friend requests. A minority of participants sign up for Twitter and follow the researcher and others. Participants state that it’s not easy to understand tweeter, and take awhile to learn how to tweet.

Observing twitter followers, the researcher found that participants prefer to write in Thai even though they follow and befriend English speakers. Participants do not
communicate much in English, just tweet short, simple English phrases and greetings or they re-tweet or quote tweets in English they like. Skype is a new and exciting website to most participants because they can see and communicate with others online. At first participants have just friends, instructors and the researcher to make contact with.

Participants seem genuinely interested in the ICT training. Many participants are computer literate and don’t need much help. Approximately 80 % of students complete set tasks. A problem encountered by participants using social media is connection failure. Also participants aren’t fluent in English.

Week 3/ 13-06-12 (Unit 1: Hello everybody!)

Instructor in role as lecturer, researcher observing and assisting as needed; face to face class room lecture, instructor checks class attendance, all participants attending. Teacher gives some background as to the lesson plan of unit one. Participants mostly listen quietly, responding the instructor’s questions nicely. Mostly, participants talk with their classmates or their own group, sometimes looking at the researcher or the instructor to check if they’ve drawn our attention.

Participants complete several tasks from the text book. The instructor then explains the answers to all tasks’ along with recording participant’s marks. This process takes up two of the three periods.

An assignment is set for participants organised into small groups. Groups are required to find relevant research sources and give a presentation on the topic: Countries. Participants work in groups and are required to reference text books for information related to the topic. Participants are guided in preparing presentations from the course text book.

Some groups move to study in the library, some groups go to the computer room; some groups discuss and prepare the task in the classroom. Instructor remains in the classroom until the time is up. The researcher joins the majority of participants in the library to observe participants researching topical information. Participants search from books and the internet with their workgroups, when they need some help they come to ask the researcher.

Week 4/ 20-06-12 (The Presentation)

Presentation of set assignment: Countries; before the presentation, each group assembles to organize materials. Participants seem nervous to present assignments, though most are excited to present their projects as a group in front of the whole class, as if going on stage to perform for the royal family.

Some groups use Power point presentations, most groups use posters, maps, photos, and oral presentation. Participants share presentation roles: greetings and introduction, presentation components, questions and answers. They don’t appear to relax until they’re
finished their presentation and then settle down to listen to other presentations. The presentations keep the participants alert and interested and also entertained the instructor and researcher even though the presentations were narrow and visually limited.

The whole class participates in presentation question and answer component using both Thai and English languages. The learning atmosphere is fun and active. Participants engage in class discussion, information and resource sharing, facilitated by the instructor. The learning process goes on quite well, participants look so happy with the success of their tasks.

Week 5/ 27-06-12 (Unit 2: Meeting people)

Instructor’s role as facilitator; This unit focuses on meeting people so learners activities relate to the topic. Instructor welcomes students then checks class attendance. Participants attend a lecture on the topic. Instructor facilitates real-time communication in the classroom; participants are encouraged to use English regularly in the day’s activities.

Participants conduct activities in groups and pairs. They look alive and enthusiastic during several drills in different contexts. Participants communicate using both Thai and English languages.

Participants complete exercise from the text book. They like to discuss topics with their friends. Few students do the task alone. Groups seem more confident to discuss topics and find the same or quite similar answers.

Participants mostly discuss topics with their friends rather than the instructor. Participants seem conscious of the researcher observing, though not as obviously as the first week, seems like they’re checking whether the observer is still observing them or not?

Assignment set for participants: find more information about the topics and complete unfinished tasks set from the text book.

Week 6/ 11-07-12 (Unit 3: The world of work)

Teacher’s role as facilitator and lecturer, the researcher assists in the learning process; participants attend the lecture, urged to use English regularly in their daily activities. The instructor guides participants through previously set activities, asks several questions on each topic. Participants answer, edit and check-over their homework.

After the class face to face discussion the instructor explains the Unit topic context then participants begin exercises set out in the text book. Instructor simplifies text book instructions after students express confusion with the text. Researcher assists with participants’ enquiries during class activities.

Instructor facilitates Assignment set from the text book: Jobs. Participants collaborate in small groups to research and prepare a presentation about a possible future
vocation. Preparations take place in the classroom then participants, including instructor and researcher, move to the library to search for resources. Researcher observes and assists participant’s source and prepare assignment materials. Participants seem to enjoy the researching process and working independently. Students look happier studying outside classroom. The researcher concludes the observation when the period ends while most participants continue their research in the library.

