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**TEACHER COGNITION ABOUT TECHNOLOGY-  
MEDIATED EFL INSTRUCTION IN THE THAI  
TERTIARY CONTEXT**

**A thesis presented in fulfilment of the requirements for the degree of  
Doctor of Philosophy in Second Language Teaching  
at Massey University**

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**2010**



## ABSTRACT

Drawing on theories of teacher cognition and sociocultural frameworks, this study investigates Thai university English lecturers' cognition about integrating Information and Communication Technology (ICT) in English language instruction and writing instruction in Thai tertiary contexts. A more specific goal is to investigate technology-using teachers' personal principles and practices in their teaching contexts. The study was guided by the following research questions: What is the nature of Thai tertiary teacher cognition about the use of technology in EFL instruction? What is the nature of Thai tertiary teacher cognition about the use of technology in EFL writing instruction? How do Thai tertiary teachers perceive their practices and roles in relation to their technology-mediated EFL instruction in particular settings? In Thai tertiary education, what are the sociocultural aspects that shape teacher cognition and practice about technology-mediated EFL teaching? A teacher cognition questionnaire was designed and administered to 47 Thai EFL lecturers in seven public universities; semi-structured interviews and scenario-based tasks were conducted with seven lecturers; unstructured interviews and observations were carried out with three teachers who used technology in their classroom teaching in order to gain a better understanding of their situated perceptions about the use of technology in particular teaching and learning contexts. The results reveal that university EFL teachers' views of technology are highly shaped by both their teaching environment and individual beliefs about English language learning. When teachers apply technology in their instruction, they also apply their personal principles or maxims that guide their practices. In addition, a number of sociocultural aspects emerged in teachers' views about technology use in their EFL teaching contexts giving rise to theoretical implications about how teacher cognition is conceptualised. Some of the major implications for practice include: the need to encourage EFL teachers to reflect on their teaching principles relevant to their working contexts; the value of providing teachers with models of technology use in tertiary EFL teaching; and the maximisation of the use of available technology to support local practices. Implications for methodology include the use of multiple context-specific instruments and methods to elicit teachers' underlying beliefs and perspectives about technology-mediated teaching.



## ACKNOWLEDGEMENTS

This thesis would not have been possible without the support and encouragement of many people. First of all, I would like to express my deepest appreciation and gratitude to my first supervisor, Professor Cynthia White, who is always willing to work hard to give her expert guidance, knowledge, insight, and time. I would also like to thank my co-supervisor, Dr Ute Walker, who also generously gave her time and encouragement along the way. I have been very fortunate to work with them. Their help, caring, and beliefs in me contributed to the completion of this endeavour.

Sincere appreciation also goes to Dr Gillian Skyrme who generously read my drafts and gave me insightful comments, without her generosity, this thesis would have been far less organised.

My thanks are due to the Commission on Higher Education, Ministry of Education Thailand, for granting me a full-time doctoral scholarship to study in New Zealand. I am also exceptionally grateful to the participating Thai EFL lecturers of this study for sharing their professional experiences, beliefs, and knowledge which mean a great deal to this research and my teaching profession.

Lastly, and most importantly, I wish to thank my family, especially my parents, Payont and Suree Suwannasom, and my grandaunt, Kamolwan Wiratkate, for supporting me to learn what I love and giving me the best education that they can afford. The strength, motivation, inspiration, understanding, and love they have given me for all my life are deeply appreciated.



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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the study

As an English as a Foreign Language (EFL) learner and teacher, I am always interested in how to improve my English learning and teaching. In recent years, I have found that new Information and Communication Technologies (ICTs) have offered teachers great resources and tools to enhance work in this area. At work, I have tried to encourage students to read online and use Computer-Mediated Communication (CMC) tools such as e-mails and discussion forums to practise their English. I remember how long I spent on the computer replying to student e-mails and answering questions about English language, when often I had no idea how to answer those questions; with an Internet search, I could find the answer and recommend additional sources which might help EFL students in their self-directed language learning. However, integrating technology into EFL teaching is not easy. I have encountered several challenges including teaching myself how to use applications, aligning computer facilities with the class meeting time, keeping up with course objectives, solving technical problems, and encouraging students to take up technology in language learning. Each semester, I explained to my students the benefits of using word processors for written assignments and exchanging e-mails in English. Some students did not have their own e-mail account until I asked them to get one for submitting assignments or asking me questions anytime that they wanted, without having to come and see me at my office. Although these technology-related activities may look simple, for me, this form of instruction is complicated since it requires a lot of time, thinking, planning, evaluating, and classroom management.

In addition, this is all the more demanding as I have never received any training in teaching with technology: what I studied in my Bachelor's and Master's programs did not include any online language learning or web-based instruction. Therefore, I usually learned about computer technologies by myself and looked for models of technology-mediated instruction from colleagues and expert teachers. Nevertheless, as I discussed

technology use with colleagues and visited other institutions for conferences, I heard different stories about teachers' use of technology in EFL instruction, ranging from no use, to marginal or occasional use, to innovative use of technology although they were from the same institution and had the same technology facilities and support. There were times when I saw how computers, network facilities, and online learning systems were installed at institutions, yet received little uptake from teachers and students. In some cases, although technology facilities, training and support were provided, some EFL teachers did not seem convinced enough to take the opportunity to integrate new technologies into their language teaching, while other teachers, working in low technology environments, struggled to make every possible use of the technology that was available in their EFL teaching.

Hearing stories of colleagues and other teachers trying to use technology in their EFL classroom teaching has always fascinated me. Moreover, this also implies that there are unexplored realities behind each teacher's use of technology in Thai tertiary EFL contexts. No matter what kind of technology is used or what achievement or failures teachers have experienced in integrating such technology, the stories behind their technology use are worth sharing and are useful for understanding EFL teaching in the Information Age in the Thai tertiary context. Therefore, I decided to conduct this study to find answers to my questions about how my fellow Thai EFL teachers think about technology in their EFL teaching and what is in their mind when they adjust to the institutional conditions for technology use. I strongly believe that successful technology integration comes from teachers who understand their own teaching practices, and who also understand what technology can do in their classrooms, exactly what their students need, and the conditions of technology use in their schools, no matter what kinds of tools are available.

## **1.2 English language instruction in Thai EFL contexts**

### **1.2.1 English language instruction and the potential of ICT in Thai EFL contexts**

In the history of Thai foreign language education, English has been the most important foreign language in Thai society, and has been described as “the essence of being an

educated and cultured Thai” (Wongsothorn, 2000, p. 314). According to the 2000 *Policy of English Instruction of Liberal Education*, English and Information Technology (IT) skills are both now placed at the forefront of national intellectual development (Wongsothorn, Hiranburana, & Chinnawongs, 2003). In addition, in the new 2001 National Education Curriculum, English education at tertiary level emphasises the development of students’ language proficiency to fulfil a number of purposes: communication, acquisition of knowledge, academic studies, and career advancement, as well as appreciation of the English language and understanding of its culture. As a result, a major reform of English language teaching and learning in Thai higher institutions has taken place, including a requirement for students entering Thai universities to be streamed according to a Ministry of University Affairs English Proficiency Test. This focuses on reading and grammatical knowledge; it is also mandatory for undergraduate students to take at least four compulsory English courses including Integrated Language Skills Foundation Courses 1 and 2, and English for Academic Purposes (EAP) or English for Specific Purposes (ESP) courses as required by each major. In addition, graduating Thai university students are required to take an exit English Proficiency Test which can be used in employment applications and further education (Wiriyachitra, 2004).

Although there have been reforms and changes in English language curricula in Thai higher institutions to keep up with the growing importance of English as an international language in a changing world, recurring problems are found. For example, as Wiriyachitra (2004) argues, English language teaching in Thailand has not prepared Thais for the changing world, as evidenced by the low level of English proficiency of Thai students in comparison with many countries in Asia (e.g. Malaysia, the Philippines, and Singapore). Similarly, Prapphal (2003) noted that on average Thai university graduates need more practice in English language skills and are not able to meet the standard requirement to study at graduate level in Western educational institutions when compared to graduates from neighbouring countries including Vietnam, Malaysia, Indonesia, Cambodia, and Myanmar. In a study investigating communicative language instruction at Thai tertiary level, Sukanake, Heaton, Chantrupanth, and Rorex (2003) found that Thai tertiary students are not confident in either speaking or listening to the target language although communicative language teaching has been implemented. Another study by Jarvis and Atsilarat (2004) reports on a large-scale survey conducted

at a Bangkok university which identified problems in English language teaching (ELT), such as students' low English language proficiency, that are related to limited class time and large class sizes. These studies have reported problems and challenges in Thai EFL contexts which have become a major concern for researchers and educators.

Acknowledging the recurring problems in Thai EFL classrooms above, Thai educators, researchers, and language teachers have been looking for ways to improve English language learning and teaching at the tertiary level, including using ICT. There are a number of studies that support the use of ICT to enhance language instruction in Thai tertiary contexts. For instance, Prapphal (2004) states that Thai language teachers at all levels should use CALL activities, e-mail writing tasks, web-based projects, on-line self-tests and electronic portfolios to supplement their teaching. However, she stresses that teachers also need to bear in mind that technology cannot be a substitute for a good language teacher, but rather it facilitates good instruction in order to help students communicate and enter the 'global village'. It is recommended that Thai EFL teachers and learners change their roles to correspond with more flexible methods of using IT in classrooms like web-based teaching, distance education, and virtual classrooms (Prapphal, 2001, 2004). Charupan, Soranastaporn, and Suwattananand (2001, p. 38) put forward the suggestion that "The Internet is growing into a global resource of information that can be freely accessed by both students and teachers. Therefore, it is now considered as the technology that can be used to facilitate classroom instruction". Noytim (2006) suggests that the Internet is potentially a powerful resource for teaching English in Thai tertiary contexts if it incorporates a major rethinking of program design and pedagogical practices.

This trend of Thai-based research studies implies that technology has the potential to enhance EFL instruction in Thai tertiary contexts. Nevertheless, there is little evidence as to how teachers perceive technology as a part of their every day teaching and how they develop pedagogical approaches which bridge global needs of using language in online communication and their language practices.

### **1.2.2 EFL writing in the Thai tertiary context and electronic literacy**

In tertiary education, teaching students how to write effectively in English is part of preparing them to present their academic and future professional work on the international stage. In order to gain academic accreditation worldwide, Thai tertiary institutions are trying to reach international standards by setting the benchmark for their graduates' English proficiency score and focusing on writing instruction in compulsory English courses. As can be seen in many tertiary programs, English writing courses are required for both language and non-language degrees (Commission on Higher Education of Thailand, 2005). However, research studies have consistently shown that Thai students have not performed well in writing (Chinnawongs, 2001; Rojanasai, 2005; Vessakosol, 2001). Wongsathorn et al. (2002) refer to the results of the national assessment of pre-tertiary students' writing which were found to be very low in quality. In this respect, they called for immediate improvements of writing ability in all educational institutions in the country. In Cumming's study (2001), an experienced Thai EFL lecturer revealed that tertiary EFL writing instruction is conceptualised as teaching students to write for general purposes because of certain students' deficits in English language ability and a lack of writing experience. This conceptualisation of students' limited language background has affected EFL writing instruction and assessment practice across the curriculum.

