

**FACTORS AFFECTING NORMALIZATION OF CALL
IN SENIOR HIGH SCHOOLS IN THE ETHNIC AREAS
OF THE PEOPLE'S REPUBLIC OF CHINA**

Bi He

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the Degree of Master of Arts in English Language Studies**

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ปัจจัยที่ส่งผลต่อการใช้คอมพิวเตอร์ช่วยสอนในโรงเรียนมัธยมศึกษาตอนปลาย
ในเขตกลุ่มชาติพันธุ์ของสาธารณรัฐประชาชนจีน

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PEOPLE’S REPUBLIC OF CHINA**

Suranaree University of Technology has approved this thesis submitted in partial fulfillment of the requirements for a Master’s Degree.

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งานวิจัยนี้มีวัตถุประสงค์เพื่อสำรวจทัศนคติของครูผู้สอนภาษาอังกฤษเกี่ยวกับการใช้
คอมพิวเตอร์ช่วยสอนและปัจจัยหลักที่มีผลต่อการใช้คอมพิวเตอร์ช่วยสอนในโรงเรียน
มัธยมศึกษาตอนปลายในเขตของกลุ่มชนปวยีและแม้วในเขตปกครองตนเองเฉียนซีหนาน โดยการ
ส่งแบบสอบถามครูผู้สอนภาษาอังกฤษจำนวน 340 คน และสัมภาษณ์ครูผู้สอนภาษาอังกฤษ
จำนวน 42 คน ผลวิจัยชี้ให้เห็นว่ามีการใช้คอมพิวเตอร์ช่วยสอนในชั้นเรียนวิชาภาษาอังกฤษใน
ระดับสูง และครูผู้สอนภาษาอังกฤษโดยส่วนใหญ่เชื่อว่าการใช้คอมพิวเตอร์ช่วยสอนสามารถ
พัฒนาการสอนในชั้นเรียนได้แม้ว่าครูผู้สอนภาษาอังกฤษจะไม่เชื่อว่าคอมพิวเตอร์สามารถทำทุก
อย่างได้ในชั้นเรียน นอกจากนี้ผลวิจัยยังแสดงว่าห้องเรียนสื่อผสมมีจำนวนไม่เพียงพอในหลาย
โรงเรียนในขณะที่ครูส่วนใหญ่มีคอมพิวเตอร์ที่บ้าน และถึงแม้จะมีบุคลากรด้านเทคนิคเพื่อ
บำรุงรักษาอุปกรณ์และช่วยครูและนักเรียนแก้ปัญหาเชิงเทคนิคก็ตาม ครูผู้สอนภาษาไม่มีความรู้สึก
ไม่สะดวกในการใช้คอมพิวเตอร์ช่วยสอนเนื่องจากต้องจองห้องเรียนล่วงหน้าหากต้องการใช้งาน
ผลวิจัยอีกประการหนึ่งคือถึงแม้ว่าครูผู้สอนภาษาไม่มีปัญหาเกี่ยวกับการใช้โปรแกรมพื้นฐานใน
การสอนแต่ครูผู้สอนภาษามีความต้องการให้มีการสอนความรู้เกี่ยวกับคอมพิวเตอร์เนื่องจากอาจจะ
มีปัญหาด้านเทคนิคในระหว่างการสอน ในด้านปัจจัยเรื่องรูปแบบพฤติกรรมของนักเรียนในชั้น
เรียนที่ใช้คอมพิวเตอร์ช่วยสอน ครูผู้สอนภาษาส่วนใหญ่รายงานว่านักเรียนที่เรียนในชั้นเรียนที่ใช้
คอมพิวเตอร์ช่วยสอนมีพฤติกรรมแตกต่างไปจากในชั้นเรียนปกติ ครูสอนผู้ภาษาเชื่อว่ารูปภาพ
เสียงและการ์ตูนจากการนำเสนอในโปรแกรมPowerPointสามารถดึงดูดความสนใจของนักเรียนได้
ดีกว่าบทเรียนที่มีแต่ข้อความเพียงอย่างเดียว กล่าวโดยสรุปคือผลของงานวิจัยชี้ให้เห็นว่าปัจจัย
หลายอย่าง อาทิ แนวคิดของครู การสนับสนุนจากสถานศึกษา ความรู้ความสามารถเกี่ยวกับ
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NORMALIZATION OF CALL/ SENIOR HIGH SCHOOLS/ETHNIC
MINORITY AREAS

This study aimed at investigating teachers' opinions on normalization of Computer Assisted Language Learning (CALL) and identifying the major factors affecting the normalization of CALL in senior high schools in Qianxi'nian Buyi and Miao Autonomous Prefecture (QBMP). A questionnaire was administered to 340 English teachers and a semi-structured oral interview was conducted with 42 of them. The data revealed a high availability level of computers in the English classrooms in those senior high schools involved. As to the teachers' opinions on CALL, most participants were found to believe that computer use could improve classroom instruction although they did not believe that computers meant everything in classroom instruction. The data also pointed to the inadequacy of multimedia classrooms in many schools despite the fact that most teachers had personal computers at home. Although technical support personnel were available to maintain the facilities and help teachers and students solve problems they might encounter, the teachers found it inconvenient since they had to make advanced reservations of a room if they planned to use it. Another finding was that, technically, while most of the teachers had no problem using the basic software in teaching, there was a need for professional instruction on computer competency since there might be occasional

technical failures. In addition, in terms of student behavior patterns in the multimedia classroom, most teachers reported that the students behaved rather differently when studying in a multimedia classroom than in a regular classroom. The teachers believed that pictures, sounds and cartoons in PPT presentations could better motivate the students than text alone. In sum, these findings indicated that many factors, including teachers' personal conceptions; institutional support; computer competency and teacher training; teaching methodology and learner factors, had an effect on affect the normalization of CALL in ethnic minority areas.

School of English

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
AMHSA.....	Albert Municipal Health & Safety Association
CAI.....	Computer-aided Instruction
CAL.....	Computer-assisted Learning
CALI.....	Computer-assisted Language Instruction
CALL.....	Computer-assisted Language Learning
CALT.....	Computer-assisted Language Teaching
CD-ROMs.....	Compact Disk Read-Only Memory
CMC.....	Computer-mediated Communication
CMI.....	Computer-mediated Instruction
DVD.....	Digital Videodiscs
EFL.....	English as a Foreign Language
ELT.....	English Learning and Teaching
IAS.....	Item Analysis
ICALL.....	Intelligent Computer-assisted Language Learning
IOC.....	Item Objective Congruence Index
MOE.....	Ministry of Education of PRC
NBS.....	National Bureau of Statistics of China
NEC.....	The New English Curriculum

LIST OF ABBREVIATIONS (Continued)

PLATO.....	Programmed Logic/Learning for Automated Teaching Operations
QBMP.....	Qianxi'nan Buyi & Miao Prefecture
SPSS.....	Statistics Package for Social Science
TEFL.....	Teaching English as a Foreign Language
TELL.....	Technology Enhanced Language Learning
WELL.....	Web Enhanced Language Learning

CHAPTER 1

INTRODUCTION

This chapter gives a brief introduction to the study which focuses on senior high school contexts in a very special ethnic region — southwest of Guizhou province in China. It covers the background, the general statement of the problems, the purposes, research questions, the significance of the study, and a summary of this chapter.

1.1 Background

It is known that China is a unified, multi-national country with 56 nationalities among which Han Chinese account for 91% of the Chinese population and the other 55 ethnic groups make up the remaining 9%. Every ethnic group has its own language, unique cultural and educational background. According to the constitution, regional autonomy is practiced in areas where people of ethnic minorities live in compact communities. This is one of the basic political systems of China. There are 30 ethnic autonomous prefectures in China. Guizhou is a multi-national province with three ethnic autonomous prefectures. Qianxi'nan Buyi and Miao Autonomous Prefecture (QBMP) is the youngest prefecture, located in south-west of Guizhou province. It has the population of 3,140,000 people, among which ethnic minorities account for 42.47% (National Bureau of Statistics of China, 2008). There are 37 senior high schools from seven counties and a capital city in Qianxi'nan Buyi and Miao Autonomous Prefecture (QBMP), most of which are for ethnic minorities.

The Chinese government attaches great importance to the development of education. Reforms and measures have been taken during the process of the development in various aspects on education. Increasing enthusiasms have been put in English learning and teaching in China as well. In accordance with the actual conditions in the ethnic areas, the Chinese central government has worked out and adopted a series of policies and measures to assist these areas in developing their economies, and to mobilize and organize the developed areas where Han people live to support them. In 1999, the central government made an important decision to implement the Great Western Development Strategy (GWDS). The policy covers six provinces (Guizhou is one of them), five autonomous regions, and one municipality (Sims & Schiff, 2000). The main components of the strategy include the development of infrastructure, enticement of foreign investment, increased efforts on ecological protection, promotion of education, and retention of talent flowing to richer provinces. Relatively, many measures have been taken to improve English Language teaching from primary school to university in those areas where the policy of GWDS covers.

Meanwhile, with the development of Information Technology, modern teaching techniques involved in language teaching have become hot topics. Hence, more and more attention has been paid to Computer Assisted Language Learning (CALL). Enhancing language learning with technology and the Internet has been written in a national new English curriculum (NEC) to guide English teaching and learning in China and a series of teaching reform followed respectively (Bai,2008). Developed regions are pioneer practitioners, and the less developed regions, like ethnic minority areas, have made great efforts to make CALL work and benefit English teaching and learning. QBMP is one of them in trying to integrate CALL in ELT.

1.2 General Statement of the Problem

1.2.1 English Teaching and Learning (ELT) in Ethnic Regions

Like other remote mountainous areas, English learning and teaching in QBMP is quite different from other developed areas in China.

Firstly, there are not enough qualified English teachers in QBMP. In senior high schools, not all English teachers are English majors. Therefore, they lack of techniques, English skills and knowledge in teaching English.

Secondly, most senior high school students' English proficiency levels in QBMP are very low. For the ethnic students, they learn English as a foreign language. They have their own ethnic languages in spite of Chinese Mandarin, on which they will spend time to learn as well.

Thirdly, there are not enough school facilities in many senior high schools in QBMP. To improve English teaching and learning in ethnic areas, necessary teaching facilities such as language labs, sufficient computers, and the Internet are needed.

Fourthly, many teachers do not know how to make good use of the facilities related to "technology" and they have negative feelings of those difficulties they meet.

As a result, English teachers in QBMP have encountered many problems/difficulties in teaching English as a foreign language from primary schools to senior high schools, even though the prefectural government has taken measures on how to improve English teaching. Many factors influence language learning and teaching in QBMP. As for the English teachers, they do not have appropriate methods to improve their teaching; as for the ethnic students, they lack experience of

autonomous learning in English. Ethnic cultures might interfere the students' English learning as well.

1.2.2 Methodology and Technology in English Teaching in Ethnic

Regions

As we know, successful TEFL depends more and more heavily on methodology and technology in teaching nowadays. Computer technology plays an increasing role in teaching and learning in the schools at all levels, exceeding the current knowledge of effective use of technology in the schools (Allen, 2001). In China, teachers in most of senior high schools conduct various teaching methodology by making use of technologies. However, they fail to integrate the methods with relevant technology effectively. They overlook the interactions between the students and teacher, and between students as well when they try hard to use so-called technology (Guan, 2008). Therefore, for the modern technology, they still have a very long way to go in ethnic areas today. Some teachers are not aware of the real concepts of CAI or CALL even though some teachers in the capital city — Xingyi — can make CALL work well in EFL classes.

1.2.3 Research in Normalization of CALL in Ethnic Regions

Past years have seen an increasing enthusiasm on the research studies on CALL. Many research studies (James, 1996; Qayyum, 2008; Shang, 2007) were focused on CALL's applications in four skills (listening, speaking, reading and writing) and most of them made great successes. A few studies were on the normalization of CALL when technology is fully integrated in language learning and it is hardly even recognized as a technology (Bax, 2003; Chambers & Bax, 2006). However, few research studies are focused on the normalization of CALL in China. It is a research gap in ethnic areas.

1.3 Purposes of the Study

With the stated problems in 1.2 above, the aim of this study was to investigate overall picture of the normalization of CALL in senior high schools in QBMP. The purposes of this study were as follows:

- 1) To explore teachers' opinions on CALL in QBMP.
- 2) To find out the problems and factors affecting the normalization of CALL in Ethnic Minority Areas.

1.4 Research Questions

In order to accomplish the purposes of the study, the following two research questions were addressed:

- 1) What are teachers' opinions on CALL?
- 2) What are the problems and factors affecting the normalization CALL in Ethnic Minority Areas?

1.5 Significance of the Study

Based on the perceived questions and problems of normalization of CALL in Ethnic Minority Areas, the significance of the study was as follows:

This study made an attempt to help the researchers and scholars or relevant stakeholders to find out the real problems existing and enhance the development of learning and teaching English in QBMP, and even in other ethnic regions in China. The awareness and efforts to solve the problems would enable the senior high school teachers to improve their English teaching so that they could make greater contributions in normalization of CALL further in their career.

As Thompson, Schmidt and Davis (2003) stated, technology had the potential to change the way we think about how teachers teach and students learn. It is also recognized that teachers play a major role in the successful use of technology (Yildirim & Kiraz, 1999). The positive opinions perceived by the English teachers would undoubtedly make the progress of normalization of CALL go further in order to enhance ELT with technology more effectively in Ethnic Minority Areas.

Moreover, the study would raise the awareness of more researchers to focus their research on the normalization of CALL among different ethnic groups so as to improve ELT in ethnic regions in China.

One more important issue was that most of the students in the researchers' university — Xingyi Normal College for Nationalities — would become middle school English teachers who could not avoid facing CALL in their career. This research would be beneficial for them to know and try to solve the potential problems before they begin their service in English teaching.

1.6 Definitions of Terms

The following definitions were used in this study:

1.6.1 Ethnic autonomous prefecture

The ethnic autonomous prefecture is one of the important ethnic policies in China, which allows the people in ethnic regions to have a number of autonomous rights. There are 30 ethnic autonomous prefectures in China; Qianxi'nan Buyi and Miao Autonomous Prefecture is one of them.

1.6.2 New English Curriculum

New English Curriculum (NEC) is a new nation-wide curriculum

(English language benchmarks) for basic English teaching and learning in China. The curriculum is divided into nine levels which range from primary school, junior high school to senior high school.

1.6.3 Senior High School

Senior high school is included in Middle School which refers to both junior high school and senior high school in China, from grade seven to 12.

1.6.4 Item-Objective Congruence Index (IOC)

Item-Objective Congruence Index (IOC) described by Hambleton and Rovinelli (1986) is utilized to assess the degree to which an item has validity. The formula ($IOC = \sum R / N$) is based in the assumption that, in the ideal case, an item would be matched with only one objective of the set.

1.6.5 Experimental School

In China, middle schools can be divided into two types: experimental schools and regular schools. Experimental schools are schools where pedagogical innovations are first tried out. Generally, experimental schools have more financial support and better teaching facilities than regular schools.

1.7 Summary

This chapter gave a brief introduction to the study. It first described the background of the study. And then, the general statement of problems in TEFL in QBMP, the purposes of the study, research questions, the significance of the study, and some definitions of frequently used terms in the study were briefly discussed. In the next chapter, a review of the related literature on research and studies of CALL in the present study would be presented.