Week 7/ 18-07-12 (Unit 4: Take it easy!)

Instructor’s role as facilitator, researcher observing and assisting; the instructor reviews the last lesson. Participants then present their projects: Careers. The presenters communicate in both Thai and English. Participants are excited to present their projects as a group. Some groups use Power point presentations, most groups use posters, photos, and oral presentation. Participants share presentation roles: greetings and introduction, presentation components, questions and answers. Participants communicate using both Thai and English languages. The learning activities are fun and dynamic. Some presenters look nervous, some look confident, that may be their personality or from practice. Mostly participants appear relaxed after they conclude their presentation. Researcher notes most participants need more practice standing up and speaking in front of a crowd.

Next, participants practice real-time communication in the classroom then complete activities about leisure set out in the text book. Participants are reminded to prepare for the midterm test, planned for next week.

Week 8/ 25-07-12: Midterm examination

Week 9/ 01-08-12 (Unit 5: Where do you live?)

The instructor’s role as facilitator, the researcher observing and assisting as usual; after the instructor checks class attendance, he gives some background to unit 5: Where do you live? There is a whole class pronunciation exercise based on the topic. Participants then form pairs and small groups and begin activities set from the text book. Instructor involved in the activities. While participants conduct activities they look alive and enthusiastic completing several exercises on the topic in different contexts. Participants communicate using Thai language with each other and English language during activities. Students like to laugh when they make a mistake and this enlivens the class.

Participants research individual activities related to the topics: housing, things, places, and directions. Participants complete exercises set from the text book facilitated by the instructor, while the researcher assists students wherever she can throughout the period. At the end of the class, participants are set an assignment on the topic to be handed in to the instructor.

Week 10/ 08-08-12 (Real time communication)
Teacher’s role as facilitator, researcher observing and assisting: participants attend a lecture, instructor checks participant’s attendance then reviews the previous lessons activities. Participants submit previously set assignment. Instructor informs noncompliant participants of time limit.

Instructor facilitates class discussion and real-time communication in the classroom covering the previous topics: housing, things, places. Participants give individual spontaneous talk describing where they live, with whom, and their neighbourhood. The researcher notes participants stand up and speak to the class with more confidence and self-esteem. All speakers try to use English language as much as possible but revert to Thai language when they struggle in explanation. The learning process progresses well, participants are enthusiastic and attentive, instructor well organized, the researchers input minimal.

Week 11 (15-08-12)  (Unit 6: Can you speak English?)

Teacher’s role as facilitator, researcher observing and assisting: the instructor checks participant’s attendances then gives some background to unit 6: Can you speak English? Participants listen quietly and rarely interrupt or question the instructor, students mostly ask questions amongst themselves when they become confused or lose their way. The students sitting at the back of the class appear to lose concentration more quickly than students at the front of class. Unfortunately, some participants take a cat nap during the lecture.

When the class seem bored to sleep, the instructor stimulates participants through activities set out from the text book: research topics relevant to: Countries and Language. Participants conduct activities in groups and pair’s, they look active and enjoy exercises on topics in different contexts. Participants communicate using Thai language with their classmates and English language to perform activities. Participants become more stimulated during the activities and rouse their classmates. At the end of the class, instructor facilitates an assignment: Participants to prepare employment application and cover letter to be submitted next class.

Week 12/ 22-08-12 (Integration)

Teacher’s role as facilitator, researcher observing and assisting: instructor checks participant’s attendance then ask the class to submit previously set assignment: employment application and cover letter. Instructor informs noncompliant participants of time limit. Participants who arrive late apologise, report their attendance and find a seat. Students often worry about class attendance as class absences can affect up to 10% of their grade.

Participants pair off and practice greeting dialogue relevant to set telephone conversation scenarios. Participants conduct activities in groups on topic: Words that sound the same, facilitated by the instructor. Participants communicate using both Thai and
English languages as usual. Instructor uses the CD player to present listening skill exercise on the topic: Words that sound the same.

Instructor uses power point presentation to lecture on the topic: Employment application and cover letter. Participants seem interested in the power point presentation. Students then complete tasks in their text books, hand in completed work and finish the class one and all.

Week 13/ 29-05-12 (Unit7: Then and now)

Teacher’s role as facilitator, researcher assisting and observing; firstly, instructor checks participant’s attendances then he greets the class and gives some background to unit 7: Then and now. Participants listen and respond to instructor wherever necessary. Researcher notes that participants who are mindful of the instructor are more likely to answer or respond to almost every question or comment. However, there seems to be no participants not listening or responding when prompted.