Recently, there are studies indicating that using ICT in EFL classrooms can enhance language learning in terms of promoting authentic text-based language communication in electronic environments and increasing students' motivation in producing texts. For example, teachers can use weblogs to create a communicative learning environment in which students write collaboratively and edit their peers' writing (Tu, Chen, & Lee, 2007). E-mail and web discussion are supported by research studies as excellent tools for EFL students to practise online language communication (Al-Jarf, 2008; You, 2004). It seems that English language education, including EFL writing instruction, nowadays is conceptualised as not only the teaching of language knowledge and skills, but also of language skills for a changing global environment. In fact, Brown and Warschauer (2006) point out that not only can the use of computers and Internet enhance students' language learning experience but it also prepares them for the educational needs in modern society. Since students are living in the world of electronic text where most of

the reading and writing is done on electronic screens, teachers need to understand the potential of technologies in language instruction (Pelgrum, 2001) and to understand that EFL students cannot afford to practise writing in classrooms if they do not have access to the world of electronic communication. This suggests that electronic language ability is an immediate requirement for EFL teaching in tertiary contexts. Therefore, encouraging the integration of technology in EFL writing instruction is critical for language classrooms and the development of tertiary students' essential academic and language skills in the Information age.

### **1.3 ICT integration in the Thai tertiary context**

Given the demand of globalisation in terms of sophisticated knowledge management and higher-order skills from university graduates, Thai universities are eager to empower students with a range of new skills and knowledge needed to respond to such global demands. Among these essential attributes, Internet skills can contribute to students' knowledge management and improve their employment opportunities. For some time researchers such as Srisa-an (1998) and Nakornthan (2000) have strongly advocated that the Internet should be adopted and integrated into learning and teaching at all educational levels to maximise learning for all Thai people. Importantly, the Internet could be used in the classroom to change the learning and teaching process from traditional teacher-centred to more learner-centred approaches (Srisa-an, 1998).

Acknowledging the potential of ICT in Thai tertiary education, UniNet (Inter-University Network) was established in 1997 by the Office of Information Technology Administration for Educational Development, Ministry of University Affairs, to provide national and international education network services and enable research and development technologies to support all universities and institutions of higher education in Thailand. Since then, most of the higher education institutions have provided ICT-related training for their teachers, educational personnel and students. Networked computers and Internet access have been provided to university students with no charge since 1997 (Ministry of University Affairs' annual report, 1999). A recent survey by Laohajaratsang (2008) indicates that most Thai universities (93% of the total 149 institutions) have shown technological readiness to support ICT integration in teaching and learning. These institutions also state that providing online courses is one of their

missions and they intend to adopt a more advanced ICT system. In an earlier study, it is reported that more than three quarters of Thai universities have targeted their bachelor degree students to study via e-learning (Prapinmongkolkarn, Nilubon, & Tangsangiumvisai, 2004). Furthermore, there has been a demand for quality enhancement in higher education, and one of the strategies has been to facilitate the use of ICT, also known as 'e-Education' (NITC, 2002). For this reason, many universities have established online courses to improve the quality of higher education. The term 'e-learning' has been applied to the process of integrating ICT into courses to support traditional classroom instruction.

Although it was reported a few years ago that the use of the Internet in Thailand was slightly lower than some of the neighbouring countries including Vietnam, Malaysia, and Indonesia in 2004 (NECTEC, 2004), there has been a considerable evidence of growing access to computers and prevalent use of the Internet among university students in Thailand. Regarding students' uptake of ICT, a small-scale study conducted in an urban university by Vitartas and Sangkamanee (2000) found that more than 80 percent of the student respondents had access to the Internet at university and almost half of them indicated they had networked computers at home. For this group, the Internet was used for personal communication, finding information, study, and entertainment purposes. Brückner and Tetiwat (2008) investigated 1,317 Thai university students' behaviour related to e-learning readiness and information search. They found that university students often use the Internet as a source of information. The authors believe that this behaviour is vital in implementing online courses in tertiary education. This is also supported by Siritongthaworn, Krairit, Dimmitt, and Paul (2006) who point out that the rising trend of students' computer use and increased access to the Internet are among major enabling factors of technology integration in Thai educational contexts.

Although research has shown evidence of supportive policies and greater uptake of ICT in Thai higher educational contexts, its implementation in classroom instruction has been constrained by many contextual issues. Banpho, (2001) conducted a study of 150 university ELT teachers' use of ICT. It was found that more than half of the sample had no experience in using computers in their teaching, although the majority thought that computer technology would enhance their teaching and students' learning. Bailey (2002) surveyed 35 tertiary English language teachers in the Bangkok area to discover

what might impede their teaching improvement including adopting technology: time was mentioned as the key impediment by 50% of teachers, followed by student attitudes (39%) and the exam-driven curriculum. Wongsothorn et al. (2003) identify a number of problems which seem to be hindering the implementation of new initiatives in English language teaching in Thailand including an inadequate supply of trained teachers in language and ICT, and the diversity in interpretation of the same curriculum in different institutions. It is also reported that teachers are frequently overloaded with duties, and thus inadequately prepared for class. Miller, Lu, and Thammetar (2004) have documented that the impediments are due to the conventional education system of Thailand.

In other words, the traditional approach is still the main approach in the Thai EFL context. It has been widely documented that English lessons in Thai schools are mostly textbook-based with a focus on grammar structures, vocabulary, reading, and rote learning methods more than speaking and writing skill development (Baker, 2008; Maskhao, 2002; Prapphal, 2008). In this context, teachers play the major role in the class as they are the main source of knowledge and regarded as the 'knowledge transmitter', while students are passive learners who receive the knowledge with minimum control of their own learning (Tepsuriwong & Srisunakrua, 2009). This approach to English language teaching might not correspond with online language instruction which often requires students' self-directed learning, critical thinking skills, and collaborative learning (Warschauer, Shetzer, & Meloni, 2000) as well as a shift in teacher role and instructional beliefs (Gonglewski, Meloni, & Brant, 2001). In this respect, Miller et al. suggest that successful technology implementation in Thai classrooms needs gradual changes in students' and teachers' views of learning and teaching as well as the acculturation of technology into Thai culture and perspectives.

Other research also point out that online instruction in the Thai context need to be carefully implemented because of the nature of students and instructional contexts. Reporting from an urban public university, Anchaleewittayakul (2004) found that Thai EFL students' language proficiency and English language learning background play a significant role in online language teaching. It is suggested that since many students were used to teacher-directed instruction, they still needed a similar kind of instructional support from teachers to increase their confidence in online language learning. Drawing

on her study carried out in an Open University context, Vanijdee (2003) found that Thai online distance learners display a varied degree of learner autonomy and learning motivation. Thus online instructors should pay attention to learners' individual learning contexts which strongly influence their desire to learn. These studies in Thai tertiary contexts have implied that it is important for Thai EFL teachers to understand some constraining conditions and instructional challenges of teaching with technology as well as adjust their roles and practices to support students in technology-mediated language instruction.

Furthermore, the notion of technology integration in language teaching can be conceptualised differently because of the nature of the tools and teachers' diverse teaching principles, experience with ICT, and instructional contexts. Warschauer and Healey (1998) observe that computer technologies in the past decades have emerged from prescriptive programmes where learners passively received the instruction, to move to applications that provide language learners with resources, opportunities to use the language, and more recently a medium for interaction between individuals and social audiences. This range of language learning dimensions offered by technological tools also calls upon different operational thoughts from teachers who integrate the tool into their classroom teaching. Egbert and Hanson-Smith (1999) note that using technology in the classroom is not only using the tools, but creating a new environment for language learning which therefore requires teachers' understanding of the new dimension of language learning opportunities provided. Researchers have found that although teachers are equipped with technology skills and tools, they still encounter problems related to the pedagogical use of technology in their classroom teaching (Mumtaz, 2000; Watson, 2001). According to Lloyd and Albion (2005), teachers' limited experience and understanding about ICT affect their technology beliefs and practices; it is important that teachers receive more information about teaching with technology in order to develop better understandings about the potential of technology in teaching. Yutdhana (2004) found that most of the participating teachers had positive views on the use of the Internet applications in the study but they reported that they need more information about practical pedagogical knowledge of technology-enhanced language teaching as well as institutional support. These studies imply that the integration of instructional technology is closely associated with teachers' views of a

particular tool and its pedagogical contributions, as well as their personal views about EFL teaching in particular contexts.

Although the perception of ICT use in the Thai tertiary context may be influenced by various instructional conditions and teachers' personal perspectives, researchers have suggested that technology-mediated teaching in language courses can be effectively carried out by teachers who realise the capabilities of technology to support their situated practices and students' language learning needs in particular contexts. Recent studies have suggested that teachers' localised perspectives and practices are essential for innovation adoption in educational settings. In this respect, Lim and Torr (2008) indicate that educational innovation needs to give teachers the freedom to choose the most appropriate strategies and approaches for their students in their contexts. In line with this, Hayes' (2008) study conducted with a group of Thai English language teachers has pointed out that teachers' perspectives reflect the locally-situated needs of ELT teaching. The finding suggests that teachers' selection of instructional methods should be based on sociocultural and educational contexts in which classroom teaching is enacted. These studies have highlighted teachers' expertise, perspectives, and perceptions about their roles in technology-mediated lessons which become crucial keys to effective technology use in classrooms. Hence, it is important to consider teachers' educational perspectives and situated practices to allow greater flexibility in incorporating technology into a particular educational environment which comprises different situated teaching and learning disciplines.

#### **1.4 The research problem**

As more and more language teachers worldwide are embracing new technologies in their classrooms, technology-based language instruction needs to be studied, analysed, and interpreted in natural settings. Research has demonstrated that teachers are more likely to integrate technologies if they can identify the usefulness of technology tools that support their pedagogical beliefs (Zhao & Frank, 2003). In addition, teachers' personal values and ability to perceive the usefulness of technology are seen as crucial for classroom technology adoption (Ertmer, 2005; Rogers, 1995; Schoepp, 2005). Before teachers make use of technology in their teaching, they must be personally

convinced of its benefits and must see the utility of particular technologies (Lam, 2000) and how they fit within their localised classroom settings (Stein, Smith, & Silver, 1999). Therefore, what teachers know and believe always has an impact on what they do in the classroom; at the same time, what they think and do in the classroom is highly affected by social and contextual factors (Burns, 1996; Tsui, 1996). Warschauer (1999) and Ertmer, Gopalakrishnan, and Ross (2001) agree that the ways in which teachers use technology are based on their understanding of their own pedagogical philosophy and the context in which they work. Thus, understanding how teachers perceive technology in their classrooms and social environment is crucial for successful technology integration. However, this area of investigation has remained unexplored in the Thai educational context. Specifically, studies related to what is on teachers' minds when they pick up a technology tool, how they use it to enhance their instruction or promote learners' language development, and what they know about the affordances and constraints of using technology at their institutions, are still missing.