CHAPTER 2

REVIEW OF RELATED LITERATURE

This chapter discusses the relevant research on Computer-assisted Language Learning. Three parts are classified: 1) history of CALL; 2) research studies of CALL in EFL context; and 3) research studies of English learning and teaching in the field of CALL in China.

2.1 History of Computer-assisted Language Learning (CALL)

2.1.1 What is CALL?

2.1.1.1 Definition of CALL

In Longman Dictionary of Language Teaching and Applied Linguistics, Computer-assisted language learning (CALL) was defined as “the use of a computer in the teaching or learning of a second or foreign language” (Richards & Schmidt, 2003:101). CALL can take the form of activities which collimate learning through other media but which use the facilities of the computer, activities which are extension or adaptation of print-based (or class-room based) activities and activities unique to CALL (Richards & Schmidt, 2003). Levy (1997:1) defined CALL as “the search for and study of applications of the computer in language teaching and learning”. The subject CALL is interdisciplinary in nature, and it has evolved from early efforts to find ways of using the computer for teaching or for instructional

purposes across a wide variety of subject areas. Moreover, as Beatty (2003) stated, Computer-assisted language learning, CALL, was a young branch of applied linguistics and was still establishing its directions. To accommodate the changing nature of CALL, Beatty (2003:7) defined CALL as “any process in which a learner uses a computer and, as a result, improves his or her language”. As this definition implies, CALL covers a wide range of activities which makes it difficult to describe as a single idea or simple research field. Issues of materials design, technologies, pedagogic theories and models of instruction have come to be encompassed in the study and research of CALL.

From all those definitions, we can see that CALL is an interdisciplinary term which may include a series of activities concerning language learning by using computers. Any research or study of the applications of computers in language teaching and learning can be relevant to CALL. Furthermore, CALL is not a single idea and it is establishing its directions due to its features in material design, technologies, pedagogical theories and modes of instruction.

2.1.1.2 Related Terms of CALL

The term CALL is related to several peripheral terms, some of which have overlap and some of which differ. It is important to recognize the terms in the research literature though some of them are disappearing. For example, Computer-aided Instruction, CAI, refers to learning at the computer, but not necessarily with a language focus; Computer-assisted learning, CAL, may refer to the learning of any subject using a computer. It emphasizes the learner, in contrast to CAI, in which the term *instruction*

suggests a teacher-centered approach. CALI stands for Computer-assisted Language Instruction, and CALT stands for Computer-assisted Language Teaching. Other terms like CBT (Computer-based Training), CMC (Computer-mediated Communication), and CMI (Computer-mediated Instruction) might still appear in the research literature. Moreover, ICALL, which stands for Intelligent Computer-assisted Language Learning, describes software programs which attempt to customize feedback features that meet the needs of individual learner's input. TELL which stands for Technology Enhanced Language Learning, refers to any technology used in the classrooms such as videos, tape recorders or even entire listening labs and WELL which is Web Enhanced Language Learning refers to CALL that focused on the WWW as the medium for instruction. These terms may indicate different meanings of technology enhanced language learning because of the different time they came into practice.

2.1.2 History of CALL

Computers have been used in language learning and teaching for about more 40 years till now. Several scholars divided the history of CALL into phases or pedagogical approaches according to their own theory.

2.1.2.1 Warschauer and Healey's Classification of the History of

CALL

Warschauer and Healey (1998) divided CALL roughly into three main stages, namely, behavioristic CALL, communicative CALL, and integrative CALL. Each stage parallels to a certain technology to some extent as well as a certain pedagogical approach.

Behavioristic CALL, according to Warschauer and Healey (1998), conceived in the 1950s and implemented in the 1960s and 1970s, could be considered a sub-element of the broader field of computer-assisted instruction. This model of CALL, informed by the behaviorist learning model, made a feature of repetitive language drills, referred to as drill-and-practice. In this paradigm, the computer was regarded as a mechanical tutor that never got tired or judgmental and made it possible for students to work at their own paces.

Likewise, Warschauer and Healey (1998) identified that communicative CALL, the next stage of CALL, emerged in the late 1970s and early 1980s. At the same time, the previous stage, behavioristic approaches of language teaching were fading away both in theories and pedagogic. As new personal computers were creating greater possibilities for individual work, proponents of communicative CALL stressed that computer-based activities should focus more on using forms than on forms themselves. Stately, communicative CALL corresponded to cognitive theories which stressed that learning was a process of discovery, expression, and development. During this period, popular software included text reconstruction programs and simulations were developed respectively. Many proponents of communicative CALL viewed the focus of this model was not so much on what learner did with the computer, but rather what they did with each other while working at the machine.

However, criticism came to communicative CALL as well in late 1980s to early 1990s. Many teachers were paying more and more attention on a

more social or socio-cognitive view of teaching than a cognitive view. Approaches as task-based, project-based, and content-based all tried to integrate learners in authentic environments, and also to integrate the various skills of language learning and use. This led to a new perspective, namely, integrative CALL, which seeks both to integrate various skills and also integrate technology fully into language process. With these integrative approaches, learners learn to use technological tools as an ongoing process of language learning and use.

Briefly speaking, as Warschauer and Healey (1998) concluded, if the mainframe was the technology of behavioristic CALL, and the PC (personal computers) the technology of communicative CALL, the multimedia networked computer was the technology of integrative CALL. This states the features of CALL in each stage.

2.1.2.2 Ken Beatty's Classification of CALL

Scholars might have different classifications of the history of CALL. Beatty (2003) said that early first-person made a statement of the history of CALL were something risky because advances in technology had made some parts of early books on CALL irrelevant, entire books had been thrown away by publishers and valuable information lost except to those able to access university library collections. Despite all that, Beatty (2003) divided the history of CALL into three phases as well: CALL in the 1950s and 1960s; CALL in the 1970s and 1980s; and CALL in the 1990s.

During 1950s and 1960s, computers began to be used in language learning and teaching. As stated in Beatty's book, "The first computers used for language learning were large 1950s' mainframes that were only available at research facilities on university campuses" (Beatty, 2003:16). At that time, learners had to leave the classroom and travel to the computer. The applications used on the Programmed Logic/Learning for Automated Teaching Operations (PLATO) system were among the first and most significant ones for the teaching and learning of language at the computer. The earliest language-learning programs were strictly linear and the tasks designed for them did not take advantage of special features of the computer. As a pioneering platform, PLATO played an important role as setting a standard for educational computing, influencing a generation of educational software developers. Then, the practice of simulations put the special nature of the computer into action by creating opportunities for learners to explore multiple links and see the consequences of different actions and inputs. Unsurprisingly, such use of scenarios of simulations along with authentic materials has become a common approach to learning since then.

During 1970s and 1980s, computers were classified into mainframe computers, mini-computers and microcomputers. High-end mainframe computers continued to be available and used for CALL research. One focus of CALL research was videodisc technology although the format has been largely replaced with Compact Disk Read-Only Memory (CD-ROMs) which are likely soon to be replaced by larger volume media such as Digital Videodiscs (DVD). Lots of

programs were created for language learning during this period. Some programs are: *Macario* (an early videodisc program for learning Spanish), *Montevidisco and Interactive Digame* (two programs pioneered the idea of learners making greater choices about what is to be learned at the computer), *ALLP* (The Athena Language Learning Project), *No Recuerdos* (a program that learners gather information by questioning the main character, Gonzalo), *Eliza* (a program created by Weizenbaum), *A la rencontre de Phillippe* (a program which is similar to No Recudos), and *Hypercard* (a materials authoring program which provides an influential metaphor for CALL). These programs have done their own contributions to language learning and teaching by their respective applications.

During 1990s, thousands of CALL programs were published and some of them provided an overview of the types of features likely to be offered in a multimedia CALL environment.

In the history of CALL, Beatty (2003) highlighted several developments of hardware and software and noted how the arrival of desktop computers prompted more teacher-led research. In his opinion, CALL software is stuck in a behaviourist sense partly because offering a behaviourist mode of instruction is easy for computers to do.

2.1.2.3 Bax's Classification of CALL

In his article "CALL — past, present and future", Bax (2003) gave his own ideas of grouping the phases of the development of CALL. He stated

that Warschauer and Healey's discussions of the phases of CALL showed significant differences in different publications and these inconsistencies are peculiar and avoidable though they are very important in themselves. Another doubt is that those so-called *phases* are ambiguous and the terming paradigms or perspectives add conceptual confusion. The third point he pointed out is the unclear criteria of the three categories: Behaviouristic CALL (perhaps the most plausible category), Communicative CALL and Integrative CALL (two categories are far less satisfactory).

After he analyzed Warschauer and Healey's three phases of CALL, Bax (2003) used more general terms "approaches" in stead of "phases". He called the first approach "Restricted CALL" which dominated from 1960s until about 1980 because the term "restricted" was more comprehensive, more flexible and therefore more satisfactory as a descriptor. During this period, the main content was Restricted CALL language system. The tasks were closed drills and quizzes and the types of student activities were text reconstruction, answering closed questions, and minimal interaction with other students. Teachers, whose roles were monitors, thought CALL was exaggerated, fear or awe. In this approach, the physical positions of computer were the separate computer labs where students should go and study.

He termed the second approach "Open CALL" which has lasted from the 1980s until today, with some Restricted CALL manifestations still valuable in their place, since it was relatively open in all dimensions — from the

feedback given to students, to the software types, to the role of the teacher. During this period, the content became to be Open CALL system and skills. The tasks were simulations, games and CMC (Computer-mediated Communication) and the types of student activities were interacting with the computer and some occasional interaction with other students. Teachers, whose roles were monitors or facilitators, still thought CALL was exaggerated, fear or awe. In this approach, the physical positions of computer were still the separate computer labs but perhaps devoted to languages.

The third approach, Integrated CALL, only exists in a few places and a few dimensions, but is far away from common. The content of this approach is, as he named, Integrated CALL and Integrated language skills work. Mixed skills and systems are included. The tasks within this approach are CMC, email, and any other kinds of tasks which are appropriate to the immediate needs. The students have frequent interactions with other students and some interactions with computer through the lesson. Teacher, here, can be facilitators and managers and they think that CALL is a normal part of teaching. In this so-called Integrated CALL, computers can be seen in every classroom, on every desk, and even, in every schoolbag. As Bax (2003) claimed, his above classification is more accurate as a description of what happened in the past and is happening now. This framework might allow us to define our practice in CALL in some details.

No matter how the scholars grouped the history and no matter what terms they used to name the stage of development of CALL, multifarious effect

can be identified in CALL. Numerous well-funded, large-scale projects have spread over a relatively short period of time to the population as large as Levy (1997) summarized in his book. Meanwhile, those periods of the development of CALL have been shifting from a relatively “restrictive” stage to a more “open” or “integrative” stage. However, innovations continue to be made, and the pace seems to be accelerating. Therefore, more efforts can be made to identify the fast moving of the development of CALL by practitioners and researchers of CALL. In China, increasing enthusiasms have been put on CALL and the relevant reforms seem to be accelerating as well.

2.1.3 Normalization of CALL

2.1.3.1 Concept of Normalization

Generally, normalization refers to social processes through which ideas and actions come to be seen as “normal” and become taken-for-granted or “natural” in everyday life. In Oxford Advanced Learners Encyclopedic Dictionary, normalize is explained as: “(1) (cause something to) become normally friendly again after period of dispute; (2) make (something) regular in pattern or as expected” (Oxford, 1992:611). Similarly, according to Cambridge Advanced Learner’s Dictionary, normalize means “to return to the normal or usual situation” (Cambridge, 2003:843). Accordingly, normalization means the act or process of normalizing.

In the field of Computer-assisted language learning, normalization, namely the state in which the technology is so embedded in our practice that it ceases to be regarded as either a miracle cure-all or something to be feared (Murray & Barnes, 1998). According to Bax (2003), normalization is a stage

when a technology is invisible, hardly even recognized as a technology, when computers are used every day by language students and teachers, like a pen or a book.

2.1.3.2 Concept of Normalization of CALL

When he discussed the development of CALL, Bax (2003) stated that there was a gradual awareness that previous approaches had indeed been Restricted, and that new approaches were needed in the case of Open CALL. He used the concept of “normalization” to identify the goal of CALL. However, CALL has not reached the stage of normalization when a technology is invisible, hardly even recognized as a technology as Bax (2003) said. And he assumes that CALL will reach this state when computers are used every day by language students and teachers as an integral part of every lesson.

Three advantages of the normalization of CALL were mentioned in Bax’s article. The first advantage is that the concept of normalization allows the researchers to connect with the wider literature on educational change. The second advantage is that it connects us with the wider research on innovation and change. The third one is that it offers CALL practitioners a clear aim and therefore a clear agenda (Chambers & Bax, 2006). These reasons are convincing for the researchers to put their eyes on making CALL work towards normalization.

The main obstacles might be social and human although numerous factors can be taken into consideration due to different contexts to achieve normalization. In addition, Chambers & Bax (2006) suggested to have a better

understanding of how exactly these factors interact and operate in real pedagogical contexts. By doing so, they wanted to find the ways in which different aspects, technological, administrative, social, and others interact to push forward the normalization of CALL.

It is recognized that a proper understanding of the role of technologies is essential to achieve normalization of CALL in language teaching and learning. Furthermore, the necessary equipments and technological, administrative, and social aids are fundamental to carry out the normalization of CALL in any contexts.

2.1.4 Policy of CALL in China

According to Richards & Schmidt (2003), curriculum is an overall plan for a course or program.

The educational purpose of the program, the content of the program, the teaching procedures and learning activities, the means used to assess student learning, the means used to assess whether the program has achieved its goals, and the total program of formal studies offered by a school or institution (p. 139).

In order to improve a language program, a curriculum development is usually conducted to determine what knowledge, skills, and values students learn in schools, what experiences should be provided to bring about intended learning outcomes, and how teaching and learning in schools can be planned, measured, and evaluated (Richards, 2001). Chinese Ministry of Education issued a series of English

Curriculum Requirements and improved them according to the change of relevant contexts. Computer-assisted language learning, as its important role in language teaching and learning, has been concerned in English Curriculum development from primary schools to universities in China.

In 2003, the Ministry of Education issued *College English Curriculum Requirements (For Trial Implementation)* which concerned Computer-assisted language learning, marking the beginning of a new College English teaching reform in China. The content of CALL described in *College English Curriculum Requirements (For Trial Implementation)* includes functions, characteristics, principles, concepts and relations with traditional class.

Curriculum for English Majors (CEM) issued in 2000 highlighted Computer-assisted language learning as well. It stated that modern, multivariate, and all-round teaching models should be adopted actively. Moreover, “based on the previous electronic equipments, teachers should explore and develop the Computer-assisted language learning” (Ministry of Education, 2000:54). Computer network systems, data centers, and multimedia CDs should be built gradually to provide a more flexible, convenient, practical, and wider space for students to study (Ministry of Education, 2000).