During the next period the instructor tries to involve participants in the activities as much as possible. Participants pair up and conduct text book activities relating to the topics: Verbs, Time Expressions, Spelling and Silent Letters. Pairs of students enjoy working on real-time communication in different contexts within the classroom.

Participants utilise text books to research topics relevant to: time expressions, vacation and special occasions. Participants complete exercises set from the text book. Participants communicate using both Thai and English languages. At the end of the class, participants are set an assignment to prepare a presentation on a topic: vacation, special occasions.

Week 14/ 05-09-12(Presentation)

Teacher’s role as facilitator, researcher observing and assisting; firstly, instructor checks participant attendance, greets the class then reviews the previous week’s instruction and activities. Next, participants present previously set assignment to class and interact with class members by way of question and answer session. The classroom atmosphere is fun, lively and attentive. Facilitated by the instructor, students take over the class proceedings in the role of key-speaker or presenter. Participants are excited to present their projects as a group. Some groups use power point presentations, most groups use posters, maps, photos, and oral presentation. Participants share presentation roles: greetings and introduction, presentation components, questions and answers. The researcher notes a competitive spirit developing between the study groups. Questions from the audience are thoughtful and succinct, requiring presentation group members to help each other answer correctly. Therefore the competition between each group’s performances made for an enthusiastic, spontaneous class. However, presentations are quite narrow and visually limited in comparison with the experimental group’s power point presentations. The whole class
participants in presentation question and answer component using both Thai and English languages. To sum up, the learning atmosphere is fun and active. At the end of the class, participants are reminded to prepare for the final examination and the experiment post–test.

Week 15/ 12-09-12 (Final Examination)

Final examination, testing based on the curriculum, objectives and contents.

Week 16/ 19-09-12 (Post-test. 1st week)

Participants complete post-test: listening, reading and writing, conducted by the instructor and the researcher. Participants complete the listening test at the same time then continue on with reading and writing. The researcher notes most participants produce longer, better written paragraphs than the pre-test. Some participants complain that: “The TOEIC test didn’t examine course materials and was more difficult than the course examination”, “The listening test is spoken too quickly to understand” The researcher explains to participants that TOEIC is an international standard examination designed to test participants English skills to an international standard, with the results able to demonstrate participants English learning level on a world-wide scale.

Silence is an effective technique, during the speaking tests the researcher found there were several times when the participant cut an answer off and then was silent. At these times the researcher remained silent too; most times the student added something more. On this point, the researcher thinks it’s important to allow the interviewee to talk and sometimes remain silent, thinking and gathering they’re thoughts, especially if that person is somewhat uncomfortable with the idea of talking.

The researcher explains to participants that English speakers’ accents vary widely and differ from Thai’s who speak English for several reasons. However, if learners practice more and familiarise themselves with different accents they will understand conversations, such as in the listening test, more easily. After that, the researcher asks participants to come next week for the speaking test.

Week 17/ 26-09-12 (Post-test, 2nd week)

It is the end of the semester, therefore only some participants who missed out on sections of the study are required to attend the lesson. Participants absent from last lesson complete the post-test: listening, reading and writing conducted by the instructor. The researcher notes a few participants don’t take the tests so seriously, possibly because the results don’t affect their grades. Anyway, they co-operate to assist the researcher complete the experiment.

Participants perform the speaking skill post-test conducted by the native speaker, under observation of the researcher. Many participants complete this task after class. Speaking tests take a long time for several reason such as: participant don’t answer the
question straight away or they need a prompt to get an answer, some students need more time to think or keep silent during the interview. Remind about timing, some participants complain of time consuming such as: “I wait too long to finish the speaking test as the process takes a long time, and there are so many students”

The gathering of outstanding data was completed approximately two weeks later. Some participants are uncomfortable with the audio recording of the speaking skill post-test and refuse to be recorded: “I don’t want to be recorded”, “I feel uncomfortable to be recorded”, “I don’t like to be recorded”

The researcher respects the student’s decision, however all speaking test are completed. Interestingly, at the end of the interviews, participants mostly wanted to know what the researcher would do with the results of the data collection. The researcher thanks the instructor and participants for completing the tests in their own time. Researcher collects and categorises data from this point to be set aside for the next step.

The researcher thanks all participants and really appreciates the co-operation of Sisaket Rajabhat University and the efforts of all learners, instructors, volunteers and ICT specialists for their generous assistance throughout her experiment!