Therefore, an investigation into Thai EFL teacher cognition about teaching with technology will provide a useful perspective in understanding how practising teachers react to the global need of using English in electronic communication. In order to help EFL teachers to reach the optimal use of instructional technology in the Thai tertiary context, teachers' cognition in relation to their practices and institutional settings needs to be examined. In addition, to gain insights into teachers' understanding of technology-mediated teaching which is situated in particular settings, a sociocultural lens will provide a useful guide for the investigation in Thai tertiary EFL contexts. As Wertsch (1991, p. 86) states, "human mental functioning including thinking is inherently situated in social interactional, cultural, institutional, and historical contexts", it is thus necessary to examine an individual's thinking in reference to the sociocultural setting in which individuals function. Warschauer (2005) suggests that some aspects of sociocultural theory can be applied to computer-assisted language learning (CALL) as the theory has highlighted the relationships of humans and their communicative tools which include computers. What is significant about sociocultural frameworks and the incorporation of computers in language learning is how humans react to the computer, how the tools transform human action, and how the history and context of individuals affect the use of the tools in language learning processes. Although a number of studies have examined beliefs, attitudes, and motivation of teachers towards technology-enhanced language

instruction (Albirini, 2006; Preston, Cox, & Cox, 2000; Peacock, 2001), research about the relation between teachers' personal principles and actions regarding technology integration, especially in EFL writing instruction, is still scarce. Therefore, this study aims to provide insights about university teachers' cognition in technology adoption in Thai tertiary EFL contexts, which may provide pedagogical guidelines for educators and policymakers to plan essential support to facilitate the use of technology in English language education in a particular context.

### **1.5 Purpose and research questions**

In particular, this research aims to investigate Thai tertiary teachers' cognition about the use of ICT in EFL teaching, with a particular focus on EFL writing instruction. A more specific goal is to explore technology-using teachers' underlying beliefs and perspectives on their EFL teaching. This research also attempts to gain insights into the sociocultural factors that influence how technology is used in EFL instruction in particular tertiary institutional contexts, and to elicit information about how tertiary teachers perceive the opportunities and constraints in using technology in the Thai EFL context. In order to gain a better understanding of technology-mediated EFL instruction in Thai tertiary contexts, this study therefore addressed the following research questions:

1. What is the nature of Thai tertiary teacher cognition about the use of technology in EFL instruction?
2. What is the nature of Thai tertiary teacher cognition about the use of technology in EFL writing instruction?
3. How do Thai tertiary teachers perceive their practices and roles in relation to their technology-mediated EFL instruction in particular settings?
4. What are the sociocultural aspects that shape teacher cognition and practice about technology-mediated EFL teaching in the Thai tertiary context?

## **1.6 Methodology overview**

To draw on the strengths of both quantitative and qualitative methods, a mixed-method research design was used to elicit teachers' thinking and perspectives towards the multi-dimensional facets of technology use in EFL instruction in Thai tertiary contexts. The investigation into teachers' beliefs, perceptions, and experiences regarding technology-mediated EFL instruction was conducted informed by sociocultural perspectives. Data collection instruments include a survey questionnaire, scenario-based interviews, unstructured interviews, observations, and research journals. Specifically, semi-structured interviews with scenario prompts are used to encourage participants to reveal their thoughts towards a particular technology use without directly scrutinising or critiquing their actual classroom practices; as previous studies have suggested (Kagan, 1990; Murphy, 2000), it is necessary that researchers find ways and strategies to help teachers feel comfortable to express their deep thoughts and beliefs about teaching.

## **1.7 Significance of the study**

This study aims to explore and highlight the importance of teachers' thinking and beliefs about their EFL instruction and technology-mediated language teaching in their particular contexts. As teachers are significant in the lives of students, understanding teachers' beliefs and knowledge about teaching is crucial for every educational setting. The findings from the study may raise the awareness of EFL teachers about their practices in implementing new technologies in language instruction. In addition, it may benefit both pre-service and in-service EFL teachers to learn from looking into the reflections of experienced teachers who have managed to integrate technology into their instruction while facing the complexities of their teaching contexts. At the same time, educational policy makers and stakeholders may learn more about teachers' perceptions of using ICT in EFL teaching and this may lead to a more fitting ICT implementation policy in Thai higher education.

## 1.8 Definition of terms

The definitions of key terms used in this study are provided below:

- **Computer-Assisted Language Learning (CALL)** refers to language instruction that is aided through the use of computer technology or any language learning activity done on a computer.
- **Blended Learning** is instruction which provides students with opportunities to learn in both face-to-face classrooms and online environments.
- **EFL tertiary context** means the instructional context of English as a foreign language teaching in Thai universities.
- **Integration of Information and communication technology (ICT), or technology** is defined as teachers' use of any of the computer and Internet technologies from language software, desktop programs (e.g. word processors, Microsoft PowerPoint), Computer Mediated Communication (CMC) tools (e.g. e-mail, chat), a Learning Management System (LMS), the World Wide Web, to Web 2.0 tools (e.g. blogs, wikis) in EFL language instruction.
- **In-service teachers** or **practising teachers** are English language teachers who are currently teaching full-time at Thai universities.
- **Network-based language teaching** refers to pedagogical use of networked computers which allows communication and information exchange among learners.
- **Teacher cognition** in this study refers to teachers' beliefs, thoughts, personal principles or maxims, attitudes, conceptions, and perspectives about all aspects in their instruction including teaching, learning, teachers, students, subject matter, materials, activities, and curricula. Other relevant definitions of teacher cognition are also presented in detail in Chapter Two.
- **Teacher maxims** are teachers' personal principles which reflect their individual philosophies in teaching (Richards, 1996). In this study, teacher maxims can be seen as rationales of what they do in classrooms and what they regard as priorities in their teaching and students' learning according to their classroom contexts. These maxims are also reflected in their roles and behaviours in classroom teaching including the selection of materials, activities, technology tools, and attitudes towards students' participation in the learning process.

- **Technology-mediated instruction** is defined as a form of instruction in which technology is incorporated into the teaching or learning process. In this study technology-mediated instruction includes any level or intensity of technology used in classrooms, from face-to-face instruction enhanced with computer or web-based activities, to pure online language learning where all classroom instruction, interaction, activities, and assignments are operated online.
- **Web-based writing** is defined as writing instruction in which students are required to create their texts through web-based applications such as e-mails or blogs.

## 1.9 Overview of chapters

Chapter One begins with the background to the study, including information about English education and ICT policy in Thai tertiary contexts. It also presents the research questions, the significance of the study, definitions of key terms, and an overview of the thesis.

Chapter Two reviews the literature on key aspects of teacher cognition and technology integration in EFL instruction. It provides discussion of the interrelationship between teachers' concepts of teaching and their practices, and research into teacher beliefs is classified according to three categories. The literature on technology integration into language teaching is reviewed and discussed in terms of models of investigation. A broad discussion of teachers' beliefs and practices in EFL writing follows. The chapter then examines sociocultural perspectives as frameworks for investigating teachers' technology adoption in relation to personal and contextual elements in particular settings. Also, research drawing on sociocultural perspectives in investigating technology in educational settings is reviewed. The literature review concludes with a section noting the importance of teachers' contextual affordances and constraints in adopting technology in language teaching. Chapter Three includes a discussion of key research frameworks that inform the research methodology and approaches. Detailed descriptions of the setting of the study, the research design and procedures, method of analysis, and the limitations of the study are provided.

Chapter Four presents findings from the questionnaire regarding teachers' cognition in relation to the use of computer technology in EFL instruction; teachers' perceived advantages and barriers concerning technology adoption as well as best ways of integrating technology in Thai tertiary EFL contexts are also presented. Then Chapter Five presents findings about teachers' perceptions toward EFL writing instruction and integrating technology into EFL writing instruction including teachers' perceptions towards different web-based writing scenarios. Chapter Six is based on findings from observations of, and interviews with, Thai tertiary EFL teachers who used technology in their language teaching in three different institutions. The teachers' background, their use of technology, personal principles or maxims, and sociocultural aspects of technology-mediated language teaching in particular contexts are presented and discussed.

Finally, Chapter Seven provides the discussion and conclusions from the study including implications and recommendations for the development of technology integration in EFL language instruction in Thai tertiary contexts. Teachers' situated practices, instructional needs, and professional learning are also highlighted, as are methodological implications of the study for investigating teacher cognition.

## **CHAPTER TWO**

### **TEACHER COGNITION AND TECHNOLOGY-MEDIATED LANGUAGE TEACHING**

The purpose of this chapter is to examine the literature pertinent to the study. Since the focus of this study involved not only EFL teachers but also their classroom practice and perspectives on technology-mediated language instruction in the Thai tertiary context, the discussion of literature is presented in five sections: teacher cognition in language teaching, network-based language instruction and sociocultural perspectives, technology use in language instruction, teacher practice and roles in online language instruction, and factors influencing technology adoption in language classrooms. These key concepts and related studies about language teachers and technology integration are reviewed to inform the research framework and methodology.

#### **2.1 Teacher cognition and language instruction**

Teaching is a profession that involves cognitive activities including making connections between teaching theories and practices, and constructing personal principles in teaching from classroom experience (Clark & Lampert, 1986; Richards, 1998). Pratt (1992) points out that the concepts of teaching are rooted in cultural, social, historical, and personal realms of meaning. For teachers, to 'teach' means different things depending upon individuals' values, beliefs, and intentions. Therefore, the teaching profession can be seen as the bringing together of a teacher's personal and social values towards teaching and learning in a particular context. This perspective is congruent with Borg's (2003) view of teachers as "active, thinking decision-makers who make instructional choices by drawing on complex, practically-oriented, personalised, and context-sensitive networks of knowledge, thoughts, and beliefs" (p. 81). Thus, teachers' thinking systems play a major role in their approaches to, and innovation in, everyday teaching.

### **2.1.1 Teacher cognition: definition, components, and characteristics**

In the research literature, teacher cognition has been labelled, conceptualised and defined in different ways. According to Kagan (1992), teacher cognition includes teachers' thoughts about instruction and beliefs about students, classrooms, learning, and their own teaching performance. Borg (2003) defines teacher cognition as teachers' "beliefs, knowledge, theories, attitudes, images, assumptions, metaphors, conceptions, perspectives about teaching, teachers, learning, students, subject matter, curricula, materials, instructional activities, and self" (p. 41). In addition, there are various terms that have been used over past decades for teacher cognition: among them are 'teacher knowledge' (Freeman, 2002), 'teachers' beliefs' (Burns, 1992; Richards, 1998), 'beliefs, attitudes, and knowledge' (Woods, 1996), 'teachers' theories' (Borg, 1999), and 'teachers' personal theories' (James, 2001). These terms, including teacher beliefs, teacher knowledge, and teacher thinking, comprise the broader concept of teacher cognition (Calderhead, 1996). Researchers in this field (Borg, 2003; Freeman, 2001; Freeman & Richards, 1996; James, 2001) are interested in the thought processes of teachers, what teachers know, how they come to know, and how they draw on their knowledge in their classroom teaching.

What language teachers think, know, believe, and do, is influenced by several areas of the teaching profession. Identifying influences on teacher cognition has been an important avenue of enquiry in the field. In his review of teacher cognition research, Borg (2006) proposes a framework of schematic conceptualisation of teaching which shows that teachers' concepts about teaching and learning are established early on in schooling experiences (see Figure 2.1). These early concepts may continue to be influential throughout their professional lives (Woods, 1996). Teachers' concepts about teaching and learning may be affected later by professional preparation programs in which they receive training, teaching apprentices, and new pedagogical orientations. However, when teachers are at work, some contextual elements such as curriculum and teaching culture also influence their practices which may be more or less congruent with their underlying beliefs. Meanwhile, teachers' ongoing experiences in classrooms may simultaneously shape their cognition unconsciously or consciously through reflection. Based on Borg's framework of teacher cognition, there are four main aspects to be addressed when investigating language teacher cognition: teachers' prior language

learning experiences, conceptualisations of second or foreign language teaching during teacher education, contextual aspects, and classroom practices. Among these aspects, contextual and classroom aspects are more closely related to the work of in-service teachers. Numerous studies have discussed the interaction and relationship between what teachers believe and their classroom contextual elements and practice (Burns, 1996; Golombek; 1998; Smith 1996; Woods 1991). Burns (1996) found that there are three interacting contextual levels of teacher thinking which are: thinking about the institutional culture; beliefs about language, learning and learners; and thinking about instructional activities.