New English Curriculum (Benchmark), which covers the requirement of English teaching and learning in China from Primary School to Senior High School, interprets the benchmark from Band 1 to Band 9, with specific

requirement in each band in terms of four language skills. Students are required to reach Band 7 to Band 9 in Senior High School. In implementing suggestions part in Senior High School, the eighth one is that “teachers should make full use of modern educational technology to exploit English teaching resources, widen learning channels, improve the learning strategies, and enhance teaching effectiveness” (Ministry of Education, 2003:5). Teachers should use visual and aural techniques, such as pictures and videos, to enrich the teaching content and methods in order to promote the students’ classroom learning. Furthermore, “teachers should make good use of computers and multimedia teaching software, explore new teaching models, and promote individual study” (Ministry of Education, 2003:13). In addition, broadcasting, English newspapers, the library, and the Internet are highly encouraged to be explored and used to provide students with autonomous learning environment (Ministry of Education, 2003).

From the mentioned descriptions of English Curriculum or Benchmark in terms of Computer-assisted language learning, we can find that technology should be used and has been highlighted during the whole process of English teaching and learning in China. The attention paid into technology in English teaching and learning offered good opportunities for the development of CALL. Meanwhile, great challenges have existed for those practitioners and researchers in this interesting field of CALL.

2.2 Research Studies on CALL in EFL Context

2.2.1 Research Studies on CALL

Owing to its vital roles in worldwide language teaching and learning, CALL has continued to be an important area for research, and numerous studies have been found in the field of CALL in EFL context. Many problems occurred during the progress of the application of CALL although a lot of studies found that computers have paid great contributions to language learning and teaching all over the world. Therefore, studies might be grouped into two main issues: learners' performance and affecting factors in applying CALL in EFL context.

A lot of studies (e.g. Tsou, Wang, & Tzeng, 2006; Zeng & Takatsuka, 2009; Liu, Chen, & Chang, 2010; Futagi, Deane, Chaodorow, & Tetreault, 2008) focused on the effects of CALL in four skills (listening, speaking, reading and writing) in language learning. Programs were developed and softwares were evaluated to make CALL benefit English learning and teaching. The results indicated that CALL could be functional in four language skills in language teaching and learning if it was used properly.

While some researchers have measured computer use by reporting time teachers and pupils spend using technology (i.e. computers) in the classroom (Mathews & Guarino, 2000), a study analyzed the relationship between teachers' educational beliefs and their typical approach to computer use in the classroom (Tondeur, Hermans, Braak, & Valcke, 2008). It can be easily seen that the use of technology in language classroom has been a hot area for research, particularly in understanding the human elements, like teachers and students and their attitudes,

beliefs, and applications of technology. Kessler and Plakans (2008) examined the relationship between confidence and CALL — especially the use of audio and video technology among language teachers. The authors concluded the result based on the data, saying that CALL teachers' preparation may benefit from a focus on developing contextualized confidence within certain types of technology. Meanwhile, it would be less beneficial to expect teachers to develop a high level of confidence with technology across domains (Kessler & Plakans, 2008).

As Chapelle and Kern expressed in their works, researches have focused on issues of technology implementation in the classroom, students' characteristics that cater to such technologies, and the effectiveness of specific technology-focused or enhanced approaches (Chapelle, 2005; Kern, 2006). In other words, we can say that among those works relevant to CALL, the increasing awareness of the potential of CALL within ESL and EFL programs has brought about a broadening of research into its use and effectiveness. It was said in Kessler's article (Kessler, 2007) that there was a general lack of a CALL presence in teacher preparation programs. His study concluded that informal CALL preparation is closely linked to teachers' attitude toward technology while formal CALL teaching preparation is not. That is, teacher's attitude towards technology is a crucial factor in CALL preparation.

Another study conducted by Chapelle (2004) focused on technology and second language learning, illustrating theoretical, empirical and ethical challenges posed by technology-based second language studies. Learner language, interaction,

individual differences, and linguistic analysis are issues concerned in this research (Chapelle, 2004).

Since the research of CALL has shifted from the comparison of CALL versus non-CALL environments to explore what learners do while going through CALL activities, Hegelheimer and Tower (2004) conducted a study to analyze students' interactions in an authentic classroom which is different from the context of laboratory setting or structured observation. They found that large variation in the use of options available. The data revealed that teacher-introduced and mandated options were utilized more frequently but some options were either used infrequently (e.g. access to a textual gloss), or completely ignored by half of the learners (i.e. simultaneous repetition of text and audio). Moreover, low proficiency students and higher proficiency students behaved differently in choosing the way of input.

Some researchers conducted studies relevant to CALL in another form. For example, Yang and Chen (2006) demonstrated in their study that learners brought different perspectives to technology-enhanced language learning (TELL), and that learners who were passively oriented towards the Internet English learning required careful guidance from pedagogical applications to this approach. Therefore, it is an important first step to make students aware of the fact that learning English through multimedia technology demands new learning strategies and self-directed learning.

Computer mediated communication (CMC), as a commonly used and frequently studied technology, was studied to illustrate how technology is often

undistinguished in research and practice. The results indicated that different features of two CMC sub-technologies had different effects on student-student interactions and learner perceptions (Smith, Alvarez-Torres & Zhao, 2003). It was suggested that individual technologies employed in a CALL context must be considered independently in terms of their unique features.

The determining factors of the use of e-learning environments by university teachers were explored in one study as well. Mandizadeh, Biemans, and Mulder (2008) found that teachers' perceptions of the added value of the e-learning environment influence their use of this environment. And in turn, their perceptions were influenced by their opinions about web-based activities and computer assisted language learning.

In sum, the above research varied in terms of the different focuses in the field of CALL. It was identified that CALL had contributed a lot to English teaching and learning. Meanwhile, it can be clearly seen that affecting factors are various due to the different context under research. Among these factors, teachers' and students' perceptions towards CALL were highlighted in several studies. In other words, to be aware of their attitudes towards CALL is a vital aspect to make CALL work well in its implementation. This is also one of the factors that will be focused on in this study.

2.2.2 Research Studies on Normalization of CALL

A few research studies contributed to the normalization of CALL have been found among the plenty of studies in the field of CALL.

When Bax (2003) offered a critical examination and reassessment of the history of CALL, he defined and discussed the state of “normalization”. In his opinion, CALL has not reached the stage of normalization when computers are used by language students and teachers without fear and they will go almost unnoticed like a pen in hand. In addition, he called on a requirement of change in attitudes, in approach and practice towards technologies and computers among teachers and learners. Moreover, some more ethnographic assessments and action research of individual environments were proposed to identify relationship between the factors mentioned in his study to achieve normalization. And this is one reason why the present research project is conducted to find out whether the mentioned factors have any influences in the ethnic minority areas.

Chambers and Bax (2006) conducted a qualitative research study to discuss the obstacles to normalization and ways of overcoming them. A number of key features appeared to be significant in achieving normalization. They clustered those factors into four groups: logistics; stakeholders’ conceptions, knowledge and abilities; syllabus and software integration; and training, development and support. Eleven issues have been presented as a valuable checklist for teachers and planners to consider making CALL more effective. These eleven issues included making CALL facilities “normal”, allowing for an easy move from CALL activities to non-CALL activities, offering additional time for teachers’ computer preparation and planning, helping teachers and managers to have enough knowledge of and ability with

computers to feel confident in using them, different stakeholders' proper conceptions of CALL, and so on. Certainly, these issues were not isolated but relevant to each other. One should consider all and each factor when implementing CALL in practice. Moreover, these findings also offered wider insights into what could be done to make CALL normalized at these and other institutes as the authors claimed.

Sun and Ye (2006) recognized the descriptions of the history of CALL from different authors and stated their own opinions from the view of instructional theory. The concept of normalization could be found in this research as they said that the integrated English teaching viewed computers as a part in the whole course. They used the term "socializing CALL" to name the current state of CALL, indicating the significance of computers and the trend of being "social" which shared the similar concept of normalization.

Xiao (2007) talked about normalization of CALL from the view of meta-learning environment. Based on meta-learning environment theory, learners need to have supports from outside wherever they are and whenever they learn. Learners often think about questions like "What shall I do?", "What shouldn't I do?" to adjust their study. In the environment of CALL, learners need to learn about the new techniques of multimedia employed in language learning in order to make good use of relevant technologies. He said that we should not regard CALL as something new but a must. Thus, we can make full use of the technology in daily learning and teaching.

Looking at the above research, we can find that they shared the similar ideas in the concept of normalization and the ways of achieving it although they might discuss this issue based on different theories in different contexts. Computers, or technologies, should be normal to learners during the process of learning. Therefore, they can use it like a pen or a book to make it fully integrated in language learning and teaching.

2.3 Research Studies on ELT in the Field of CALL

2.3.1 Research Studies on ELT in the Field of CALL in China

In 1970s, computer-assisted language learning (CALL) and teaching began its journey in China. And 1980s saw the rapid development of CALL in this huge land (Zhang, 1995). Research on CALL in China varies from theories to practices, from secondary education to higher education, from students' performance to teachers' conceptions, from the learning strategies to affecting factors. Thus, lots of experiments were carried out and plenty of studies were conducted during the past years.

Some Chinese researchers (Gu, 2006; Zhuang, 2007; Jia, 2007) tended to interpret CALL in different ways based on their understanding in the Chinese context. Gu (2006) viewed CALL as a modern teaching technique to enhance language teaching and learning. Whereas Zhuang (2007) offered generalized and specialized definitions of Multimedia-CALL (M-CALL) and described a bright future of M-CALL in China. Wisely, Jia (2007) summarized those definitions and tended to

give a comprehensive one, covering various fields of CALL and indicating their multiple roles in language teaching and learning.

Cao (2009) divided the development of CALL in China into three phases. The first stage, which is called “audio-lingual electronic instruction stage”, is from 1978 to 1993. During this stage, the English teaching in China was dominated by traditional electronic instruction. And the behaviorism theory had much influence on every aspect of the applications and development of CALL. The second stage, which is named “computer-assisted tool”, is from 1994 to 1999. CALL had a rapid development in China because of the development of multimedia and software application. The third stage, or the “multimedia & the Internet integrated stage”, is from 2000 to 2008. During these years, language policies highlighted the modern technologies in English teaching and learning. CALL stepped into a full integrative stage in which the Internet, technologies, and English teaching were roundly integrated (Cao, 2009).

However, some other researchers were keen on teaching and learning in CALL. Li and Liao (1999) studied on the courseware design of CALL, covering the preparation before the courseware design and the strategies during the designing process. On the other hand, Meng (2005) discussed the role-play of the teachers and computers in CALL and the applying strategies in teaching. Song and Ma (2007) studied the necessity and feasibility of applying cooperative learning to multimedia and Net-based College English Teaching through a case analysis. Wang (2007) tended

to explore three multimedia-aided English teaching modes based on Constructivist Learning Theory: classroom teaching mode, individual mode, and network mode. Shi (2009) attempted to investigate whether integrating CALL and cooperative learning (CL) into classroom teaching would improve learner autonomy for English majors from the ethnic minority areas in her study. The result demonstrated that computer-assisted cooperative learning (CACL) did create a more effective environment for the students and they were more active in learning by showing an increasing conscious about what and how they are learning. All these researchers were interested in how to improve teaching and the effective ways of learning under the environment of CALL in China.

Meanwhile, studies focusing on the problems facing English teachers have been found in several pieces of research. For example, Xie (2004) made an analysis on the use of technology for foreign language teaching and its problems. She pointed out that financial problems, legal issues, technological difficulties, and teaching methods might be the main problems when implementing new technologies for pedagogical purposes in foreign language teaching. In spite of this, Shi (2007) discussed the necessity of teacher training in applying CALL in practice. More seriously, Dong and Dong (2001) mentioned about the side-effects of multimedia-aided teaching and suggested some ways of controlling those factors. Furthermore, Zou (2009) took a close look at the problems in CALL under new situation. Different levels of students, teachers' poor computer competence, and the

lack of financial investment were the tackling problems and relevant measures were proposed in the article. Briefly, the problems did exist when implementing CALL and they might vary due to the different contexts.

Ruan, Chen, and Lei (2005) tried to take an overview of the features of the research articles on CALL in China. They found that there were more research studies on theory than practice and there was a few in-depth research although those studies concerned many aspects of CALL. However, they were happy to see that some researchers had begun to rationally analyze the problems occurring in application of CALL in China, which will be the main target of the present study. Finally, they suggested the approach of action research and research on action research as a future trend in studies of CALL in China since they agreed with Bax's conceptions of normalization of CALL (Ruan et al., 2005).

2.3.2 Research Studies on CALL in Ethnic Minority Areas

In the past few years, there are some research studies on English learning and teaching in senior high schools in ethnic minority areas in China. As a hot topic all over the world, research on CALL has been found in ethnic minority areas as well although there were only a few studies on it.

Liu and Sun (2008) conducted a survey to identify the problems in language teaching in an ethnic area — Yunnan province. In this case study, it was found that students in ethnic areas had more difficulties in learning language than those in other areas due to their poorer educational background. Moreover, the

teachers had not got enough training and many of them even lacked the basic skills in teaching. A multilingual method was proposed to help solving the problem, together with measures on course design and relevant assessment.

The New College English Curriculum was issued to meet the needs of the educational reform in China. In order to carry out the curriculum effectively in ethnic areas, relevant studies appeared to find out the potential problems. For example, Liu (2006) conducted a study to investigate the English study of minority students of Guizhou colleges. She found out four main reasons of the minority students' difficulties in learning English: 1) Weakness of cultural awareness due to the blocking environment; 2) Translating among their mother language, Chinese Mandarin, and English could be one obstacle; 3) Students' poor educational background in secondary school; and 4) Ineffective classroom teaching in large classes. Five suggestions were made to solve these problems: 1) To change the traditional teaching philosophy; 2) To establish a sound teaching system; 3) To embody multimedia and network technology in teaching; 4) To improve teaching training; and 5) To improve assessment system.

Other researchers (Qin, 2006; Wuyunsiriguleng, 2007; Xun, 2008; Lu, 2008; Yan, 2009) investigated the difficulties and proposed measures from different angles. However, they shared similar difficulties like students' poor educational background, lack of teacher training. Moreover, most of them appealed for modern technology embodied in teaching and the importance of teachers' perceptions towards teaching.

Briefly, the poor condition in English teaching and learning in ethnic areas has been widely noticed. It seems that there are more difficulties and, consequently, more urgent needs in these areas in language education. There is no optimistic integration of CALL in English teaching and more studies in depth on CALL in ethnic areas are expected.

2.4 Summary

In this chapter, the related literature provided an overall picture of the previous research studies on CALL. It also discussed the relevance of the present study to preceding research studies. It started with research studies on the definition, the history, the language policy, and the normalization of CALL. Then, a review of the studies of CALL in EFL contexts, together with the situation of English teaching and learning in ethnic areas were presented. Moreover, the research on CALL in China was reviewed and insufficient research studies on CALL in ethnic areas were identified as well. Through the broad related literature review in the field of CALL, we could see that different researchers have their own classification criteria towards the history of CALL. Previous research studies had been carried out in a variety of purposes of the investigation, target populations, research instruments, methods of data collection, places of research conduction, and different variables or factors. The next chapter concentrates on the design and methodology implemented in the present study.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter discusses the principles of the present research methodology. It includes the research design, methods of data collection, data analysis and a pilot study. It starts with the population of the present study, research instruments, and methods of data collection as well as data analysis respectively.