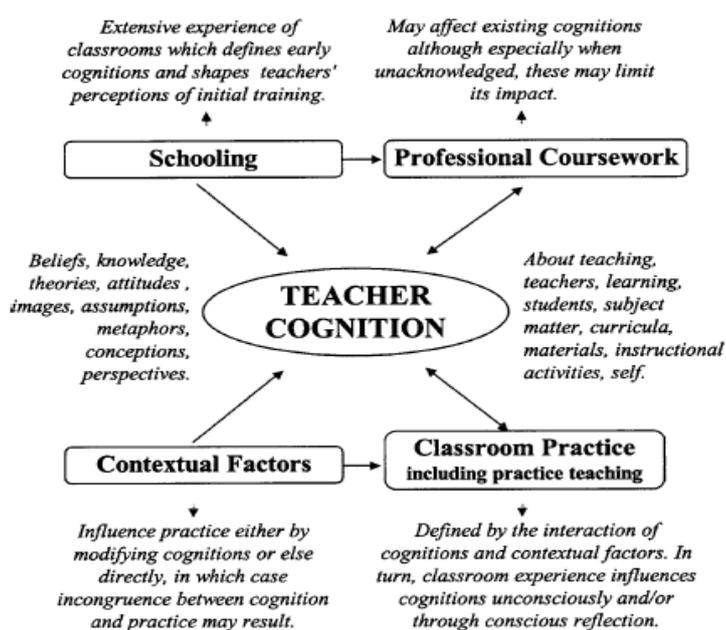


Figure 2.1 Elements and processes in language teacher cognition (Borg, 2006, p. 283)

What is more, some researchers have supported the concept that teacher cognition is situated and context sensitive (Brown, Collins, & Duguid, 1989; Putnam & Borko, 2000; Wilson & Myers, 2000). As Brown et al. suggest, teacher knowledge is situated in contexts and involves understanding the associations among context, concepts, and culture. Putnam and Borko indicate that teacher cognition is situated in particular physical and social contexts. The situated perspectives indicate that what teachers do

and think is intertwined with the particular context in which they work. There is ample evidence to suggest that teachers' learning, teaching experiences, and classroom contextual factors all influence their cognition (Borg, 2003; Johnson, 1994; Numrich, 1996; Woods, 1996).

Research also suggests that teacher conceptions about learning and teaching drive classroom actions and influence students' learning (Andrew; 2003; Cuban, 1993; Freeman, 2002; Golombek, 1998; Pajares, 1992). In addition, teachers' beliefs, knowledge and understanding about teaching and learning are constructed through their experiences and interactions in their classrooms, with their students, and through professional development (Meijer, Verloop, & Beijaard, 1999; Rovegno, 1994). Researchers have emphasised that what teachers know and believe must be considered because teachers bring these conceptions to their teaching, and these conceptions play a role in how they teach (Calderhead, 1996; Fang, 1996; Kagan, 1992). As stated by Shavelson and Stern (1981), teachers are "rational professionals who make judgements and decisions in an uncertain and complex environment" (p. 456). Nevertheless, the cognitive and affective components of their knowledge and understanding and are often tacitly held and represent a complex and inter-related system of personal and professional knowledge (Murphy, 2000). Based on this view, teacher cognition research usually aims to understand what teachers know in language teaching, their thought processes, and how they draw on their knowledge in class (Borg, 2003; Freeman, 2001; Freeman & Richards, 1996; James, 2001). The following sections will provide discussions about the constructs of teacher beliefs, knowledge, and practices as well as the interrelationship among them.

## **2.1.2 Teacher beliefs and knowledge in language instruction**

### ***2.1.2.1 The Interrelationship between beliefs and knowledge***

Researchers have investigated the roles and relationships of both beliefs and knowledge. Teachers' educational beliefs include understandings, premises or propositions about education that underlie their planning, decision making and behaviour in the classroom (Fang, 1996; Kagan, 1992; Nespor, 1987; Pajares, 1992). According to Lowyck (1994), they consist of rules, generalisations, opinions, values and expectations which are developed over time through a teacher's career and experiences. Kagan (1990) defines them as "unconsciously held assumptions about students, classrooms, and the academic

material to be taught” (p. 65). Pajares (1992) notes that beliefs and belief systems are important, as they serve as decision-making guides in helping individuals to define and understand the world, and themselves. Nespor (1987) suggests that beliefs have stronger affective and evaluative components than knowledge, and affect the cognition associated with knowledge. Calderhead (1996) makes a distinction between beliefs and knowledge, suggesting that beliefs generally refer to “suppositions, commitments, and ideologies while knowledge refers to factual propositions and the understandings that inform skilful action” (p. 715). However, many researchers agree that teachers’ beliefs act as a filter through which new knowledge and experiences are screened and transformed into teachers’ practice and behaviour (Campbell, Kyriakides, Muijs, & Robinson, 2004; Kagan, 1992; Nespor, 1987; Pajares, 1992).

According to Shulman (1987), knowledge is the amalgam of teachers’ knowledge of subject matter and pedagogy which he calls ‘pedagogical content knowledge’. This kind of knowledge consists of all classroom related strategies adopted in order to make the subject matter comprehensible to particular groups of students. It is the total knowledge of a teacher which underlies his or her actions at a particular moment (Carter, 1990). Elbaz (1983) defines the kind of knowledge teachers hold and use as practical knowledge consisting of “knowledge of self, the milieu of teaching, subject matter, curriculum development, and instruction” (p. 45). Fenstermacher (1994) points out that the practical knowledge of teachers is generated as a result of their experiences, and their reflections on these experiences. It is this knowledge that teachers draw on extensively in their work (Ellis, 1998). In addition, Meijer et al. (1999) conclude that practical knowledge is personal, contextual as defined in and adapted to the classroom situation, based on experience, and developed through experiences in teaching. Importantly, the term ‘practical knowledge’ is used to indicate the knowledge and insights that underlie teachers’ actions in practice.

Although research studies have attempted to distinguish beliefs and knowledge and some have pointed out that teachers’ beliefs have a greater influence on classroom practices than their knowledge, there are strong connections between them. In fact, Ertmer (2005) explains that while people gain specific knowledge, they do not necessarily believe in it. Similarly, Nespor (1987), Kagan, (1992), and Pajares, (1992) have concluded that beliefs are far more influential than knowledge in determining how

individuals organise and define tasks and problems. This, then, makes them stronger predictors of behaviour. A further complicating factor is that there is a good deal of conceptual confusion in the literature: ‘belief’ has a variety of definitions and has at times been used interchangeably with knowledge. What is important is that teacher beliefs and knowledge should be taken into account in any investigation of teacher cognition. As Woods (1996) emphasises, the difference between the components of beliefs and knowledge is so subtle that “in many cases it cannot be clearly determined whether the interpretations of the events are based on what the teacher knows, what the teacher believes, or what the teacher believes s/he knows” (p. 194). In line with this, Pajares (1992) sees knowledge and beliefs as inseparable, although beliefs influence perception in that they filter situations to make them more comprehensible. This is related to the fact that, in the mind of the teacher, components of knowledge, beliefs, conceptions, and intuitions are inextricably intertwined. Inevitably, all classroom actions, instructional decisions and methodological concepts are filtered through, and influenced by, these complex cognitive constructs which will be discussed in the following section.

### ***2.1.2.2 The interrelationship among beliefs, knowledge, and practices***

Researchers often indicate that language teachers’ attitudes, values, and beliefs, combined with experience and theoretical knowledge, usually guide their instructional practice (Golombek, 1998; Richards, Gallo, & Renandya, 2001; Mangubhai, Marland, Dashwood, & Son, 2004). Therefore, the main focus of attention in investigating teacher thinking is on the complexities of cognitive constructs, namely, beliefs, knowledge, and assumptions, and the way they interact with teacher behaviour in the classroom. The interrelationship between beliefs and instructional practices is more commonly understood in terms of teachers’ beliefs or personal constructs determining how they approach their teaching (see, for example, Hampton, 1994). Teachers also select materials and place emphasis on specific content according to the values they hold. Teacher beliefs become particularly important in classrooms when they are dealing with complex, ill-defined situations. At this point, beliefs have a great value in determining practices and behaviours (Nespor, 1987).

In the area of language teaching, researchers have examined how pedagogical beliefs and knowledge have informed the instructional practices and decisions of teachers of

English as a second language (e.g., Borg, 2003; Burns, 1992; Golombek, 1998). There has been a good deal of empirical evidence that highlights the significance of teacher beliefs in understanding teacher behaviour (see Borg, 2003; Kane, Sandretto & Heath, 2002). Kagan (1992), for example, highlights the relationship between teachers and classroom instruction pointing out that a teacher's beliefs tend to be associated with a congruent style of teaching. Pajares (1992) notes that the beliefs teachers hold influence their perceptions and judgements which consequently affect their behaviour in the classroom. Likewise, Richards and Lockhart (1996) state that teachers' personal views are likely to guide their decision making and actions and hence lead them to try to create specific conditions in their classrooms. According to Richards (1996), teachers' personal principles, which he refers to as maxims, developed from their experience of teaching and learning, their teacher education experiences, and their own personal beliefs and value systems; they function like rules which guide their instructional decisions and pedagogical choices. Thus, maxims can be viewed as outcomes of teachers' evolving theories of teaching which can be applied as models for practical action. Identifying the maxims which teachers use might provide a useful perspective on teachers' understanding of teaching and the motivation behind their actions.

Although understanding teachers' personal principles is essential to improving teaching practices and teacher education programs, Johnson (1994) notes that teacher beliefs are not easily defined or investigated because they are often held tacitly. Thus, they do not usually articulate their teaching beliefs to themselves or to others and may therefore not be aware of what is influencing their teaching. Woods (1996) points out that teachers may report their beliefs "according to what they perceive to be the current teaching paradigm rather than their underlying beliefs which influence their classroom behaviours" (p. 71).

As indicated in the literature, understanding teachers' beliefs and personal knowledge may explain how and why teachers select particular content, place different emphasis on the same content, and use different styles of teaching and modes of learning. However, teachers' cognitive and behavioural activities can be seen as embedded in teaching contexts. The next section will discuss the impact of teachers' contexts on instructional views and practices.