3.1 Population and Participants

From the data compiled from Qianxi'nan Education Office (2009), the total number of English teachers in senior high schools was estimated at 1,805. Then, the researcher emailed and called the headmaster of each senior high school in QBMP to obtain the number of teachers who claimed to have been using CALL in teaching. The estimated number is 1,607, which was the relatively reliable data. There are several formulae available to determine the sample size, but estimation of sample size in research using Krejcie and Morgan is a commonly employed method (Chuan, 2007). According to Krejcie and Morgan's (1970) sample size estimation formula (see Appendix A), the suggested sample size for a population of 1,600 is 310 or 19.37% of the population. Therefore, the suggested sample in this study was 310. However, in order to ensure the sufficient valid questionnaire data, this study was conducted among 340 English teachers from 37 senior high schools in QBMP because all senior high schools followed the same curriculum (NEC) and used the same English textbooks in

the prefecture. Sixteen of the teachers were from Xingyi NO. 1 Middle School for Nationalities, and the other 324 teachers were from the other 36 senior high schools in seven counties and a capital city in QBMP with the same number of teachers (N=9). All the participants responded to the questionnaire. According to Audit Sampling Criteria (Albert Municipal Health & Safety Association, 2010), the representative interview sample size should be no less than 42 (see Appendix B), therefore 42 English teachers participated in the interview (among the interviewees, 4 of them were from Xingyi NO. 1 Middle School for Nationalities, 36 of them were from the other 36 schools with the same number of students <N=1>). The reason why the researcher randomly selected the 340 English teachers from the 37 schools in different counties was as follows:

Firstly, all teachers were from the 37 schools which are the total number of senior high schools in Qianxi'nan Buyi and Miao Autonomous Prefecture (QBMP). The ethnic minorities account for 42.47% within a population of 3,140,000 people in total. The teachers in the senior high schools had the highest percentage in using CALL in teaching and they had their own characteristics due to the economic and cultural background. Secondly, they had been teaching English in this prefecture and most of them were born and grew up there. They had got experience of teaching and the experience of learning English in an ethnic majority area as well. Hence, they might view the application of CALL from the point of view of language teachers and also learners subconsciously. Thirdly, they were eager to master as many teaching techniques as possible to improve their teaching so that they could help their students learn English well. Finally, they had encountered problems in teaching English with the assistance of computers, which they hoped to solve. As a result, the participants could represent the main body of the English teachers in the senior high schools in QBMP.

3.2 Research Instruments

In order to achieve the purpose of present study and to answer the research questions mentioned in 1.4, both quantitative and qualitative instruments were used in the study, which included a questionnaire and an interview.

3.2.1 Questionnaire

The questionnaire (see Appendix C) in this study was used to elicit English teachers' beliefs about the application of CALL in senior high schools. The design of the questionnaire was based on CALL researches (Bax, 2003; Chambers & Bax, 2003; Yang & Chen, 2006; Kessler, 2007; Kessler & Plakans, 2008; Mandizadeh et al., 2008). Ideas, perceptions, and problems in application of CALL had been studied and grouped to be potential factors affecting the normalization of CALL and these were designed as items in the questionnaire, together with some ideas of the questionnaire in Tanakahchane's graduate thesis (2005).

The questionnaire can be used to collect vast quantities of data from a variety of respondents. They have a number of benefits over other forms of data collection: they are usually inexpensive to administer; very little training is needed to develop them; and they can be easily and quickly analyzed once completed (Wilkinson & Birmingham, 2003). In the present study, all of the questionnaire items in English were translated into Chinese to avoid misunderstanding and confusion. The questionnaire included teachers' beliefs in application of CALL and factors that might affect the normalization of CALL. The questionnaire consisted of five parts: 1) personal information — gender, age, education, academic title, teaching experience and types of school; 2) 15 items concerning teachers' beliefs in application of CALL (No. 1-15); 3) 15 items concerning logistics and institutional factors (No. 16-30); 4)

15 items concerning computer competency and teacher training (No. 31-45); and 5) 15 items concerning teaching methodology and learner factor (No. 46-60). The teachers gave their opinions in terms of a five-point scale. The five-point scale is also known as Likert Scales, which is less laborious, and this has helped to make it the most popular scaling procedure in use today (Oppenheim, 1992).

3.2.2 Interview

In the present study, a semi-structured face-to-face interview (see Appendix D) was conducted. A face-to-face interview offers the researcher the opportunity to ask participants directly about what is going on and thus it is a “shortcut” in seeking answers to research questions (Robson, 1993). As Nunan (1992:149) stated, “...because of its flexibility, the semi-structured interview has found favour with many researchers, particularly those working within an interpretative research tradition”, hence, the researcher chose this method in the study by considering its advantages. Besides the flexibility it gives to the interviewer, the semi-structured interview also gives the interviewee a degree of power and control over the course of the interview since the purpose of this semi-structure interview was to elicit more insight information about English teachers’ opinions and the affecting factors in application of CALL in senior high schools. The interview consisted of 12 guided interview questions: three questions concerning teachers’ beliefs in using computers in teaching (No. 1-3); one question concerning the role of the Internet (No. 4); two questions concerning multimedia classroom using (No. 5-6); 2 questions concerning teachers’ computer competency (No. 7-8); one question concerning teacher training (No. 9); and three questions concerning teaching methodology in CALL (No. 10-12). In order to avoid misunderstanding, the interview was conducted

in Chinese. The interviewees were selected randomly among the teachers who participate in answering the questionnaire.

3.2.3 Validity and Reliability Check

The validity and reliability of the data collection instruments are very important to their overall measurement qualities. Since the questionnaire depends on the readability of the statements and the actual wordings used in the items, piloting the questionnaire is a very important step in the questionnaire construction (Dornyei, 2003) to obtain information about reliability and validity of the instrument. As mentioned above in 3.2.1, to avoid misunderstanding and confusion, all of the questionnaire items and interview questions in English were translated into Chinese. Therefore, in the present study the validity and reliability were checked as follows.

3.2.3.1 The Content Validity Check

First of all, to check whether the questionnaire items and interview questions could measure what they were designed for, the Chinese translation versions together with the evaluation form for content validity check were sent to three experts. One expert was a Vietnamese who knew well about questionnaire design and has an educational background of Information Technology. Two other experts were all full-professors and were academically qualified in China. Then, the experts read the relevance of each item to the purpose of the questionnaire and the appropriateness of the content areas, and checked the evaluation form by using Item-Objective Congruence Index (IOC) as a validation method for the relevancy of the content and the objective of the questionnaire. The evaluation form used a 3-point scales (1 = relevant, 0 = uncertain, -1 =irrelevant).

The next step the researcher did was to check the results of IOC index for each item and question by item analysis (IAS) based on the experts' advice. According to Booncherd (1974), the acceptable value should be higher or equal to 0.5 (≥ 0.5). The result of current questionnaire was 0.808 and the interview questionnaire was 0.805 (see Appendix E). That is, both items and questions were reasonable to conduct the study. The result of the item analysis from the IOC revealed that there were 8 unacceptable items in the 68 items which created based on the ideas in relevant research studies because they were irrelevant to the research question and/or purposes of the present study. Hence, those eight unacceptable items were deleted in the final questionnaire. After deleting the unacceptable items and improving the ones that the experts were not sure, there were 60 items left in the final version of the questionnaire regarding the three experts' opinions and suggestions. All the interview questions were relevant to the research questions in 1.4 and they are closely related to the items in the questionnaire. For example, item 1 to item 3 were about the English teachers' opinion towards the role of computer in ELT, consequently, question No. 1 is about the role of computers in ELT as well. Furthermore, they could help the researcher to gather the information that could not be revealed in the questionnaire in depth.

Finally, a pilot study was carried out. The questionnaire items were tried out with 30 English teachers and interview questions were tried out with eight English teachers who were all the subject of this study from Xingyi No. 1 Middle School and Xingyi No. 8 Middle School. All of these participants were not be included in the actual project to avoid teachers' bad feelings of participating in the study twice.

3.2.3.2 The Reliability Check for the Questionnaire

In order to determine the internal consistency of 60 items of the questionnaire, Cronbach's Alpha Coefficient (α), the most appropriate reliability index for reliability check, was used to check the internal consistency of the questionnaire items by analyzing the data from the pilot study. According to Devellis (1991), good reliability of the questionnaire will be found if the alpha is at least equal to 0.70 ($\alpha \geq 0.70$). The reliability check from the pilot study was 0.806 ($\alpha = 0.806$), therefore, the questionnaire in the present study was reliable.

3.3 Data Collection

The study aimed to investigate how English teachers viewed the application of CALL and what were problems and the factors affecting the normalization of CALL in senior high schools in Qianxi'nan Buyi and Miao prefecture (QBMP).

3.3.1 Procedure for the Questionnaire

The questionnaires were sent to 340 teachers by the researcher during June to July, 2010. The survey was conducted when the English teachers had a seminar or a regular meeting. The questionnaires were returned within 20 minutes. After the questionnaires were returned, the data were collected and stored in the data table and the usable data were selected by analyzing the questionnaire individually. All the data in any question were collected to analyze in its domain.

3.3.2 Procedure for the Semi-Structured Interview

Forty-two English teachers were purposively selected to be interviewed as interviewees from the 37 schools in this study. The researcher selected the target teachers — interviewees — and conducted the interview session using semi-structured

questions after receiving the questionnaire from each school. The answers from the teachers were recorded by using both note-taking and audio visual techniques.

3.4 Data Analysis

After collecting the data (answers of teachers' questionnaire papers and answers to the interview questions), the researcher analyzed the data by SPSS 16.0 for windows (Statistics Package for the Social Science). The methods of data analysis in the study involved both quantitative and qualitative analysis.

3.4.1 Quantitative Analysis—ANOVA

Analysis of Variance (ANOVA) — One-way in General Linear Model in Statistical Package for the Social Science (SPSS) was used quantitatively in the questionnaire to analyze the results for individual ideas. Descriptive statistics was obtained to see the overall teachers' opinions of application of CALL and the affecting factors in normalization of CALL in senior high schools in Qianxi'nan Buyi & Miao Prefecture (QBMP).

3.4.2 Qualitative Analysis

Data collected from teachers' semi-structured interview was analyzed qualitatively to describe what, how and why the English teachers viewed the application of CALL in teaching. Thematic analysis, a general method for qualitative analysis of transcripts, was used in the data from the interview. That is, frequency of similar words to express teachers' ideas were counted and classified to reveal the results. Moreover, these data was analyzed qualitatively to reveal what potential affecting factors were and how these factors affected the normalization of CALL in English learning and teaching in senior high schools in QBMP.

3.5 Time Frame for the Study

To reach the purpose, the present study will last about 10 months in 2010 (see Table 3.1).

Table 3.1 Time Frame for the Main Procedures of the Study

Activities	2010									
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Proposal Writing	→	→	→	→						
Pilot Study					→					
Proposal Defense					→	→				
Survey						→				
Data Collection						→	→			
Data Analysis							→	→		
Thesis Writing-up							→	→	→	→

3.6 The Pilot Study

As Oppenheim (1992) stated, almost anything about a social survey can and should be piloted in principle. According to Lancaster and Williamson (2004), a pilot, or feasibility study, is a small experiment designed to test logistics and gather information prior to a larger study, in order to improve the latter's quality and efficiency. A pilot study can reveal deficiencies in the design of a proposed experiment or procedure and these can then be addressed before time and resources are expended on large scale studies. In order to obtain data to help to conduct the main study as well as help the researcher see any weak points of the procedure, a pilot study was conducted prior to the main study.

3.6.1 Participants

Purposive sampling is a non-random method of sampling where the researcher selects information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research (Patton, 2001). The researcher purposively selected 30 senior high school English teachers from Xingyi No. 1 Middle School and Xingyi No. 8 Middle School participated in the pilot study on the basis of convenience and availability. There are nine male teachers and 21 female teachers. Eight of them (3 male, 5 female) participated as interviewees for the oral interview.

3.6.2 Research Instruments

As mentioned in 3.2, the instruments used in the pilot study included a written questionnaire and an oral interview. The questionnaire was used to elicit English teachers' opinions about application of CALL and the affecting factors in normalization of CALL in senior high schools. The oral interview was used to obtain more in-depth information about English teachers' opinions to application of CALL in senior high schools and tend to find out the affecting factors in normalization of CALL in ethnic minority areas. In addition, preliminary work has been done in this pilot study to check the items in the questionnaire and the time length to respond the questionnaire and interview questions.

3.6.3 Data Collection

The pilot study started on May 4, 2010. The treatment of the pilot study lasted for about a week. As mentioned in 3.3, the fulfillment of questionnaire and interview was as follows:

At first, 30 senior high school English teachers from Xingyi No. 1 Senior High School and Xingyi No. 8 Middle School were invited to answer the

questionnaire in a meeting room on May 6, 2010. After explaining the key points of directions to the questionnaire, the researcher administered 30 questionnaire papers with 30 teachers, who kindly participated. Then, in order to obtain more detailed information in the interview, after the questionnaire papers were returned, the researcher randomly selected 8 teachers from the 30 participants to participate in the oral interview on the next evening. There were three male teachers and five female teachers participating as interviewees. The researcher delivered interview questions to each of them five minutes earlier before the interview time so as to give the interviewees sufficient time to think about the questions more in detail. The Chinese language was used for better understanding and convenience. All the teachers' interviews were recorded by recorders, transcribed and translated into English for data analysis. The whole interview lasted about two hours.

3.6.4 Data Analysis

The data obtained from the questionnaire and oral interviews were submitted to either quantitative or qualitative analysis. What follows were the results of the data analysis.

3.6.5 Results

3.6.5.1 The Reliability Check for the Questionnaire

As mentioned in 3.2.3.1, according to Devellis (1991), good reliability of the questionnaire will be found if the alpha (α) is at least equal 0.70 ($\alpha \geq 0.70$). After being collected from the questionnaire, the data were calculated using SPSS 16.0 for Windows. The reliability value was found to be 0.806 ($\alpha = 0.806$), which was higher than 0.70 (see Table 3.2). That is to say, the present questionnaire was reliable and could be used in the main study.

Table 3.2 The Reliability Check for the Questionnaire**Reliability Statistics**

Cronbach's Alpha	N of Items
.806	60

3.6.5.2 Teachers' Personal Perception

The mean scores and standard deviations of the teachers' opinions on application of CALL are as follows (see Table 3. 3):

Table 3.3 Mean Score and Standard Deviation of Teachers' Personal Perception

Items	N	Mean	S D
1. Using computers is beneficial to teaching English in classroom	30	4.03	.718
2. It is interesting to use computers while teaching	30	3.73	.828
3. Computers mean everything in class	30	1.90	1.348
4. It takes time to prepare lessons using computers	30	2.97	1.217
5. Computer is necessary as pen or book in the classroom	30	3.27	1.081
6. The computer is an integrated part in the process of teaching	30	3.87	.776
7. You can still teach well without computers	30	3.60	.968
8. Computers are such a high-tech that you cannot use it easily	30	2.73	1.285
9. You feel confident in using computers	30	3.67	.994
10. You feel normal when you see a computer in the classroom	30	4.27	.521

Items	N	Mean	S D
11. The Internet is very important in your teaching career	30	3.97	.809
12. Students can benefit from the Internet	30	3.53	.973
13. The Internet can be harmful to students	30	3.33	.994
14. Students need to be guided in making use of the Internet	30	4.40	.675
15. It is difficult to select proper materials from the Internet for teaching	30	3.07	1.311

Table 3.3 shows that most English teachers believed that using computers was beneficial to teaching English in classroom (Mean = 4.03, Std.D = 0.718). It was interesting to use computers while teaching (Mean = 3.73, Std.D = 0.828) but they did not think that computers mean everything in class (Mean = 1.90, Std.D = 1.334). They agreed that the computer was an integrated part in the process of teaching (Mean = 3.90, Std.D = 0.852). Meanwhile, they also thought that they could still teach well without computers (Mean = 3.60, Std.D = 0.968). These teachers did not view computers as such a high-tech that they could not use it easily (Mean = 2.73, Std.D = 1.285) as they felt normal in using them (Mean = 4.27, Std.D = 0.521). As to the Internet, they thought that the Internet was very important in their teaching career (Mean = 3.97, Std.D = 0.809) but they strongly agreed that students needed to be guided in making use of the Internet (Mean = 4.40, Std.D = 0.675). In brief, teachers could recognize the importance of CALL in ELT but they felt cautious in making use of the Internet.

3.6.5.3 Institutional Factor

Table 3.4 Mean Score and Standard Deviation of Institutional Factor

Items	N	Mean	S D
1. Your income can support a personal computer at home	30	4.00	1.174
2. There are enough multimedia classrooms for use	30	3.53	1.167
3. There is specific fund for setting up the multimedia classroom	30	3.30	1.088
4. There is evaluation of the multimedia classroom	30	2.60	1.102
5. The multimedia classroom is only for evaluation	30	2.37	1.033
6. There are professional technicians responsible for the multimedia classroom	30	3.80	.925
7. You are allowed to use a multimedia classroom when you book it	30	2.97	1.407
8. It is complicated to book a multimedia classroom	30	2.70	1.418
9. There is a requirement from the education office to teach with technology	30	3.33	.994
10. You are encouraged to teaching in a multimedia classroom	30	3.43	1.006
11. CALL facilities are separated from ordinary teaching space	30	3.17	1.262
12. Teaching in a multimedia classroom is a criteria to judge an excellent teacher	30	3.27	1.202
13. The Internet is available in the classroom	30	2.50	1.614
14. The speed of the Internet is slow	30	2.73	1.617
15. There is a staff responsible for the Internet	30	3.10	1.494

Table 3.4 presents descriptive statistics on the institutional factor. It shows that most teachers had a personal computers at home ($M = 4.00$, $Std.D = 1.174$) and there were enough multimedia classrooms in the school ($M = 3.53$, $Std.D = 1.167$). There

were professional technicians responsible for the multimedia classroom ($M = 3.80$, $Std.D = 0.925$) but the Internet might not be available ($M = 2.50$, $Std.D = 1.614$). This indicated that teachers were favourable with the multimedia classrooms and their relevant service.

3.6.5.4 Computer Competency and Teacher Training

Table 3.5 Mean Score and Standard Deviation of computer competency and teacher training

Items	N	Mean	SD
1. You use word processing such as Microsoft Word	30	4.03	1.033
2. You use spreadsheet such as Microsoft Excel	30	4.20	.664
3. You use Microsoft Power Point	30	4.30	.702
4. You use Photo Editor such as Adobe Photoshop	30	3.57	1.006
5. You can solve the technical problem when mouse and keyboard cannot be detected	30	3.27	1.337
6. You can adjust monitor display properties	30	3.97	.999
7. You can solve the problem when the computer freezes	30	3.87	.819
8. You obtain texts, images, audio files or other media from websites	30	3.80	1.095
9. You obtain texts, images, audio files or other media from database	30	3.50	1.106
10. You have the general knowledge of hardware in a computer	30	3.30	1.119
11. There are some workshops to offer training on CALL techniques	30	3.63	.940
12. Your colleagues help and train each other	30	4.00	.587
13. There are technical failures	30	4.13	.629
14. Teachers lack skills to deal with technical failures	30	3.53	1.074
15. There is a need for professional instruction on computer competency	30	4.23	.728

Table 3.5 presents descriptive statistics on computer competency and teacher training. It shows that most teachers could use Microsoft Word (M = 4.03, Std.D = 1.033), Microsoft Excel (M = 4.20, Std.D = 0.664), and Microsoft PowerPoint (M = 4.230, Std.D = 0.702) in teaching. They could obtain texts, audio files or other media from websites (M = 3.80, Std.D = 1.095) or database (M = 3.50, Std.D = 1.106). Colleagues helped and trained each other (M = 4.00, Std.D = 0.587) together with some workshops to offer training on CALL techniques (M = 3.63, Std.D = 0.850). There were technique failures (M = 4.23, Std.D = 0.728) and there was a need for professional construction on computer competency. This indicated that computer competency was one of the main factors affecting the application of CALL in senior high schools. And also, teacher training might be helpful and useful to the normalization of CALL.

3.6.5.5 Teaching Methodology and Learner Factor

Table 3.6 Mean Score and Standard Deviation of teaching methodology and learner factor

Items	N	Mean	SD
1. Students behave similarly when study in a multimedia classroom and an ordinary classroom	30	3.00	1.287
2. Pictures, sounds, and cartoons in PPT motivate students more	30	3.43	1.040
3. Pictures, sounds, and cartoons in PPT distract the students' attention	30	2.90	.960
4. Pedagogical support is needed in spite of technical assistance	30	4.10	.885
5. There is co-work among colleagues when preparing lessons	30	3.93	.980

Items	N	Mean	S D
6. There are class observations among colleagues	30	4.03	.890
7. You adopt a courseware from a commercial textbook	30	2.70	1.055
8. You adapt a courseware from a commercial textbook	30	3.87	.730
9. There is enough interaction between teachers and students	30	3.73	.868
10. Students might be lazy since they can download PPT after class	30	2.90	1.125
11. Students can concentrate more because they don't spend time on noting down teachers' presentation	30	3.40	.932
12. There is not much difference between teaching in a multimedia classroom and an ordinary one	30	2.63	1.033
13. There are rich resources for students to learn English in Internet	30	4.07	.944
14. Teachers are the only source of knowledge	30	2.07	1.048
15. CALL materials need to be modified to meet the existing syllabus objectives	30	3.90	.923

Table 3.6 shows descriptive statistics on teaching methodology and learner factor. It shows that many teacher thought that pictures, sounds and cartoons in PPT can motivate students more ($M = 3.43$, $Std.D = 1.040$). There were classroom observations among colleagues ($M = 4.03$, $Std.D = .890$) and there was co-work when preparing lessons ($M = 3.93$, $Std.D = .980$). In terms of teaching methodology, teachers taught differently between teaching in a multimedia classroom and an ordinary one ($M = 2.70$, $Std.D = 1.055$). There were rich resources in the Internet for students to learn English ($M = 4.07$, $Std.D = 0.994$) and the teachers were not the only source of knowledge ($M = 2.07$, $Std.D = 1.048$). However, most teachers thought that CALL materials needed to be modified to meet the existing syllabus objectives ($M =$

3.90, Std.D = 0.923). From the data, we could see that teaching methodology was crucial in successful application of CALL. Good teachers should be aware of learner factors as well.

3.6.5.6 Semi-structured Interview

The results from the oral interviews conducted with the eight interviewees showed that: 1) five of them viewed the role of computers in ELT as “assisted” and three of them thought “The computer is a tool in ELT”; 2) all of them used CALL in teaching and they liked using it because of the convenience, rich resources of information, and the attractiveness to students; 3) four of them felt “normal” when they saw CALL facilities in classroom and three of them felt “happy” whereas 1 of them felt nervous when he stepped into a multimedia classroom; 4) three of the interviewees thought that their computer competency was good and five of them thought they were only “OK” in using computers; 5) all of them claimed that they often attended workshops for training the abilities in using CALL and those training were effective; and 6) six of them agreed that the students could be different in a CALL classroom and they would adjust their teaching while two of them stated that they were worried about the integration of a new teaching method concerning CALL.

In addition, participants in this pilot thought the items were clear to them and they could scale their understanding after listening to the researcher’s instructions. All the teachers could finish the questionnaire within 20 minutes.

3.6.6 Conclusion

The data from the questionnaire and the semi-structured interview were closely related because the questions in the interview aimed to get more in-depth

information which might not be revealed in the questionnaire. As a pilot study, the present results must be considered tentatively. Therefore, the current pilot study could be considered to indicate how English teachers viewed the application of CALL in senior high schools, and to find out the affecting factor in normalization of CALL in ethnic minority areas. Moreover, the results of the pilot showed that the methods employed in this study were valid and could be used in the main study.

3.7 Summary

In sum, this chapter discussed the research methodology employed in the present study. A written questionnaire and an oral interview were carried out to investigate in-depth the English teachers' opinions on application of CALL in senior high schools, in which various factors could be involved. The procedures of the data collection were described. The data analysis for the questionnaire and the interview involved both quantitative and qualitative aspects. This chapter concluded with the description of the pilot study as well.

CHAPTER 4

RESULTS

This chapter presents the results of the data analysis related to the main study. As this study was to explore the English teachers' opinions on normalization of CALL in senior high schools, the data collected from the questionnaire and semi-structured interview were analyzed both quantitatively and qualitatively. The results of the data analysis were presented in the following sections.

4.1 Analysis of the Questionnaire on the English Teachers' Opinions on Normalization of CALL

As mentioned in 3.2.1 and 3.3.1, the questionnaire (see Appendix III) in this study was used to elicit English teachers' opinions on factors affecting normalization of CALL in Chinese senior high schools in ethnic areas.

Three hundred and forty English teachers from 37 senior high schools in seven counties and the prefecture seat, Xingyi, in QBMP were selected to answer the questionnaire papers from 10 June to 5 September, 2010. The questionnaire papers were returned within 20 minutes in each school. After the questionnaires were returned, the data were collected and stored in the data table. In the end, 318 questionnaire papers were determined to be valid by checking the items to see if they had been completed (12 questionnaire papers were not accepted because the

participants had not finished answering the questionnaire). The data were analyzed item by item. All the data in each question were analyzed in its domain. The researcher analyzed the data by **SPSS 16.0 for Windows** (Statistics Package for the Social Science). The results of the data analysis are as follows:

4.1.1 English Teachers' Personal Perceptions of CALL

The mean scores and standard deviations of the English teachers' perceptions on CALL are as follows (see Table 4. 1):

Table 4.1 Mean Score and Standard Deviation of Teachers' Personal Perception

Items	N	Mean	S D
1. Using computers is beneficial to teaching English in classroom	318	4.17	.598
2. It is interesting to use computers while teaching	318	3.90	.778
3. Computers mean everything in class	318	1.86	.902
4. It takes time to prepare lessons using computers	318	3.33	1.115
5. A computer is necessary as a pen or a book in the classroom	318	3.66	.998
6. The computer is an integrated part in the process of teaching	318	3.97	.754
7. You can still teach well without computers	318	3.43	.985
8. Computers are such a high-tech that you cannot use it easily	318	2.36	1.035
9. You feel confident in using computers	318	3.57	.894
10. You don't feel surprised when seeing a computer in the classroom	318	4.06	.759
11. The Internet is very important in your teaching career	318	3.95	.822

Items	N	Mean	SD
12. Students can benefit from the Internet	318	3.83	.810
13. The Internet can be harmful to students	318	3.49	.964
14. Students need to be guided in making use of the Internet	318	4.15	.7465
15. It is difficult to select proper materials from the Internet for teaching	318	2.98	1.215

Table 4.1 shows that most English teachers believed that using computers was beneficial to teaching English in classroom (Mean = 4.17, SD = 0.598). Many of the English teachers liked to use computers in teaching because it was interesting (Mean = 3.90, SD = 0.778) but they did not think that computers mean everything in class (Mean = 1.86, SD = 0.902). The computer was necessary as a pen or a book in the classroom as teachers agreed that the computer was an integrated part in the process of teaching (Mean = 3.97, SD = 0.745). However, many teachers also thought that they could still teach well without computers (Mean = 3.43, SD = 0.985). The majority of the teachers did not view computers as such a high-tech that they could not use it easily (Mean = 2.36, SD = 1.035) as they felt normal when seeing them (Mean = 4.06, SD = 0.759) and felt confident in using computers in teaching (Mean = 3.57, SD = 0.894). As to the Internet, they noticed its important role of in their teaching career (Mean = 3.95, SD = 0.822) since the students could benefit from the Internet (Mean = 3.83, SD = 0.810). However, they were very cautious when guiding students in using the Internet because they were worried about possible negative effects of the Internet in ELT. To

sum, most English teachers realized the importance of computers in teaching and they used them for the convenience they provided in the English classroom. To them, computers seemed to be a commonplace, not extraordinary, instructional tool.

4.1.2 Institutional Factors

Table 4.2 Mean Score and Standard Deviation of Institutional Factors

Items	N	Mean	S D
1. Your income can support a personal computer at home	318	3.56	1.182
2. There are enough multimedia classrooms for use	318	2.73	1.251
3. There is specific fund for setting up the multimedia classroom	318	2.59	1.296
4. There is evaluation of the multimedia classroom	318	2.73	1.166
5. The multimedia classroom is only for evaluation	318	2.55	1.285
6. There are professional technicians responsible for the multimedia classroom	318	3.89	1.005
7. You are allowed to use a multimedia classroom when you book it	318	3.62	1.207
8. It is complicated to book a multimedia classroom	318	3.15	1.240
9. There is a requirement from the education office to teach with technology	318	3.81	1.015
10. You are encouraged to teaching in a multimedia classroom	318	3.71	1.034
11. CALL facilities are separated from ordinary teaching space	318	3.21	1.206
12. Teaching in a multimedia classroom is a criteria to judge an excellent teacher	318	2.79	1.316

Items	N	Mean	S D
13. The Internet is available in the classroom	318	3.50	1.356
14. The speed of the Internet is slow	318	3.43	1.157
15. There is a staff responsible for the Internet	318	3.68	1.170

Table 4.2 presents descriptive statistics on the institutional factors. It shows that it is likely that most teachers have a personal computers at home ($M = 3.56$, $SD = 1.182$). It indicates that many teachers used their personal computers at home in their spare time. Unfortunately, there were not enough multimedia classrooms in many schools ($M = 2.73$, $SD = 1.251$), which is different from the pilot study. The reason why the results were different was that the pilot was done in Xingyi No.1 and No. 8 middle schools which had better equipment as experimental schools (the schools where pedagogical innovations are first tried out) than other regular senior high schools. There were professional technicians responsible for the multimedia classroom ($M = 3.89$, $SD = 1.005$) but teachers must book the multimedia classroom if they wanted to use it, which was a little bit complicated ($M = 3.15$, $SD = 1.240$). And this was one reason why they did not use it quite frequently. The Internet was available ($M = 3.50$, $SD = 1.356$) in the majority of the schools but the speed was slow ($M = 3.43$, $SD = 1.157$) although there was a staff responsible for the Internet. In brief, this indicated that insufficient CALL equipments might be one factor affecting normalization of CALL in senior high schools and the availability of multimedia classrooms is another factor. In many cases, teachers have to teach in an ordinary classroom because there are not enough multimedia classrooms available. In addition, they might not use the

multimedia classroom even when it was available because they did not want to bother to book it. These all affect the utilization rate of the multimedia classrooms.