### **2.1.3 The impact of teaching contexts on teacher beliefs and practices**

Teaching contexts have a great influence on the way teachers conduct their instruction and transform educational theories into teaching practices. According to Putnam and Borko (2000), what teachers think about instruction is situated in physical and social contexts. Tsui (2003) indicates that teachers' knowledge and beliefs about teaching are situated and practical as they are closely tied to the specific context of the classroom and embodied in teachers' classroom practices. Teachers usually draw contextually relevant information into their practices (McMeniman, Cumming, Wilson, Stevenson & Sim, 2000). Research studies have provided evidence of teachers adjusting their teaching perspectives and practices around the contextual demand. For example, Andrews (2006) found individual teachers in his study interacted with their work contexts in different ways, and had to accommodate their practices to the conditions of their teaching environment. For example, if the school expects teachers to focus on grammar teaching, teachers may have to make an explicit focus on grammar in their classroom instruction. Johnson (2000) also notes that the challenges imposed on teachers mostly result from their working context, and that therefore teachers need to learn how to deal with those challenges within their own local settings where they can implement their alternative professional experiences, which may enable them to look beyond local obstacles. In addition, teachers' perceptions of teaching may change through the process of teaching and reacting to local influences (Freeman & Johnson 1998). As Tsui (2003) notes, teachers' different forms of knowledge contribute to the development of language teaching expertise over a period of time. Tsang (2004) studied the role of teachers' personal practical knowledge in interactive decision making of three Hong Kong ESL teachers. Teachers' maxims were elicited in relation to their interactive decisions in classrooms. It was found that although in many cases teachers made their decisions with reference to their maxims, the contextual factors inside the classroom was highly influential. The study offers a conclusion that teachers' personal principles or maxims are subject to change over time according to classroom contextual variables. Thus, research has implied that teachers are likely to perceive the local influences which impact their beliefs and practices in classroom teaching. This means that what teachers do in the classroom tend to be context specific and can be thought of as dispositions towards actions (Cooney, Shealy, & Arvold, 1998).

### ***2.1.3.1 Teachers' situated practice***

Since there has been a growing recognition of the influence of teaching contexts on teachers' beliefs and knowledge, research studies have emphasised the importance of locally-based practice among EFL teachers. For example, Hu's (2005) study investigating ELT practices in secondary-level classrooms in China revealed that although some features of communicative language teaching (CLT) have been adopted, teachers' practices are still characterised by contextual influences, including traditional language teaching methodologies as well as economic, social, and cultural factors. Lim and Torr (2008) interviewed primary Singaporean teachers about their beliefs towards child-centred approaches. The study reveals that teachers whose viewpoints are congruent with the educational innovation and have a strong sense of self-efficacy are able to choose the strategies and approaches most appropriate for their students. It further suggests that educational innovation needs to give teachers the flexibility to look for the most appropriate ways to teach in their contexts.

In a Thai context, Hayes (2008) explores the experiences of a group of Thai English language teachers. Using the data from participating teachers' own perspectives, the study addresses two important areas: classroom methods and commitment to teaching. The teachers' perspectives were found to be responsive to the locally-situated needs of the language instruction. The findings suggest the importance of understanding the locally based practices of English language teaching (ELT) instead of uncritical adherence to western conceptions of practice. In other words, what is important is that the selection of methods should be based on students' background, situation, and needs. The research also argues that the investigation of sociocultural and educational contexts of classroom teaching is crucial to the understanding of local practices. The author calls for more research of this kind to enhance the understanding of local practices and to correct western conceptions of idealised practices of ELT. Thus, research in EFL contexts has implied that teachers are likely to apply their local practices and address ecological issues in classroom teaching. According to Tudor (2003), practising teachers' lives and their classroom decision-making are based on their understanding about ecological elements including the expectations of students, parents, colleagues, and school administrators. Other researchers have documented the awareness of the significance of the sociocultural context and the need for a situated or ecological

understanding of the lives of teachers in particular settings (Barton & Hamilton, 2000; Gee, 2000; Luke, 2004; Van Lier, 2004). It is therefore important to understand teachers' concepts of what language learning and teaching mean in their working contexts, and how this is realised through the pedagogical choices that they make within the local curriculum.

Given that teachers' situated practices can be crucial in pedagogical development, the concept of 'teacher as learner' (Johnson, 2009, p.1) in sociocultural perspectives of language teaching may offer a more complete picture of the interaction between teachers' perspectives and teaching situations. According to Wertsch (1985), human action and learning are a complex interaction between individual cognition and the sociocultural situations in which that mental functioning occurs. As a result, in their teaching teachers do not just draw on their personal theories or knowledge gained through professional training, but also on their present experiences, interactions, and negotiation within their social and cultural worlds (Wertsch, del Rio & Alvarez, 1995). Thus it has been suggested that any study examining teachers' cognition must account for the relationship between teachers' mental and social worlds by drawing on sociocultural concepts that look beyond the individual teacher to consider how wider social contexts affect their thinking and action. Especially when focusing on a particular language skill instruction, teachers are likely to draw on their perceptions of the classroom conditions and students' characteristics to guide their instructional decisions and actions. The next section will provide a review of studies on EFL teachers' perspectives on writing instruction particularly in ESL and EFL contexts, taking account of that relationship.

#### **2.1.4 Teachers' beliefs and practices in EFL writing instruction**

Teaching writing to EFL learners is one of the most demanding tasks for language teachers since it requires not only high language competence but also a considerable reflection and experience in responding to student writing (Ferris, 2007). Nevertheless, as Reid (1993) observes, language teacher trainees generally have few opportunities to develop understanding of what makes a successful writer. Probably the main source of knowledge for teaching writing remains teachers' experiences when they were students in writing classrooms or through apprenticeship of observation (Lortie, 2002). Therefore, the underlying beliefs about teaching writing of many EFL teachers are

likely to be based on their personal experiences and accumulated information, perceptions, and understanding of their classroom circumstances. Based on this assumption, what teachers understand and believe about writing instruction is likely to have an impact on students as they receive particular forms of instruction in learning how to write (Shin, 2002).

#### ***2.1.4.1 Teachers' knowledge and approaches in EFL writing instruction***

There are many aspects of writing instruction that EFL language teachers need to know including the nature of writing in a foreign language and sound pedagogical approaches to support students' writing development. Scott and Rodgers (1993) suggest that teachers require knowledge about the complex process of the production of texts and methods for teaching and assessing students' writing. According to Kroll (2003), writing teachers should have a rich understanding of the field to make the best possible choices in their situated teaching position. Foundational knowledge in this field includes being able to choose a particular approach, awareness of student learning issues, and interpretation of what texts are and what they do.

In the past, a number of pedagogical approaches have been proposed to prepare ESL/EFL students to meet academic and professional writing expectations. Reviews of frameworks of SL writing approaches have been provided extensively elsewhere (e.g. Davies, 2001; Matsuda, 2003; Raimes, 1991; Silva, 1990). In the field of EFL, there are four approaches that have been most widely discussed: product approaches, process approaches, genre approaches, and process-genre approaches (Raimes, 1991). In product-oriented approaches, teachers' concern is the learning of grammatical structures and controlled composition, which stresses lexical and syntactic features in writing, and is not much interested in the content or ideas students write about but their mastery of linguistic features and "logical construction and arrangement of discourse forms" (Silva, 1990, p.14). Later, the attention shifted to the student writer, leading to the process approach which typically has four stages: prewriting/planning; composing/drafting; revising; and editing (Badger & White, 2000). These stages are non-linear, exploratory, and generative as teachers and students may focus on different issues at different stages of the writing process (Ferris, 2003). The genre approaches focus on the writer as a member of the academic discourse community (Davies, 2001), emphasising academic

discourse genres and writing tasks designed to prepare students for integration into such community (Lindemann, 1995). Recently, the overlap between approaches has been recognised in process-genre approaches which are the synthesis of the three approaches. According to Badger and White (2000), process-genre approaches are considered effective as teachers can selectively incorporate one approach within another or adapt it into their teaching to facilitate “learners’ progress by enabling appropriate input of knowledge and skills” (p. 160).

There have been a number of studies providing evidence of teachers incorporating different approaches into their teaching. For example, Tsui (1996) conducted a case study of an ESL teacher trying to resolve dilemmas in her writing class. By using a modified version of the process approach, the teacher designed her instruction to focus on both accuracy and creating a supportive environment. Firkins, Forey, and Sengupta (2007) found the genre approach, paired with a sequenced and well structured teaching methodology, within a motivating theme of activities, was an effective way to teach writing to low proficiency students. Texts were seen in context and were deconstructed and reconstructed using concrete examples. This approach clearly assisted students to organise their writing and understand the nature of a text within an activity based context. This points to the fact that it is vital for teachers to understand the various writing approaches and pedagogies so that they can associate those approaches with their personal practices in order to serve students' specific writing needs and developmental levels. As Raimes (1990) maintains, these approaches are never “discrete and sequential” (p.142), which means that different writing approaches need to be combined within EFL writing instruction as they are complementary rather than incompatible (Ferris & Hedgcock, 1998; Hyland, 2002; Tsui, 1996).

In seeking the most appropriate approach to writing, there has been a growing awareness of the need to understand teachers’ thinking and practices in second or foreign language writing classrooms and how they affect different aspects of writing instruction and curriculum (Farrell, 2006; Golombek, 1998; Lee, 1998, 2008; Shi & Cumming, 1995). Shi & Cumming (1995), for example, interviewed five experienced instructors about their conceptions of second language writing in Canada. Focusing on innovation, the findings indicate that teachers’ personal conceptualisations are vital for curriculum changes in second language writing because teachers are more likely to

accept instructional changes which are congruent with their personal beliefs. This indicates that selecting the most appropriate approach in ESL/EFL writing depends on individual teachers' views of language teaching in their working contexts and how a particular approach can be adapted into their classroom settings and students' learning processes.

#### ***2.1.4.2 Teaching contexts and EFL writing instruction***

Research has revealed that teachers may encounter other contextual influences in teaching ESL/EFL writing which impact on their classroom practices. For instance, You (2004) observed and interviewed Chinese EFL writing teachers and found that writing instruction is test-oriented in their particular sociocultural settings. Teachers reported they were unable to enhance their instruction with professional knowledge due to heavy teaching loads. In the realities of the classroom, teachers had to focus on language and test-taking skills rather than the development of communicative skills in writing. In a study about teacher feedback on students' writing, Lee (2008) examines Hong Kong secondary English teachers' feedback practices and factors that have influenced those practices in the context of their work. The findings indicate that teachers' written feedback was primarily error-focused, contravening the principles recommended in local curriculum documents. The result revealed that teachers' feedback practices were influenced by various contextual factors including teachers' beliefs, values, understandings, and knowledge, which are mediated by the cultural and institutional contexts, including philosophies about feedback and attitudes to exams, and socio-political issues pertaining to power and teacher autonomy.

However, what teachers believe about writing instruction may not be reflected in their practices in writing classrooms. Reported from an EFL context, Pennington, Brock, and Yue (1996) found a gap existed between reported beliefs and practices in classroom. In this respect, Pennington and colleagues commented that the gap between an ideal teaching situation and actual classroom practice might be the result of contextual constraints including students' level of English, expectations about teaching and writing, teachers' knowledge and perceptions about writing practices, time, and external requirements such as examinations or syllabus requirements. Lee's (1998) investigation of Hong Kong writing teachers' beliefs about the teaching of second-language writing

found such a gap. Although they initially stated that they believed that textual coherence was more important than grammar and vocabulary in writing instruction, those beliefs were not translated into actual classroom practices, which were more concerned with grammar and vocabulary. Lee explains that the teachers put more focus on low-level features rather than discourse features in their teaching of writing because their major concern is students' ability to write grammatical English. More recently, Lee (2008) argues that teachers' feedback practices are deeply affected by the cultural and political systems that they are pressured to conform to. Therefore, while teachers acknowledge effective feedback practices and writing approaches, they may not be able to bring them into classroom practices.