4.1.3 Computer Competency and Teacher Training

Table 4.3 Mean Score and Standard Deviation of computer competency and teacher training

Items	N	Mean	SD
1. You use word processing such as Microsoft Word	318	4.05	1.013
2. You use spreadsheet such as Microsoft Excel	318	3.95	.961
3. You use Microsoft Power Point	318	3.82	1.087
4. You use Photo Editor such as Adobe Photoshop	318	2.92	1.196
5. You can solve the technical problem when mouse and keyboard cannot be detected	318	3.07	1.267
6. You can adjust monitor display properties	318	3.77	1.101
7. You can solve the problem when the computer freezes	318	3.76	1.105
8. You obtain texts, images, audio files or other media from websites	318	3.90	1.032
9. You obtain texts, images, audio files or other media from database	318	3.70	1.096
10. You have the general knowledge of hardware in a computer	318	3.32	1.155
11. There are some workshops to offer training on CALL techniques	318	3.63	.940
12. Your colleagues help and train each other	318	3.58	.978
13. There are technical failures	318	3.67	1.024
14. Teachers lack skills to deal with technical failures	318	3.71	.995
15. There is a need for professional instruction on computer competency	318	4.29	.803

Table 4.3 presents descriptive statistics on computer competency and teacher training. It shows that most teachers could use the basic software such as Microsoft Word ($M = 4.05$, $SD = 1.013$), Microsoft Excel ($M = 3.95$, $SD = 0.961$), and Microsoft PowerPoint ($M = 3.82$, $SD = 1.087$) in teaching. Some of them could use Photo Editor such as Adobe Photoshop in teaching but most of them just used it for fun in their spare time. They could obtain texts, audio files or other media from websites ($M = 3.90$, $SD = 1.032$) or database ($M = 3.70$, $SD = 1.096$) and this was one reason why teachers thought that computers were quite beneficial to their teaching. To enhance English teachers' computer competency in applying CALL in teaching, there were some workshops to offer training on CALL techniques. Besides, colleagues helped and trained each other ($M = 3.58$, $SD = 0.978$) in case the training could not meet their needs. There were technical failures ($M = 3.67$, $SD = 1.024$) from time to time and there was a need for professional construction on computer competency ($M = 4.29$, $SD = 0.803$) since many teachers lacked skills in dealing with technical failures. From the collected data, it could be indicated that computer competency could affect the application of CALL in senior high schools to a great extent. These schools should train teachers' computer competencies in order to make CALL normalized in senior high schools.

4.1.4 Teaching Methodology and Learner Factor

Table 4.4 Mean Score and Standard Deviation of teaching methodology and learner factor

Items	N	Mean	S D
1. Students behave similarly when study in a multimedia classroom and an ordinary classroom	318	2.49	1.203
2. Pictures, sounds, and cartoons in PPT motivate students more	318	4.22	.830
3. Pictures, sounds, and cartoons in PPT distract the students' attention	318	2.87	1.038
4. Pedagogical support is needed in spite of technical assistance	318	4.24	.780
5. There is co-work among colleagues when preparing lessons	318	3.85	.979
6. There are class observations among colleagues	318	4.14	.882
7. You adopt a courseware from a commercial textbook	318	2.91	1.005
8. You adapt a courseware from a commercial textbook	318	3.79	.930
9. There is enough interaction between teachers and students	318	3.74	.890
10. Students might be lazy since they can download PPT after class	318	2.98	1.069
11. Students can concentrate more because they don't spend time on noting down teachers' presentation	318	3.18	1.081
12. There is not much difference between teaching in a multimedia classroom and an ordinary one	318	2.40	1.179
13. There are rich resources for students to learn English in Internet	318	4.013	.858
14. Teachers are the only source of knowledge	318	1.99	1.179
15. CALL materials need to be modified to meet the existing syllabus objectives	318	4.02	.934

Table 4.4 shows descriptive statistics on teaching methodology and learner factor. From the descriptive statistics, we could see that few teachers thought the students behaved similarly when studying in a multimedia classroom and an ordinary classroom ($M = 2.49$, $SD = 1.203$). Most teachers thought that pictures, sounds, and cartoons in PPT could motivate students more ($M = 4.22$, $SD = .803$). There were classroom observations among colleagues ($M = 4.14$, $SD = .882$) and there was co-work when preparing lessons ($M = 3.85$, $SD = .979$). To prepare for the lesson, teachers often adapted a courseware from a commercial textbook ($M = 3.79$, $SD = .930$) but they seldom used the courseware directly ($M = 2.91$, $SD = 1.005$). In terms of teaching methodology, teachers taught differently in a multimedia classroom and an ordinary one ($M = 2.40$, $SD = 1.179$). Teachers were not the only source of knowledge ($M = 1.99$, $SD = 1.179$) as there were rich resources on the Internet for students to learn English from ($M = 4.13$, $SD = 0.858$). However, most teachers thought that CALL materials needed to be modified to meet the existing syllabus objectives ($M = 4.02$, $SD = 0.934$) because they took the students' differences in learning into consideration. From the data, we could see that teaching methodology was crucial in successful application of CALL. Teachers could have better performance if proper teaching techniques were employed. Teachers' awareness of learners' difference when learning in CALL and non-CALL environment might affect the teaching efficiency. Therefore, learner factor might be one of the factors affecting normalization of CALL in senior high schools as well. Students' interests and motivation in study should be taken into consideration when applying CALL in the English classroom in senior high schools.

4.2 Semi-structured Interview

As mentioned in 3.2.2 and 3.3.2, the purpose of this semi-structured interview was to elicit more information about English teachers' opinions on CALL and factors affecting normalization of CALL in Chinese senior high schools in ethnic minority areas.

Forty-two English teachers were randomly selected to be interviewed as interviewees from 37 senior high schools after the questionnaires were returned. The researcher visited the interviewees and conducted the semi-structured interview. Participants in this study thought that the items were clear to them and they could scale their understanding after listening to the researcher's instructions. All the teachers finished the questionnaire within 20 minutes. They were willing to cooperate in answering the questionnaire and attending the interview since they felt this study could be helpful in their career. The results from the oral interviews conducted with the 42 interviewees are analyzed as follows:

4.2.1 Interviewees' Personal Perceptions on Normalization of CALL

Thirty-one interviewees viewed the role of computers in ELT as "assisted" and 11 of them used another word "tool" to answer the question "What's the role of computers in English teaching?"; they thought that the computer was important in ELT and they liked to use it in teaching. Most of them liked to use computers in teaching because they could use the courseware repeatedly by adding some notes for different classes. Moreover, they liked using it because they could deal with the text

presentation easily when the amount of information contained was large and the information was complicated to explain. These answers were in accordance with the results from the questionnaire, in which they thought that computers were interesting and most of them liked to use them in teaching. Cartoons, music, and pictures could attract students more and this was another important reason for teachers choosing CALL in ELT. Furthermore, most of them (32) felt “not surprised” and some (8) felt “happy” when seeing a computer in the classroom. This is similar to their response in the questionnaire, in which they felt normal when seeing computers. Only two of them (quite advanced in age) felt nervous when they began to use computers. The researcher asked why and they explained that they were afraid that their poor computer competency might spoil their presentation. This indicated that computer competency can affect teachers’ performance in applying of CALL in English classroom which would be investigated in the following part. However, some teachers thought that it was a must to use a computer if they wanted to be good teachers in Chinese senior high schools since the institute called upon the use of technology in English teaching. This was also in the same line with the result of the questionnaire in which some teachers viewed the role of computers as a necessity in teaching even though the majority of teachers thought that they could still teach well without computers. In brief, to some extent, normalization of CALL is on its way and has a potential in Chinese senior high schools in Qianxi’nan Buyi & Miao Prefecture when based on teachers’ views on CALL.

4.2.2 Interviewees' Understanding of the Institutional Factor

In terms of CALL equipment, the researcher found different situations in different senior high schools. There are two kinds of senior high schools: regular senior high schools and experimental senior high schools. Greater funds and more financial support have been allocated to experimental senior high schools. Thus, they have better teaching equipments, including CALL facilities since they are those schools where pedagogical innovations are first tried out. The data in this interview showed that there were multimedia classrooms in every school in the research project but the multimedia classrooms were not enough in some regular senior high schools. This finding was in accordance with the answers from the questionnaire, in which the data revealed that there were not enough multimedia classrooms. Moreover, the result of the interview offered the reason why some schools had sufficient CALL facilities whereas some others did not. The institution encouraged teachers to use CALL facilities in teaching and maintenance was attended to by a professional staff. Teachers were encouraged to use the multimedia classroom but sometimes they would not use it because they did not want to make the effort to book it in advance. Generally, their teaching load was very heavy. Eighty percent of them were also responsible for non-academic affairs of the class as a class teacher. Thus, they did not want to bother to book the multimedia classroom because of the heavy workload. This was one reason why the multimedia classroom had not been used frequently. Fortunately, this result was in harmony with the response in the questionnaire.

Another reason was that they did not think it was necessary to use the multimedia classroom for presenting certain texts. This finding filled up a gap where the data from the questionnaire could not tell. In senior high schools, teachers and students paid too much attention to exam scores as this was the common practice in China which is based upon an exam-oriented education system. Therefore, they did large amounts of exercises as examination rehearsals, which could be done in a regular classroom. Fortunately, there were videos, TVs, and computers even in a normal classroom in some schools so that they could use these facilities any time they wanted.

In cases where the teachers used the multimedia classroom, there was always a staff taking care of the facilities. They would open the door and prepare the LCD and lock the door after use. This made teachers feel good when teaching in a multimedia classroom. This result supported the answers from the questionnaire, in which there was a professional staff responsible for the facilities. And more in-depth, it implied teachers' preference for having such service. This was an important factor that encourages teachers and paves the way for normalization of CALL in senior high schools in ethnic minority areas. In brief, the bother of booking a multimedia classroom might be one obstacle to normalize CALL whereas the service provided by the professional technicians would accelerate the normalization of CALL in ethnic minority areas.

4.2.3 Interviewees' Understanding of Computer Competency and

Teacher Training

Although there had been great improvement of teachers' computer competency with the popularity of computers, the situation of English teachers' computer competency in QBMP was not so optimistic, especially for those teachers over forty. In the interview, 29 of the interviewees thought that their computer competency was good and ten of them thought they were only "OK" whereas three said "poor" in using computers. Compared with the data from the questionnaire, a more comprehensive description of teachers' computer competency could come out. That is, teachers could use the basic softwares in teaching but not all of them could use them as well as possible.

Every teacher involved in the interview had a computer at home and they often used it for work and for entertainment as well. Therefore, all of them knew how to turn on and turn off the computer at least and most of them could search for information via the Internet. About sixty-percent of them enjoyed designing their own courseware and PPT for presentation. Moreover, their colleagues shared the courseware and PPT with them when teaching the same grade. This was one way for teachers to help and train each other to make CALL work in their institutes.

All of them claimed that they often attended workshops for CALL training. They would attend such training once a term at least. In each school, there were some teachers who were pioneers or "experienced". These teachers were

excellent in teaching and they were backbone teachers who would have more opportunities to attend such training. All of them claimed that the training was effective and they were expecting more. The results in the interview on teachers' computer competency and teacher training shared the similar ideas with the results from the questionnaire.

4.2.4 Interviewees' Understanding of the Teaching Methodology and Learner Factors

All teachers agreed that the students behaved differently in a CALL classroom. Compared with the results from the questionnaire, the descriptions in the interview revealed a similar but more exact situation of the participants' understanding on the teaching methodology and learner factors. On the one hand, the students were more interested in the presentation because of those attractive pictures, music, and cartoons. On the other hand, it might be more challenging for teachers because they had to operate the computer and could not move as freely as in a regular classroom. Therefore, the teacher would adjust their teaching method when teaching in the CALL classroom. Generally, teachers used the multimedia classroom every week. But they would only use it when the text contains much information which they could not handle with chalk and blackboard. While two of them stated that they were worried about the CALL-integrated instruction.

About 60% of the teachers felt hard to control the class when teaching in the multimedia classroom. They thought they were "masters" in the classroom unconsciously, which was different from the roles they were supposed to play in a

CALL class. On the one hand, they claimed to “allow the students to play a major role in a class”. They said that students were the center in the class. Unfortunately, in practice, they would devote most of their time to presenting and to possibly some discussions. In their views, “saying is one thing, doing is another”. In fact, they were not willing to practice what they preached in terms of the use of CALL. This also affected the normalization of CALL. The factors revealed from the interview seemed deeper and more understandable in term of practice than the descriptive statistics from the questionnaire.

Other interesting and important results which were extra to the questionnaire were revealed in the semi-structured interview. That is, a few interviewees said that they liked using computers in teaching just because of their personal hobby of playing computer games. They had a preference of computers than other means which could be employed in language learning and teaching. Interestingly, some teachers just thought that using computers in teaching made them “feel cool” in front of their students.

4.3 Answers to the Research Questions

In respond to the first research question (What are teachers’ opinions towards CALL?), the research findings demonstrated that English teachers viewed the computer as a useful tool in the English classroom. They thought that the computer was a commonplace, not a stranger to them. Thus, the computer was an integrated part in the process of English teaching from their point of view.

In respond to the second research question (what are the problems and factors affecting the normalization CALL in Ethnic Minority Areas?), the research findings revealed that the insufficient of the CALL facilities, the inconvenience of booking the multimedia classroom, and poor computer competency might be the problems in normalizing CALL in senior high schools in QBMP. Institutional support, teachers' computer competency, teaching methodology and learner's difference could affect the normalization of CALL in ethnic areas. Thus, CALL training for teachers could be helpful to normalize CALL. Teachers should be aware that they need to employ the proper teaching methodology when teaching in a CALL environment if they wanted to make CALL normalized in senior high schools.

4.4 Conclusion

The data from the questionnaire and the semi-structured interview were closely related since the questions in the interview were aimed at obtaining more in-depth information which might not be revealed in the questionnaire. The study could be considered to indicate that English teachers viewed the computer as a commonplace but useful instructional tool in senior high schools. Moreover, this study attempted to find out the major factors (including institutional factors, computer competency and teacher training, teaching methodology and learner factor) affecting normalization of CALL in senior high schools in ethnic minority areas.

4.5 Summary

In sum, this chapter discussed the research methodology employed in the present study. A written questionnaire and an oral interview were carried out to investigate in-depth the English teachers' opinions on application of CALL in senior high schools, in which various factors could be involved. The procedures of the data collection were described. The analysis of the questionnaire and the interview were carried out both quantitatively and qualitatively.

CHAPTER 5

DISCUSSION AND CONCLUSION

This chapter gives a discussion to and draws a conclusion of the results of the study. It consists of two major sections. The first section summarizes and discusses all the findings of the present study in terms of English teachers' opinions and the major factors effecting normalization of CALL in senior high schools, and the second section draws a conclusion of the study together with proposing pedagogical implications in the EFL context in ethnic regions in China, reporting the limitations of the study, and suggesting the recommendations for future studies.