In addition, Cumming (2001) interviewed 48 experienced ESL/EFL instructors in Australia, New Zealand, Canada, Hong Kong, Japan, and Thailand to investigate their concepts of writing assessment. It was found that the writing teachers conceptualised writing assessment according to their curriculum orientations which were either in reference to characteristics of their students or from their perceptions of the interests of their students. This study suggests that teachers in ESL/EFL contexts are likely to conceptualise their writing instruction based on their perceptions of students' needs and abilities even though what they do in the classroom is inconsistent with what they state in terms of theoretical beliefs.

Therefore, writing teachers' perceptions of their practices, classroom management, and lesson focus are highly affected by institutional factors and social influences. As Pennington et al. (1997) conclude "writing teachers in the Asia-Pacific region may be consolidating their practices around a common basis of theoretical and practical knowledge" (p. 138). Nevertheless, teachers' concepts about writing instruction can be extended and enhanced over time through training programs and teaching models. According to Sengupta and Xiao (2002), teachers can expand their understanding about writing instruction through professional development programs. For example, although teachers realise the importance of lower-level mechanical accuracy of students' writing, introducing them to other writing instructional approaches may help them focus more on different elements of writing. Farrell (2006) explores an EFL teacher's beliefs about teaching academic writing. Journals, classroom observations, and oral recall were used to encourage teachers to reflect on writing instruction practice. He further suggests that

using teachers' reflective accounts and classroom observation may be effective methods for helping language teachers discover the relationship between their beliefs and classroom practices. These studies have implied that it is necessary to give teachers opportunities to reflect about their teaching practice and learn about new classroom approaches or innovations in teaching writing through meaningful training experiences or teaching models. This exposure to new teaching perspectives may facilitate conceptualisation and practice that is appropriate for their students at particular educational settings.

This section of the literature review suggests that research into teachers' pedagogical perspectives and practices needs to take teachers' individual beliefs and teaching contexts into account. Also, if EFL teachers understand the contextual influences upon their own practices, this would help them adapt their teaching knowledge to their classroom contexts. Furthermore, it has been suggested that EFL instructors need to monitor and evaluate their own teaching by reflecting upon the curriculum they design and the teaching strategies and activities they employ to see whether the teaching objectives are achieved and appropriate for their students. However, previous studies also suggest that it might be difficult to access teacher cognitive domains and make teachers reflect on their personal practices. The next section presents a literature review regarding how research has been undertaken to investigate teacher cognition and related matters including beliefs and knowledge in language teaching.

### **2.1.5 Research on teacher beliefs and knowledge about language teaching**

In the past two decades, there has been a growing interest in the actual processes of investigation of teachers and their beliefs and knowledge about language teaching (Andrew, 2003; Farrell, 2006; Richards et al., 2001; Sakui & Gaies, 1999; Tsui, 2003; Woods, 1994; Yang & Huang, 2008). According to Barcelos (2000, 2003) the study of beliefs can be classified into three groups, namely normative, metacognitive, and contextual, according to the researcher's definition of beliefs, research methodology, and the relationship between beliefs and other factors. The following sections will discuss how previous research has investigated language teacher beliefs and knowledge based on this classification.

### ***2.1.5.1 The normative approach***

Studies of the normative approach to beliefs can be identified by using questionnaires based on inventories of beliefs as the main instrument of the investigation. One of the most popular questionnaires was developed by Horwitz (1987) in the form of a 34-item questionnaire called the BALLI (Beliefs About Language Learning Inventory) developed to explore students', teachers', and pre-service teachers' beliefs about different aspects of language learning. Many studies have used this instrument to investigate beliefs about learning and teaching in different contexts (Kern, 1995; Peacock, 1999, 2000; Yang, 2000), especially in order to compare beliefs of language teachers and students. For example, Peacock (1999) compared the beliefs of 202 students and 45 university ESL teachers, and found key differences in beliefs about vocabulary and grammar. While 62% of participating students believed that “Learning a foreign language is mostly a matter of learning a lot of new vocabulary words”, only 18% of teachers agreed. In addition, 64% of students believed that “Learning a foreign language is mostly a matter of learning a lot of grammar rules”, while only seven percent of teachers agreed. As a result, Peacock suggested that students may therefore be very dissatisfied in such a context with a teacher who does not emphasise the learning of vocabulary and grammar rules in classroom tasks, materials, and homework. Kern (1995) used the BALLI to assess and compare teachers' and students' beliefs about French language learning. Results showed both similarities and mismatches between teachers' and students' beliefs. The findings suggest that teachers' beliefs are but one of many factors that affect students' beliefs about language learning. In a subsequent study, Peacock (2000) investigated changes in the beliefs about second language learning among trainee teachers over their 3-year programme at the City University of Hong Kong. First-year trainees' beliefs about language learning were collected using the BALLI and compared to those of the teacher trainers: differences were found in several areas including vocabulary and grammar learning. This same group of trainees then went through the teaching methodology program, their beliefs were collected again, and no significant changes were found. Peacock thus strongly recommends that any trainees' beliefs that may negatively affect their future students' learning should be addressed overtly in teacher training programs.

Other questionnaires have been developed to investigate language teacher beliefs in various areas of language teaching. For instance, Richards et al. (2001) used a questionnaire to investigate the beliefs about language teaching and learning of 112 second language teachers from Southeast Asian countries and Australia. Although many teachers believed that grammar teaching is needed for EFL/ESL students, there were reports of changes in teachers' beliefs, teaching methods, and teachers' roles that seemed to correspond to learner-centred approaches. Reporting from an EFL context, Matsuura, Chiba, and Hildebrandt (2001) conducted a survey about learning and teaching communicative English in Japan. Questionnaires were given to 300 university students and 82 EFL teachers to elicit their beliefs about English language learning and teaching. The results indicate that many students preferred a teacher-centred approach such as listening to lectures, practising isolated skills, and focusing on accuracy while the teachers were inclined to show beliefs towards a learner-centred approach, integrated skills, and a focus on fluency. The authors suggest that the assessment of student and teacher beliefs is crucial for the development of English language curriculum and classroom practice. More recently, Chou (2008) investigated Taiwanese university instructors' belief systems about reading theories and strategies compared with their practical teaching activities. The results showed that instructors' beliefs which emphasised reading theories and strategies correlated positively with their activities in actual classrooms.

Thus, studies adopting a belief inventory, including the BALLI, provide a general picture of the kinds of beliefs participants may have. Data from questionnaires are often used for classification and comparisons which show evidence of gaps and mismatches between groups of participants. Although studies that make use of questionnaires can address different areas of teachers' beliefs and can include data from a large number of subjects, these studies have some limitations. Questionnaires do not usually allow participants to express their beliefs (Block, 1997, 1998; Kalaja, 1995). Rather, participants are asked to respond to statements reflecting the ideas of the researcher (Munby, 1984). According to Kagan (1990), standardised statements may mask a particular teacher's personalised beliefs and perceptions. In this respect, researchers suggest that understanding teachers' beliefs requires teachers' situated views in their particular professional contexts (Ertmer, 2005; Fang, 1996; Nespor, 1987).

### ***2.5.1.2 The metacognitive approach***

According to this approach, belief is considered to be very similar to metacognitive knowledge (Victori, 1992; Wenden, 1986), which involves knowledge about the strategies and skills used in learning processes (Mayer, 2003). Therefore, it is assumed that an individual is aware of some of the process of language learning and teaching and will be able to articulate some of their beliefs (Wenden, 1986). Studies adopting metacognitive approaches are characterised by the use of semi-structured interviews and self-reports about what participants are doing (Wenden, 1998).

A number of research studies on language teacher beliefs have adopted the metacognitive approach in their inquiry (e.g., Andrews, 2003; Borg, 1999; Ellis, 2006; Farrell & Kun, 2008; Phipps & Borg, 2009). For example, Ellis interviewed 31 Australian ESL teachers to explore the interconnectedness between teachers' language learning background and their professional knowledge and beliefs. Participating teachers were asked to articulate their beliefs about approaches to teaching ESL including the challenges of learning ESL for students and the challenges of teaching ESL through the medium of English. Personal language biographies about language learning and teaching were also collected to elicit any influence of prior language learning experience on their current ESL practices. The result shows that different kinds of L2 learning experiences are influential resources for ESL teachers' professional knowledge and beliefs about language teaching. However, this study focussed on how teachers perceived and described their professional knowledge and beliefs rather than on their reflections on knowledge and beliefs observed in classroom teaching.

An earlier study by Andrews (2003) investigates teachers' beliefs, feelings, and understandings about teaching English to secondary students in Hong Kong by means of quantitative and qualitative methods. Data from interviews and classroom observation revealed patterns of cognitions about the subject matter, which appeared to be associated with certain pedagogical practices. At the same time, it was also found that there was considerable variation between individuals. The study concluded that a case-study approach involving classroom data and interviews is needed to examine individual teachers' cognition and their association with pedagogical practice. Recent research that combined interviews and observation was conducted by Phipps and Borg

(2009). They observed and interviewed teachers of English working in Turkey about their grammar teaching practices over a period of 18 months. The observations provided insights into how teachers taught grammar, while the interviews explored the beliefs underpinning the teachers' classroom practices. The results indicated that the core beliefs of teachers play an important role in teachers' practices.

As presented in the examples of a metacognitive approach, the type of data collected includes verbal accounts gathered through interviews and self-reports. Giving participants the opportunity to elaborate and reflect on their beliefs is regarded as a major advantage of this approach. However, Kagan (1990) notes that beliefs can be held unconsciously and a teacher may not have the language to express them or may be unwilling to express beliefs they hold, preferring to state those viewed as socially desirable. In addition, studies adopting this approach may fail to make the connection between beliefs and contexts (Barcelos, 2003). As Kalaja (1995) argues, given that beliefs are socially constructed, interactive, variable, and social in nature, it is critical that researchers address the relationship between beliefs and their contexts.

### ***2.5.1.3 The contextual approach***

Within the contextual approach, beliefs are seen as embedded in contexts. Research studies that have employed this approach to explore beliefs about teaching and learning are qualitative in nature relying on naturalistic interviews, case studies, ethnography, classroom observation, narratives, and metaphors (Farrell, 2006; Kramsch, 2003; Woods, 1996). In Woods' (1996) study, for example, three complementary approaches, ethnographic interviews, observations, and stimulated recall interviews, were used. Based on videotaped lessons, eight ESL teachers in Canada were studied in relation to their beliefs, knowledge, and assumptions (BAK) and their decision-making processes. The results highlight the importance of the context of the course and of teachers' beliefs in the process of meaning making. Woods contends that teachers' beliefs need to be seen in relation to the overall course design and structure. For instance, the teacher may believe that students who are used to a more structural approach in language learning should be introduced to the communicative approach gradually. In another contextual study, Farrell (2006) examines the belief systems of pre-service teachers during their practice teaching by using metaphors: a case study of three pre-service English teachers was employed to investigate their beliefs before, during, and after a six-week practice

teaching experiences. Results show that the teachers' metaphors could be classified within the following three-part typology: social order, cultural transmission and learner-centred growth.