5.1 Discussion of the Results

This study was to investigate in depth on the English teachers' opinions on the major factors affecting normalization of CALL in senior high schools. A questionnaire and a semi-structured oral interview were used to collect the data in the study. Based on the analysis of the collected data, the findings could be drawn as follows:

1. Computers were regarded as a commonplace in English classroom in senior high schools. This finding supported the description of normalization of CALL in Bax's (2003:23) study "CALL — past, present and future": "computers...are used

every day by language students and teachers... without fear or inhibition, and equally without an exaggerated respect for what they can do". That is, computers were used in the English classroom by teachers without fear and they were expected to be available by English teachers. Most English teachers believed that using computers was beneficial to teaching English in classroom. This implied that teachers realized the important role of computers. Many of the English teachers liked to use computers in teaching because it was interesting but they did not think that computers mean everything in class. That is, the computer is necessary in teaching but it is not superior to other means in the process of teaching. This finding is in accordance with the situation when CALL is normalized from Bax's point of view (2003). Moreover, this finding also shared the similar ideas in the study conducted by Mandizadeh, Biemans, and Mulder (2008), in which they thought that teachers' perceptions of the added value of the e-learning environment influence their use of this environment. And in turn, their perceptions were influenced by their opinions about web-based activities and computer assisted language learning.

2. There were not enough multimedia classrooms in many schools although most teachers had computers at home. There were professional technicians responsible for the multimedia classroom but teachers must book the multimedia classroom if they wanted to use it, which was a little bit complicated. And this was one reason why they do not use it quite frequently. This factor seemed to be similar to the one (logistics) found in Chambers and Bax's (2006) research, in which they found that convenience of use is a major factor for normalization to take place.

3. Most teachers could use the basic software such as Microsoft Word, Microsoft Excel, and Microsoft PowerPoint in teaching. They could obtain texts, audio files or other media from websites or database and this was one reason why teachers thought that computers were quite beneficial to their teaching. To enhance English teachers' computer competency in applying CALL in teaching, there were two ways available: workshops offer training on CALL techniques and colleagues' helping and training each other. However, there was a need for professional construction on computer competency since there were technique failures sometimes. This indicated that computer competency could affect the application of CALL in senior high schools to a great extent and the teachers should be trained to improve their computer competencies to make CALL normalized. Furthermore, this finding was closely related to Chambers and Bax's (2006) research, in which they thought that it was important to note the training and development (for teachers).

4. Ninety percent of the teachers thought that students were different when studying in a multimedia classroom and an ordinary classroom. Therefore, they taught differently between teaching in a multimedia classroom and an ordinary one. They thought that pictures, sounds and cartoons in PPT could motivate students more. This finding agreed with the ideas in Yang and Chen's (2007) research, in which they viewed that teachers should help students to be aware of new strategies in learning English through multimedia technology. There were classroom observations among colleagues and there was co-work when preparing lessons. To prepare for the lesson, teachers often adapted a courseware from a commercial textbook but they seldom used the courseware

directly. That is, they spent more time on preparing a lesson, which was proved to be one obstacle to normalize CALL in Chambers and Bax's (2006) study. Teachers were not the only source of knowledge and students could learn from the Internet. However, most teachers thought that CALL materials needed to be modified to meet the existing syllabus objectives because they took the students' differences in learning into consideration. In short, teaching methodology was crucial in successful application of CALL. Moreover, learner factor might be one of the important factors affecting normalization of CALL as well since their interests and motivation in learning English in a CALL environment could be helpful to the normalization of CALL.

5.2 Conclusion

The findings in this study demonstrated that many factors, including teacher's personal conceptions; institutional support; computer competency and teacher training; teaching methodology and learner factor, could affect the normalization of CALL in ethnic minority areas. Senior high schools in QBMP are on the way to the normalization of CALL although there are still lots of obstacles to be overcome. However, there might be more factors involved in the normalization of CALL and many other aspects of CALL await further research in the field of ELT.

5.2.1 Pedagogical Implications

The findings of the present study have some pedagogical implications for the policy in the normalization of CALL and curriculum development in teachers' college. Moreover, these findings have some pedagogical implications for teachers in

senior high schools in ethnic regions and students in normal universities in general in ethnic regions in China. Both teachers and students should realize the problems existing in applying CALL in the English classroom. Therefore, students in normal universities can equip themselves with necessary abilities before they begin their teaching career. Teachers can also help students in applying CALL in learning and teaching English in ethnic minority areas in China. This will help both parties in accomplishing their challenging task of teaching English in ethnic regions.

5.2.1.1 Policy in the Normalization of CALL

From the results of this research, we find that some teachers might not use CALL facilities because of the complicated booking affairs. It indicates that teachers may use these facilities more often if there are less booking steps. Moreover, teachers feel good when there is a technician taking care of the multimedia classroom. Thus, the institute can provide more convenience like this for teachers. To sum up, institution support is very necessary and helpful to normalize CALL in senior high schools. CALL is expected to realize all its potential if preferential policies are made for the ethnic minority areas.

5.2.1.2 Curriculum Development in Teachers' College

Nearly all teachers' college and normal universities provide the course of computer competency. However, only some of them focus on CALL for English majors in their curriculum development. Based on the findings in this study, CALL training to English majors in teachers' college and normal universities is

crucial to making CALL normalized in ethnic areas. Moreover, greater attention will be paid to this if it is written in the curriculum. Thus, students' CALL training should be included in curriculum development in teachers' college and normal universities in ethnic areas in China.

5.2.1.3 Teachers' Awareness of Application of CALL

Unlike any other developed regions in China, English teachers play more important roles in the EFL classroom in countryside in ethnic regions. Nowadays, technology has been used in English learning and teaching for more than forty years. However, it is not easy to fully integrate the technology into ELT, especially in those remote, developing regions. English teachers are practitioners in CALL but they are not professional technology persons. Therefore, it is challenging for them to use technology and then integrate it into language teaching. Meanwhile, the majority of students who come from the rural areas have poor background of computers. They might be interested in touching them but they can also be afraid of using it. All of these affect the normalization of CALL in ethnic areas. Therefore, to identify teachers' opinions on CALL and the factors affecting normalization of CALL is crucial to English learning and teaching in EFL context. In the modern English classroom, teachers are expected to act as a planner, a role model, a coach, a facilitator, an information provider, a counselor, a communicator, an authentic language user, and an organizer, etc. Whereas, it will take time for teachers to change their roles in the classroom if they want to integrate CALL in language teaching. On the one hand,

more English teachers who can integrate CALL in ELT are needed in ethnic areas. They should be aware of the importance of CALL and be the practitioners as well. On the other hand, teacher training is necessary in ethnic regions. Teacher training includes both teaching methodology and technology in English teaching in ethnic regions. Teachers should be trained on computer competency and teaching methodology. Not every English teacher knows what the normalization of CALL means. Therefore, it is very necessary to help teachers to know what technology can do and how the technology can be integrated in ELT. As a good English teacher, he or she should know well about the advantages and disadvantages of integrating CALL so that he or she can apply and make full use of the teaching facilities and techniques in the English classroom teaching. In brief, based upon the findings of this study, teachers' awareness of applying CALL could be raised since this is a key factor in the successful implementation of classroom teaching in an EFL class in normalization of CALL.

5.2.1.4 Students' Training in Normal Universities

As for students in teachers' college or normal university in ethnic regions, they are the key factors in English teaching and learning in an EFL class. In China, most of English teachers graduate from teacher' college or normal university which is a school created to train undergraduates to be teachers. That is, most English majors in college or university would be English teachers in middle schools (including junior high schools and senior high schools) in ethnic minority areas. Therefore, they should learn about CALL and be trained the computer

competency and teaching techniques at school so that they know how to use technology in English teaching effectively. They should be aware of the potential problems and factors affecting normalization of CALL in ethnic high schools. And then, they can avoid these problems before they become an in-service teacher because they will be the main source of English teachers to accomplish CALL in an EFL class.

Therefore, as for computer competency and teaching methodology, two means of training can be carried out. The first is to train English major students at teachers' college or normal university so that they can teach English with the assistance of proper use of technology after graduation. Therefore, training students at college or university should be an effective way. The second is to do in-service training for English teachers. The local educational administrative department in ethnic regions can start a training course on CALL in an EFL classroom. Furthermore, as an English teacher, no matter what methods we adopt in our teaching, we should keep this in our mind: students' interest is the most important factor in learning English. Therefore, all the techniques we adopt are to stimulate and promote students' interests in English learning. Besides, different teaching methodology must take students' situation into consideration. There is no the best way to every student when applying CALL in the EFL classroom.

5.2.2 Limitations of the Study

As mentioned in 1.6, the strengths of this study are the use of both qualitative and quantitative methods yielding the process of in-depth data collection

and analysis so that the findings of the study will be validated. However, like other research studies so far in the field of language acquisition, the study brings in certain limitations which should be clarified to overcome doubts about the reliability and validity of the study. The following limitations apply to the present study.

Firstly, the population of this study was limited to the senior high school English teachers of Qianxi'nan in Guizhou province, China. It might not be considered as representatives of other ethnic regions even though it has the large ethnic population in China. The population of the English teachers in senior high schools was the limitation because they were inadequate to represent the overall English teachers in China.

Secondly, the purposive sampling procedure of this study decreased the generalizability of findings even though random sampling was used as well. The participants were chosen based on convenience and availability. This study was not generalized to all counties of senior high schools in QMDP since the aim for this study was to investigate in-depth how the English teachers in senior high schools view the normalization of CALL in ethnic minority areas.

Thirdly, in order to investigate how the English teachers in senior high schools view the normalization of CALL, the research questions in the study only focused on the English teachers' opinions in English vocabulary learning and factors affecting normalization of CALL in senior high schools in QBMP.

5.2.3 Recommendations for Further Studies

Based on the limitations discussed in 5.2.2 above, some recommendations can be offered for further studies in normalization of CALL in ethnic regions in China.

First, a large-scale survey study covering the regions where all the ethnic peoples live in compact communities in China in the future is required so as to make the findings of the study more generalizable.

Second, more research methods/instruments such as classroom observation, diary studies, etc. together with questionnaire and interview are needed to triangulate the data collection in the future studies so that the findings of the study could be more reliable.

Third, more research questions related to factors affecting the normalization of CALL could be conducted in future studies, such as the correlation between opinions hold and gender; different conceptions among teachers' age, academic title, and school types; different perceptions among teachers in different schools etc.

Finally, more studies in this area are also needed: 1) a case study of application of CALL in a certain school could be conducted to find how CALL are normalized in junior or senior high schools; 2) a comparative study on applying CALL and changes between the ethnic junior and senior high school teachers could be conducted in the future to explore how CALL is normalized and changed from junior

high school students to senior high school students; and 3) a longitudinal study on the normalization of CALL could also be conducted in the future study to explore the in-depth correlations between CALL application and scores of students' English proficiency tests; 4) a comparative study can be carried out to compare the normalization of CALL in experiment schools and regular schools to see the similarities and differences.

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APPENDIX A

Sample Size Determination

Table for Determination Sample Size from a Given Population

Population Size	Sample Size	Population Size	Sample Size	Population Size	Sample Size
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	<u>1600</u>	<u>310</u>
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364

Population Size	Sample Size	Population Size	Sample Size	Population Size	Sample Size
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

The sample size in the table above is Krejcie & Morgan's (1970, pp. 607-610) "Table for Determination Sample Size from a Given Population", which is calculated by using their sample size estimation formula(see **Figure 3.1**).

Figure 3.1 Krejcie & Morgan's (1970) sample size estimation formula:

$$S = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 NP (1-P)}$$

$$S = [3.841 \times 1607 \times 0.5 \times (1 - 0.5)] / [0.0025 \times 1607 + 3.841 \times 0.5 \times (1 - 0.5)]$$

$$S = (3.841 \times 1607 \times 0.25) / (4.0175 + 0.96025)$$

$$S = 1543.12175 / 4.97775$$

$$S \approx 310.00$$

$$S = 310$$

Note: S = required sample size;

N = the given population size;

P = population proportion (assumed to be .50, since this would provide the maximum possible sample size);

d = the degree of accuracy as expressed as a proportion (.05);

X^2 = table value of chi-square for one degree of freedom at the desired confidence level (3.841).

APPENDIX B

**Criteria for Determining a Representative
Interview Sample**

Participants	Minimum Interviews	Participants	Minimum Interviews	Participants	Minimum Interviews
0-9	ALL	86-99	22	339-369	53
10-12	9	100-149	24	370-475	58
13-17	11	150-199	26	476-550	65
18-24	13	200-220	30	551-600	70
25-30	15	221-240	35	601-700	80
31-44	17	241-299	37	701-800	86
45-64	19	<u>300-320</u>	<u>42</u>	801-900	90
65-85	21	321-338	47	901-1,000	100

(cf.: Alberta Municipal Health & Safety Association. <http://www.amhsa.net>)

No.	Teachers' Personal Perception	strongly disagree	disagree	not sure	agree	strongly agree
1	Using computers is beneficial to teaching English in classroom	1	2	3	4	5
2	It is interesting to use computers while teaching	1	2	3	4	5
3	Computers mean everything in class	1	2	3	4	5
4	It takes time to prepare lessons using computers	1	2	3	4	5
5	Computer is necessary as pen or book in the classroom	1	2	3	4	5
6	The computer is an integral part in the process of teaching	1	2	3	4	5
7	You can still teach well without computers	1	2	3	4	5
8	Computers are such a high-tech that you cannot use it easily	1	2	3	4	5
9	You feel confident in using computers	1	2	3	4	5
10	You feel normal when you see a computer in the classroom	1	2	3	4	5
11	The Internet is very important in your teaching career	1	2	3	4	5
12	Students can benefit from the Internet	1	2	3	4	5
13	The Internet can be harmful to students	1	2	3	4	5
14	Students need to be guided in making use of the Internet	1	2	3	4	5
15	It is difficult to select proper materials from the Internet for teaching	1	2	3	4	5

Directions: Part 3 to part 5 are designed to find out the potential problems in application of CALL in Senior High Schools. Please read each statement carefully and tick (✓) the response which represents your opinions. The number 1 to 5 stands for the following responses:

- 1 = never appropriate to my situations 2 = seldom appropriate to my situations
3 = sometimes appropriate to my situations 4 = often appropriate to my situations
5 = always appropriate to my situations

Part 3 Institutional Factor

No.	Institutional Factor	never	seldom	sometimes	often	always
16	Your income can support a personal computer at home	1	2	3	4	5
17	There are enough multimedia classrooms for use	1	2	3	4	5
18	There is specific fund for setting up the multimedia classroom	1	2	3	4	5
19	There is evaluation of the multimedia classroom from the education office	1	2	3	4	5
20	The multimedia classroom is only for evaluation from the education office	1	2	3	4	5
21	There are professional technicians responsible for the multimedia classroom	1	2	3	4	5
22	You are allowed to use a multimedia classroom when you book it	1	2	3	4	5
23	It is complicated to book a multimedia classroom	1	2	3	4	5
24	There is a requirement from the education office to teach with technology	1	2	3	4	5
25	You are encouraged to teach in a multimedia classroom	1	2	3	4	5
26	CALL facilities are separated from ordinary teaching space	1	2	3	4	5
27	Teaching in a multimedia classroom is a criteria to judge an excellent teacher	1	2	3	4	5
28	The Internet is available in the classroom	1	2	3	4	5
29	The speed of the Internet is slow	1	2	3	4	5
30	There is staff responsible for the Internet	1	2	3	4	5

Part 4 Computer Competency and Teacher Training

No.	Computer Competency and Teacher Training	never	seldom	sometimes	often	always
31	You use word processing such as Microsoft Word	1	2	3	4	5
32	You use spreadsheet such as Microsoft Excel	1	2	3	4	5
33	You use Microsoft Power Point	1	2	3	4	5

No.	Computer Competency and Teacher Training	never	seldom	sometimes	often	always
34	You use Photo Editor such as Adobe Photoshop	1	2	3	4	5
35	You can solve the technical problem when mouse and keyboard cannot be detected	1	2	3	4	5
36	You can adjust monitor display properties	1	2	3	4	5
37	You can solve the problem when the computer freezes	1	2	3	4	5
38	You obtain texts, images, audio files or other media from websites	1	2	3	4	5
39	You obtain texts, images, audio files or other media from database	1	2	3	4	5
40	You have the general knowledge of hardware in a computer	1	2	3	4	5
41	There are some workshops to offer trainings on CALL techniques	1	2	3	4	5
42	Your colleagues help and train each other	1	2	3	4	5
43	There are technical failures	1	2	3	4	5
44	Teachers lack skills to deal with technical failures	1	2	3	4	5
45	There is a need for professional instruction for computer competency	1	2	3	4	5

Part 5 Teaching Methodology and Learner Factor

No.	Teaching Methodology and Learner Factor	never	seldom	sometimes	often	always
46	Students behave similarly when studying in a multimedia classroom and an ordinary classroom	1	2	3	4	5
47	Pictures, sounds, and cartoons in PPT motivate students more	1	2	3	4	5
48	Pictures, sounds, and cartoons in PPT distract the students' attention	1	2	3	4	5
49	Pedagogical support is needed in spite of technical assistance	1	2	3	4	5
50	There is co-work among colleagues when preparing lessons	1	2	3	4	5
51	There are class observations among colleagues	1	2	3	4	5

No.	Teaching Methodology and Learner Factor	never	seldom	sometimes	often	always
52	You adopt a courseware from a commercial textbook	1	2	3	4	5
53	You adapt a courseware from a commercial textbook	1	2	3	4	5
54	There is enough interaction between teachers and students	1	2	3	4	5
55	Students might be lazy since they can download PPT after class	1	2	3	4	5
56	Students can concentrate more because they don't spend time on noting down teachers' presentation	1	2	3	4	5
57	There is not much difference between teaching in a multimedia classroom and an ordinary one	1	2	3	4	5
58	There are rich sources for students to learning English in the Internet	1	2	3	4	5
59	Teachers are the only source of knowledge	1	2	3	4	5
60	CALL materials need to be modified to meet the existing syllabus objectives	1	2	3	4	5

APPENDIX D

调查问卷

英语教师对于“计算机辅助语言学习”的态度调查问卷

尊敬的老师： 您好！

为了深入了解计算机辅助语言学习在民族地区高中的开展情况，我们设计了 this 调查问卷。

本问卷包括 5 个部分：1) 个人信息 2) 教师个人观点 3) 学校因素 4) 计算机能力及教师培训 5) 教学方法及学生因素。您的回答对我们的研究非常重要，请仔细阅读每一项，并根据您的情况选择相应的答案，答案无正误之分。为尊重隐私，您的信息只用作研究目的并将得到妥善保存。

非常感谢您的支持与合作！

第一部分 个人信息

1. 性别 男 女
2. 年龄 30 岁以下 31-40 岁 41 岁 以上
3. 学历 大专 本科 硕士
4. 职称 初级 中级 高级
5. 教学经验 0-5 年 6-15 年 16 年以上
6. 学校类型 公立 私立

第二部分 教师对计算机辅助语言学习的态度

本部分用于了解您对于计算机辅助语言学习在高中的实施情况的观点。请仔细阅读每一句话，并在最能代表您观点的数字打勾(√)。数字 1-5 分别代表以下答案： 1 = 非常不赞同 2 = 不赞同 3 = 说不清楚 4 = 赞同 5 = 非常赞同

No.	教师个人观念	非常不赞同	不赞同	说不清楚	赞同	非常赞同
1	使用计算机有利于英语课堂教学	1	2	3	4	5
2	使用计算机教学很有意思	1	2	3	4	5
3	计算机能取代教师	1	2	3	4	5

No.	教师个人观念	非常不赞同	不赞同	说不清楚	赞同	非常赞同
4	用计算机备课很花时间	1	2	3	4	5
5	计算机就像笔和书一样必要	1	2	3	4	5
6	计算机是融于教学过程中的一个组成部分	1	2	3	4	5
7	没有电脑一样可以把教学搞好	1	2	3	4	5
8	电脑是个不容易掌握的高科技	1	2	3	4	5
9	我对使用电脑很自信	1	2	3	4	5
10	在教室看到电脑你觉得很正常	1	2	3	4	5
11	因特网对于我的教学生涯很重要	1	2	3	4	5
12	学生可以得益于因特网	1	2	3	4	5
13	因特网可能对学生有害	1	2	3	4	5
14	应该引导学生使用网络	1	2	3	4	5
15	网络上资源繁杂, 难以筛选可利用的内容	1	2	3	4	5

3-5 部分用于了解计算机辅助语言学习在高中实施过程中的出现的问题和存在的困难。请仔细阅读并在代表您观点的数字打勾。(√) 数字 1 至 5 分别代表以下答案:

1 = 非常不符合我的情况 2 = 很少符合我的情况 3 = 有时符合我的情况
4 = 通常符合我的情况 5 = 非常符合我的情况

第三部分 学校因素

No.	学校因素	非常不符合	很少符合	有时符合	通常符合	非常符合
16	你有自己的家用电脑	1	2	3	4	5
17	学校有足够的可供使用的多媒体教室	1	2	3	4	5
18	政府拨有建设多媒体教室的专款	1	2	3	4	5
19	教育局对多媒体教室要进行评估	1	2	3	4	5
20	多媒体教室只是迎接上级部门检查的摆设	1	2	3	4	5
21	有专门负责多媒体教室的技术人员	1	2	3	4	5
22	多媒体教室需要预定才能使用	1	2	3	4	5
23	预定多媒体教室很麻烦	1	2	3	4	5
24	利用现在教育技术开展教学是教育部的要求	1	2	3	4	5
25	学校鼓励在多媒体教室进行教学	1	2	3	4	5
26	计算机辅助教学设施与一般教学设施是分开的	1	2	3	4	5

No.	学校因素	非常不符合	很少符合	有时符合	通常符合	非常符合
27	在多媒体教室上课是评价一个优秀教师的标准之一	1	2	3	4	5
28	多媒体教室有网络连接	1	2	3	4	5
29	网速不能满足教学的需要	1	2	3	4	5
30	有专门负责网络管理的工作人员	1	2	3	4	5

第四部分 计算机能力与教师培训

No.	计算机能力与教师培训	非常不符合	很少符合	有时符合	通常符合	非常符合
31	能使用文字处理软件, 例如 word	1	2	3	4	5
32	会用电子表格, 例如 Excel	1	2	3	4	5
33	会制作并使用幻灯片上课	1	2	3	4	5
34	会使用图片编辑器, 例如 Adobe Photoshop	1	2	3	4	5
35	能解决鼠标、键盘不能识别等技术问题	1	2	3	4	5
36	会调整显示器性质 (如音量, 亮度等)	1	2	3	4	5
37	电脑死机了你知道如何处理	1	2	3	4	5
38	会从网页获得文本、声音、影像等文件	1	2	3	4	5
39	会从数据库获得文本、声音、影像等文件	1	2	3	4	5
40	了解电脑的基本硬件组成	1	2	3	4	5
41	通过参加研讨会从而得到计算机技术培训	1	2	3	4	5
42	同事之间互相帮助及培训	1	2	3	4	5
43	电脑会出现技术故障	1	2	3	4	5
44	教师缺乏处理技术故障的能力	1	2	3	4	5
45	计算机专业技术培训很有必要	1	2	3	4	5

第五部分 教学方法及学生因素

No.	教学方法及学生因素	非常不符合	很少符合	有时符合	通常符合	非常符合
46	学生在多媒体教室和一般教室学习表现是没有区别	1	2	3	4	5
47	幻灯片上的图片、声音、和动画更能激发学生学习兴趣	1	2	3	4	5
48	幻灯片上的图片、声音、和动画会分散学生注意力	1	2	3	4	5

No.	教学方法及学生因素	非常不符合	很少符合	有时符合	通常符合	非常符合
49	除了技术支持以外，教师需要教学方法指导和更新	1	2	3	4	5
50	教师共同备课，分享课件	1	2	3	4	5
51	教师之间互相听课	1	2	3	4	5
52	直接使用商家课本上的课件进行教学	1	2	3	4	5
53	对商家课本上的课件根据需要进行修改使用	1	2	3	4	5
54	师生互动与生生互动良好	1	2	3	4	5
55	学生会因为可以拷贝讲授内容而懒惰	1	2	3	4	5
56	由于不用抄写教师讲授内容，更有利于学生思考	1	2	3	4	5
57	在多媒体教室上课和普通教室上课没有什么不同	1	2	3	4	5
58	网络上有学生学习的丰富资源	1	2	3	4	5
59	教师是学生知识的唯一来源	1	2	3	4	5
60	应根据教学大纲科学调整计算机辅助语言学习的材料和内容	1	2	3	4	5

APPENDIX E

List of Questions for the Semi-Structured Interview (English version)

Instructions: This interview questionnaire is to gather your opinions in application of CALL. There are 12 questions in total. Please answer these questions completely. Thank you for your cooperation.

The Semi-structured Interview Questions

1. What's the role of computers in English teaching?
2. Do you use computers in teaching? Why, or why not?
3. What's your feeling when you see a computer in the classroom?
4. Do you have a personal computer? And do you often use it in your spare time?
5. What's your opinion towards the role of Internet to students and teachers?
6. Do the administrators encourage or force you to use computers in teaching?
7. Do you have a multimedia classroom in your school? And how often do you use it?
8. How do you describe your computer competency? Can you use some necessary software for teaching?
9. Do you have workshops to train your computer competency? Is it effective?
10. Do you think that students are different when study in a multimedia classroom? If yes, how do you adjust your teaching method?
11. What's teachers' role in CALL?
12. Do you think that the students' learning strategy is important in CALL? Why, or why not?

APPENDIX F

访谈问题

(中文版)

尊敬的老师:

您好!

为了深入了解您对于“计算机辅助语言学习”在中学实施的观点,我们设计了这个问卷。请根据您的实际情况回答以下问题。感谢您的合作!

访谈问题

13. 你认为电脑在英语教学中的作用是什么?
14. 你喜欢用电脑进行教学吗? 为什么喜欢,或者, 为什么不喜欢?
15. 你在教室看见电脑时是什么感觉?
16. 对于教师和学生, 你认为因特网扮演了什么角色?
17. 你们学校有多媒体教室吗? 你多久使用一次多媒体教室呢?
18. 学校是鼓励, 还是要求使用电脑辅助英语教学呢?
19. 你有个人电脑吗? 你是否经常在业余时间使用电脑呢?
20. 你的计算机使用能力如何? 你会使用教学需要的一些软件吗?
21. 你经常参加培训来提高计算机使用能力吗? 培训是否有效?
22. 你认为学生在多媒体教室学习和在普通教室学习有不同吗? 如果有, 你怎么调整教学方法呢?
23. 在使用计算机辅助英语教学时, 学生和老师的角色定位如何?
24. 在计算机辅助英语教学中, 除了教法以外, 你注重学生的学法吗? 为什么, 或者, 为什么不?

APPENDIX G

Item Analysis (IAS) and Item-Objective Congruence Index (IOC) Check of the Questionnaire

1. Questionnaire on English Teachers' Opinions towards CALL

No.	Expert No. 1	Expert No. 2	Expert No. 3	Result
1.....	1	1	1	√
2.....	1	1	1	√
3.....	1	1	1	√
4.....	1	0	1	√
5.....	1	1	1	√
6.....	1	1	1	√
7.....	1	1	1	√
8.....	-1	1	-1	x
9.....	1	1	1	√
10.....	1	1	1	√
11.....	1	-1	-1	x
12.....	1	1	1	√
13.....	1	1	1	√
14.....	0	1	1	√
15.....	1	1	1	√
16.....	1	1	1	√
17.....	1	1	1	√
18.....	1	1	1	√
19.....	0	0	-1	x
20.....	1	1	1	√

No.	Expert No. 1	Expert No. 2	Expert No. 3	Result
21.....	1	1	1	√
22.....	1	1	1	√
23.....	1	1	1	√
24.....	1	1	1	√
25.....	1	1	1	√
26.....	1	1	1	√
27.....	1	1	1	√
28.....	1	1	1	√
29.....	1	1	1	√
30.....	1	1	1	√
31.....	1	1	1	√
32.....	1	1	1	√
33.....	1	1	1	√
34.....	1	-1	-1	x
35.....	1	1	1	√
36.....	1	1	1	√
37.....	1	1	1	√
38.....	1	1	1	√
39.....	-1	0	0	x
40.....	1	1	1	√
41.....	1	1	1	√
42.....	1	1	1	√
43.....	1	1	1	√
44.....	1	-1	-1	x
45.....	1	1	1	√
46.....	-1	0	0	x
47.....	1	1	1	√

No.	Expert No. 1	Expert No. 2	Expert No. 3	Result
48.....	1	1	1	√
49.....	1	1	1	√
50.....	1	1	1	√
51.....	1	1	1	√
52.....	1	1	0	√
53.....	1	0	1	√
54.....	1	1	1	√
55.....	1	1	1	√
56.....	1	1	1	√
57.....	-1	1	-1	x
58.....	1	1	1	√
59.....	1	1	1	√
60.....	1	1	1	√
61.....	1	1	1	√
62.....	1	1	1	√
63.....	1	-1	1	√
64.....	1	1	1	√
65.....	1	1	1	√
66.....	0	1	1	√
67.....	1	1	1	√
68.....	1	1	1	√
Total	57	55	53	

- Notes: 1. “1” for the item is congruence with objective
- 2. “-1” for the item is not congruence with objective
- 3. “0” for the expert not sure

- **Result of IOC:**

$$(IOC = \Sigma R/N)$$

Item number: 68

R=57+55+53=165 (Scores from experts)

N=3 (Numbers of experts)

$$IOC=165/3=55.00$$

Percentage: $55.00/68 \times 100\% = 80.88\%$

2. The Semi-Structured Interview Questions

No.	Expert No. 1	Expert No. 2	Expert No. 3	Result
1.....	0	1	1	✓
2.....	1	1	1	✓
3.....	1	1	1	✓
4.....	1	1	1	✓
5.....	1	1	1	✓
6.....	-1	1	1	✓
7.....	1	1	1	✓
8.....	1	1	1	✓
9.....	1	1	-1	✓
10.....	1	1	1	✓
11.....	1	1	0	✓
12.....	1	0	1	✓
Total	9	11	9	

- **Notes: 1. "1" for the item is congruence with objective**

2. "-1" for the item is not congruence with objective

3. "0" for the expert not sure

- **Result of IOC:**

$$(IOC = \Sigma R/N)$$

Item number: 12

R=9+11+9=29 (Scores from experts)

N=3 (Numbers of expert)

$$IOC=29/3=9.66$$

Percentage: $9.66/12 \times 100\% = 80.55\%$

CURRICULUM VETAE

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