The inclusion of a range of elicitation techniques has been supported by research studies (Basturkmen, Loewen, & Ellis, 2004; Shelley, White, Baumann, & Murphy, 2006). A collaborative project carried out by Shelley et al. adopts an unfolding research design which allows a range of elicitation techniques to be used based on the emerging data. The data-gathering procedures include focus groups, open-ended questionnaires (yoked subject technique), group discussion, and individual interviews. This research technique allows the participants to give different forms of perspectives on their teaching role, skills, attributes, and expertise required of them as distance language teaching professionals. Basturkmen et al. investigate the relationship between three teachers' stated beliefs about practices of focus on form in ESL communicative lessons. A combination of observational and self-report data including in-depth interviews, cued response scenarios and simulated recall was used. Results show cases of inconsistencies in teachers' stated beliefs and practices in relation to the features of focus on form. Teacher' different personal teaching styles and their perceptions of what communicative language teaching is are seen as influencing their practices. In addition, it was found that teachers drew on their technical knowledge when interviewed but drew on practical knowledge when confronted with contexts from the classroom, suggesting that the investigation of teachers' beliefs needs to be based on both stated beliefs and observed behaviours.

As seen in previous contextual studies, different aspects have emerged from combined elicitation techniques suggesting a deeper relationship between teacher beliefs and professional contexts, as well as the constraints within classroom settings. This is one of the main advantages of this approach which allows participants' perspectives and the context of their actions to be taken into account. Investigating beliefs in context means knowing why teachers hold particular types of beliefs, how each belief fits with their classroom settings, and how their beliefs are related to their actions (Woods, 1997). This type of research can be very time-consuming and is possible with only a small group of participants. Nevertheless, the basic idea behind this approach of combining

different methods to interpret individuals' beliefs in their contexts offers a rich way into understanding how beliefs relate to the settings in which teachers operate.

#### ***2.1.5.4 Summary of research on teachers' beliefs and knowledge in language teaching***

Research studies have made use of different approaches to investigate teachers' beliefs in language instruction. However, it can be seen that using different approaches provides varied perspectives on the data. Studies that use beliefs inventory statements usually compare the beliefs of different groups of participants (e.g. pre-service vs. in-service teachers, teachers vs. students) or indicate changes in beliefs over a period of time (pre- training programs vs. post-training programs). Metacognitive approaches that rely on teachers' interview accounts and self-reported beliefs usually lead to a discussion of how beliefs function in teaching practices and the relationship between what teachers believe and what they actually do in classrooms. Studies using contextual approaches make use of various sources of data to establish teachers' belief systems in relation to other elements of teaching and contextual influences. It is worth noting that the more instruments that are used in a study of teachers' beliefs, the more complexity can be gained which gives a deeper understanding of the situation, including indications of beliefs held unconsciously or that the teacher cannot or is not willing to articulate (Kagan, 1990). Giving teachers opportunities to reflect upon their work is another means of investigating teachers' beliefs and cognitive processes (Borg, 2003b). For these reasons, this study draws on different introspective techniques and instruments including a questionnaire, semi-structured interviews, unstructured interviews which allow teachers' reflective accounts, scenarios, and observation as means for eliciting data about teachers' beliefs.

## **2.2 Network-based language teaching and sociocultural perspectives**

The use of networked computers and the Internet has offered great potential for educational use and second and foreign language education in particular. According to Lankshear, Snyder, and Green (2000), including digital technologies in literacy education brings along "authentic forms of social practice and meaning" (p. 45). This implies that learning a language with networked computers involves social practice and

interactions with other language users. Therefore, it is necessary for researchers to look beyond the utilisation of new technologies to the potential learning opportunities provided in a network-based environment. The following sections present and discuss electronic literacy and the use of networked computers in language teaching, and in relation to sociocultural perspectives on second language teaching.

### **2.2.1 Electronic literacy and second language instruction**

Computer technologies and the Internet have dramatically changed the way people study, gather information, do business, communicate, and socialise with others worldwide. Also, new digital communication and multimedia technologies have redefined literacy and language learning. According to Bereiter and Scardamalia (2005), the advent of technology has brought an expanded understanding of literacy. Apart from having basic literacy skills, today's students also need technology skills for communicating, investigating, accessing and using information, computing, thinking critically about messages inherent in new media, and understanding and evaluating data (Topping, 1998). Students are also expected to become proficient in producing online materials which may include hypertext links, pictures, video and audio attachments, for example. This kind of literacy is called 'electronic literacy' which Warschauer (1999, p. 11) explains as being able to cope with "the decentred, multimedia character of new electronic media facilitating reading and writing processes that are more democratic, learner-centred, holistic, and natural than the processes involved in working with pre-computer, linear texts." Therefore, the role of technology is not only as a tool to support learning but also as a means of achieving electronic literacy for people in the Information age. Researchers have documented other benefits of incorporating information technology in second and foreign language teaching. For instance, Bruce and Peyton (1999) suggest that teachers can use network-based approaches to literacy instruction to support authentic reading and writing, collaboration, student-centred learning, and writing across the curriculum. The Internet facilitates authentic communication with other language users as well as cultural learning of the target language, which enhance language acquisition and learning.

According to Murray (2005), the goal of language learning in the digital age covers the ability to read, write, and communicate with other people through an electronic medium. This means that students in the Internet age must be able to navigate through various

text forms and actively create an individualised learning environment that can enhance the creation of meaning. To achieve this, teachers need to provide students with meaningful language practice and experiences that they need in everyday electronic communication (Chapelle, 2001). Kern (2003) argues that while previously educators considered how to use information technology in order to teach language, it is now essential to consider how to teach language to learners so that they can make effective use of information technology. In addition, technology-enhanced instruction allows teachers to cater for different types of learners (Levy, 2000) as well as to provide guidance and feedback to individual learners (Hampel, 2002). Students generally have more opportunities to choose what they want to learn and how they want to express their thoughts through various tools. This means that they have more control over the learning situation, and this in turn has consequences for the tutor, whose role changes from that of transmitter of knowledge to a facilitator.

However, certain shortcomings of teaching with technology are noted by researchers. For example, students may not have the necessary skills to cope with a predominantly student centred approach to learning (Schank & Cleave, 1995). Morgan (2001) states that some students may feel isolated and find it difficult to maintain motivation in online learning. For language students in particular, the absence of real speaking opportunities and the limited feedback are seen as very serious constraints (Felix, 2001). Although technology in foreign language teaching offers learners more choices and provides the opportunity to become an active participant in learning, technology should not be seen as a panacea for language learning and teaching, but as a tool that needs to be used appropriately (Davies, 1997, 2005). Hampel (2006) argues that although learners know how to use the new technologies, they may not be aware of the affordances they offer or how to use them constructively. These researchers have raised concerns about the roles of teachers in providing students with instruction and scaffolding about how to participate in virtual language classrooms and develop their sociocognitive and communicative competence in the online medium.

### **2.2.2 Approaches to network-based language teaching**

The advent of computer-based technologies has offered a new paradigm in language instruction in which interactive tools and online resources can be utilised to enhance language learning. Along with changing perspectives in second language learning,

information technology innovations have also created new learning paths to assist the process of learning a second language. Kern and Warschauer (2000) define network-based language teaching (NBLT), as "language teaching that involves the use of computers connected to one another in either local or global networks" (p. 1). NBLT represents a perspective in using technology in language teaching that focuses on multiple forms of learning, communicative practice, and collaboration. They explain that the shifts in perspective on language learning and teaching, namely, structural, cognitive, and sociocognitive orientations, have informed the changes in how computers have been used in language teaching.

According to Kern and Warschauer (2000), the first generation use of computers, the use of computers-as-tutor model, was consistent with the structural approach. Activities involved repeated drilling of the same material for learning. Students were given immediate positive or negative feedback on the accuracy of their language performance. Computer use of this kind has certain limitations regarding language learners' choices and generative language production.

The second use of computers, the cognitive approach, was in line with cognitive/constructivist views of learning, promoting knowledge construction through exploration. In this respect, Jonassen (1995) sees computers as "intellectual partners with learners to expand and even amplify their thinking, thereby changing the roles of learners in college classrooms to knowledge constructors rather than information reproducers" (p. 40). Learners were provided with opportunities for problem-solving and hypothesis-testing, and utilising their existing knowledge to develop new understandings. Nevertheless, as Crook (1994) points out, this type of computer use may not engage students in genuine negotiation of meaning since the interaction is mainly between students and their computers rather than between language learners.

The third approach in using computers was rooted in sociocognitive approaches which emphasise meaningful interaction in authentic discourse communities. Computers were used as a tool for interactive communication among learners, as well as accessing and organising information. These three perspectives offer a comprehensive framework for examining the role of computer and information technology in online instructional environments. However, Kern and Warschauer (2000) note that the specific advantages

of NBLT can only be unveiled by research that examines "particular practices of use in particular contexts" (p. 2). This suggests that NBLT in a particular educational context needs to be conducted and examined with regards to its sociocultural elements. Thus, the discussion of sociocultural perspectives in technology-mediated language teaching is provided in the following section.

### **2.2.3 Sociocultural perspectives and network-based language instruction**

Since technology integration potentially brings more social activities and collaborative meaning-making into language classrooms, the use of new technologies in language classrooms needs to be investigated in terms of the broader dimensions involving individual, institutional, and social influences. According to sociocultural perspectives, understanding a human individual involves examining the social contexts and cultural tools that shape the development of human beliefs, values, and ways of acting (Wertsch, 1991). This perspective is based on Vygotsky's sociocultural theory, which claims that human cognition is formed through social activity (Vygotsky, 1986). Language learning is a part of social interaction: learners acquire a language by using that language in social interaction with speakers of that language. In the same way, learning a second or foreign language is understood as a semiotic process attributable to participation in social activities, rather than internal mental processes solely by the individual (Block, 2003; Lantolf, 2000; Lantolf & Thorne, 2006). Warschauer (2005) states that some aspects of sociocultural theory can be applied to computer-assisted language learning (CALL) which involves the relationships between humans and the tool, computers. Three important notions of sociocultural perspectives related to the use of technology in language learning, namely, social learning, the zone of proximal development (ZPD), and scaffolding will be discussed in the following sections.

#### ***2.2.3.1 Social Learning***

The concept of social learning can help us understand how technology can facilitate learning as a social activity. According to sociocultural approaches, it is believed that acquisition, especially for foreign language learners, can be enhanced by using technology to broaden the context of social interaction from within a classroom setting to include intercultural communication (Kingtoner, 2004; Thorne, 2006). Technology-enhanced environments also foster communication and collaboration among peers,

which may have a positive influence on the motivational components of language learning (Dettori, Gainetti & Persico, 2005). In foreign language learning contexts, the target language is not used as a means of oral communication among students outside or even, often, inside classrooms; therefore, foreign language learners have limited social interaction and exposure to the target language. The application of communicative tools and global networks to foreign language education enables internationally dispersed learners to engage in various social activities. CMC tools such as e-mails, real-time chat, threaded discussion and video conferencing, can meet the need for increased opportunities for social interaction beyond the classroom by networking foreign language learners in different locations. In CMC conversations, learners can learn new language chunks from interlocutors and also refine their texts to communicate with authentic audiences (Warschauer & Lepeintre, 1997). Connecting students with FL speakers outside of the classroom by e-mail provides a context for real-world communication which can bring effective benefits to the process of learning a foreign language (Gonglewski, Meloni & Brant, 2001). Recent studies have shown that pair work via CMC across languages and cultures can provide such an interactive and collaborative learning environment (Belz, 2003; Belz & Kinginger, 2002, 2003; Belz & Müller-Hartmann, 2003; Chung, Graves, Wesche, & Barfurth, 2005; Walker & vom Brocke, 2009). Integrating communicative technology in collaborative learning tasks offers language students ample opportunities to learn from peers, contribute opinions and perspectives, and interact with others to accomplish tasks (Meskill, 1999).

Given that social interaction is considered an integral process in language learning, technology-based language learning suggests a way of fostering language learners' social interaction in language classrooms where learners may have limited or minimal interaction with their instructor or peers. Therefore, the most important benefit of communicative technology in classrooms is its potential to offer students opportunities for authentic social interaction in the target language more than was ever possible in traditional foreign language classroom.

### ***2.2.3.2 Zone of Proximal Development (ZPD)***

Another key notion in sociocultural perspectives on network-based learning is that the potential of cognitive development is limited to the Zone of Proximal Development (ZPD), which is defined as the zone of potential in which learners can achieve more

with assistance than they can do alone (Vygotsky, 1978, p. 85). This notion has important implications for the quality of social interaction since learning is linked to development in the ZPD. According to Ohta (1995), L2 learners' development level is determined by independent language use, and the higher level of potential development is determined by how language is used in collaboration with a more competent interlocutor. Language learners who participate in interactions in which participants have different proficiency levels and different backgrounds may encounter unfamiliar linguistic forms or information which requires negotiation of meaning. This process of collaboration creates a ZPD for language learners and can facilitate comprehensible input (Kitade, 2000). Teachers can provide assistance for students' ZPD by engaging them in specific academic tasks which facilitate the active mediation between what is known and what is yet to be known by the students (Calderon, 1999; Davydov, 1995; Salomon, 1998; Samaras & Gismondi, 1998). Teachers of second and foreign languages can support the creation of learners' ZPD through utilising CMC (see, for example, Abrams, 2003; Blake, 2000; Lee, 2002a; Pellettieri, 2000). CMC tools allow language teachers to create meaningful and collaborative interaction between native and non-native speakers and among non-native speakers. Collaboration and interaction through CMC are regarded as an important way to facilitate second/foreign language development since the different levels of expertise of the individuals involved in peer interaction can bring together various ZPDs amongst them (Donato, 2000; Ohta, 2001).

### ***2.2.3.3 Scaffolding***

The third concept crucial to a sociocultural framework for network-based language learning is scaffolding. According to Donato (1994), scaffolding is a situation whereby a more capable participant can create supportive conditions in which "the novice can participate, and extend his or her current skills and knowledge to higher levels of competence" (p. 40). It is not conceived as unidirectional delivery of assistance from an expert to a novice, but as collaboration between learners and an expert (Nassaji & Swain, 2000). However, Lee (2004) notes that to collaborate successfully, both the expert and the novice must establish reciprocal and equal perspectives to accomplish a joint activity through socially negotiated interaction. Moreover, the concept of scaffolding is about providing novice learners with the right amount of assistance from teachers and experts (Aljaafreh & Lantolf, 1994). According to Young (1993), scaffolding involves limiting the complexities of the learning context for novice learners

and gradually removing those limits as learners gain the knowledge, skills, and confidence to cope with the full complexities of the context. This lessening assistance from teachers should eventually result in the development of self-regulated learning and lead to more self-reliant students.

In online learning environments, Dabbagh (2003) suggests that teachers can use information and communication technologies to encourage interaction and collaborative learning, as well as to provide essential information and resources crucial to sustaining student engagement and motivation. For example, teachers can use collaborative tools that support learning conditions in which students receive input, feedback, and opportunities to negotiate meaning in interaction (Lee, 2002; Meskill & Anthony, 2005; Pellettieri, 2000). In addition, the presence of text-based discourse and feedback from experts increases learners' opportunities to take notice of the linguistic problems that lead to error correction and output modification (Lai & Zhao, 2005; Smith, 2008; Sotillo, 2000; Warschauer & Kern, 2000). Research studies on scaffolding in L2 learning have shown learners can work together to reach a higher level of performance by providing assistance to one another (Barnard & Campbell, 2005; Chung et al., 2005; Ohta, 2000, 2001). For example, Chung et al. (2005) investigate interactions between Korean- and English-speaking peers in collaborative chat homework assignments in an international college. Results reveal that students were able to learn and teach contextually meaningful and appropriate linguistic and cultural behaviour through on-line collaborative discourse. Specifically, the findings indicate that students can appropriate a variety of language practices as well as participate in expert and novice discursive practices in the construction of meaning. To take another example, Barnard and Campbell (2005) apply various forms of scaffolding proposed by Van Lier (1996) in a university context. The tasks include web conferencing and collaborative English for academic purposes (EAP) writing tasks, in which students are able to choose their own times to meet outside the lecture, as well as to establish web conferences using Microsoft Messenger (MSN) in collaborative tasks. The findings indicate that process writing can be enhanced by online group collaboration, tutoring, and co-constructed knowledge with peers. Hence, all the studies adopting online collaborative tasks have shown that electronic technology can be a valuable tool to promote learning motivation and meaningful practice, as well as to facilitate teacher and peer scaffolding in language learning.

Therefore, what seems significant about sociocultural frameworks and the incorporation of computers in language learning is how humans react to the computer, how the tools transform human action, and how the history and context of individuals affect the use of the tools in language learning processes. A sociocultural approach to network-based language instruction places great significance on the use of technology to empower language learning and teaching in an interpersonal and interactive environment. The notions of ZPD and scaffolding potentially offered in online learning environments address the quality of learners' interactions and expert assistance. Thus, the investigation of technology integration should look into how technology is used to support an interactive learning environment in which learners can associate with each other, construct their language performance collaboratively, and eventually develop their learning through an electronic medium.

#### **2.2.4 Activity theory and technology integration in classroom**

According to Vygotsky (1987), cognition is seen as essentially a social or inter-subjective activity. When individuals interact purposefully with others, using tools and resources, their actions are influenced by certain rules of exchange and according to defined roles and expectations. Tools (including language and computers) have both a physical and a cultural existence in which group interactions and cultural practices have a great impact on the use of tools (Wilson et al., 2001). These ideas have implications for the adoption of educational technologies. That is, although information and technology tools are offered for teachers and students, the way they are perceived and used could be diverse in different educational contexts. There is ample research on this theme, particularly in the context of online intercultural exchange (Belz, 2001; Belz & Mueller-Hartmann, 2003; Thorne, 2003). According to Thorne (2003), the cultures of use of an artefact are defined as “historically sedimented characteristics that accrue to a CMC tool from everyday use” (p. 40). To understand the nature of technology implementation and its impact in an educational setting, sociocultural theory is claimed to be one of the most interpretive frameworks. Within sociocultural perspectives, activity theory is one of the theoretical frameworks used to understand human interaction behaviours which are afforded by a technological medium (Bashaina, 2007; Thorne, 2003). Activity theory has the capacity to capture significant elements of the broader context of ICT use in education and other salient features that are considered to influence success in ICT integration (Levy & Stockwell, 2006).

Activity theory perceives individuals' actions in collective activities that interact with relevant environmental contexts and are thus socially and culturally determined (Kaptelinin, Nardi, & Macaulay, 1999). Understanding the human mind and activity can be achieved by investigating the interaction among basic units of the activity system. Figure 2.2 suggests the various elements of an activity system and their connecting relations (Engeström, 1987).

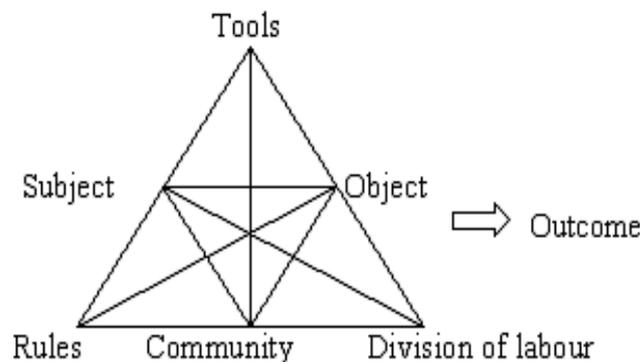


Figure 2.2 Activity system model adapted from Engeström (1987, p. 7)

In this model, the elements of the activity system include subject, tools, object, rules, community, division of labour, and outcomes (Engeström, 1987). The subject refers to the participants in an activity. The object can be the goal of the activity, the motives of participating in the activity, or the products gained through the activity. Tools refer to the mediating artefacts or resources that subjects use to achieve the outcome of the activity. Rules are the regulations of the actions and interactions within the system. The community is the group of people who share an objective with the subject. The division of labour is the roles and responsibilities of the community members. Finally, the outcome is the consequence of the actions driven by the object. This outcome can influence the subject's participation in related future activities (Yamagata-Lynch & Haudenschild, 2008).

Adopting activity theory as a framework can help not only in understanding the various processes within and between the elements of an activity system, but also in suggesting potential problems in the ICT integration process. According to Russell (2001), understanding the interaction among the activity system elements can explain how an activity may function or fail for some individuals, or the subject in the diagram. Activity theory has been used by educational researchers for understanding and describing experiences of students and teachers when using ICT and the contradictions that may occur in the ICT integration process. Research using activity theory to investigate educational technology adoption has revealed underlying constraints to the adoption of technology in particular settings (Demiraslan & Usluel, 2008; Hu & Webb, 2009; Lim & Hung, 2003). Demiraslan and Usluel (2008) used activity theory to examine complex pedagogical, social, and technological issues in ICT integration processes at the classroom level. Case studies, semi-structured interviews, video recordings and observations were conducted to collect data. The contradictions within the activity system and potential effects were identified and discussed. The results indicate that, along with the degree of technology and access, the organisational culture, the changing roles of teachers and students with regard to ICT, inflexibility of timetables and curricula, support of the school administration, the mediator role of the ICT coordinator, and collaboration among the teachers were all imperatives that need to be taken into consideration in ICT integration processes.

Furthermore, research studies suggest that contextual contradictions and barriers related to adoption are revealed within the analysis of elements in activity theory. Karasavvidis (2009) examines teachers' perspectives regarding technology-based innovation using this as a theoretical framework. The contradictions found in teachers' activity systems help in identifying the main obstacles to the proposed technological innovation. Teachers mentioned limited instructional time, and a pressure to cover the curriculum rather than focusing on students' learning, as the main obstacles to the proposed technological innovation. Besides, teachers talked about being reluctant to embrace technology because they perceived technology more as an additional problem than as a solution to their realities. The research suggests that teachers' concerns within activity theory perspectives should be examined as they highlight barriers to innovation. In the context of international distance learning, Morgan (2008) looks at cases of teaching presence in international online distance courses. Cultural historical activity theory

(Engeström, 1999, 2001) is adopted as a framework for understanding how instructors negotiate the mediating components of the activity system: the students, technology, course design, co-instructors, and institutional contexts, and how these ultimately influence teaching presence. The results indicate that instructors in the same course can experience different tensions in how they draw on resources, and make adjustments to address tensions and constraints in the negotiation of teaching presence.

Reporting from Australia, Lloyd and Albion (2005) adopt activity system theory to investigate common misconceptions about ICT in classrooms among technophobic teachers or Level 0 teachers, those with the lowest level of technology incorporation according to the Apple Classrooms of Tomorrow (ACOT) model proposed by Dwyer, Ringstaff, and Sandholtz (1991). Several common characteristics of technology-inexperienced teachers were found. For example, Level 0 teachers shared the concepts that teachers are expert whereas students are inexpert. They did not believe that ICT is a necessary component of education and felt “an abiding sense of mandation and subsequent resentment about having to use ICT” (p. 1486). The authors argue that it was because of the teachers’ limited experience and narrow perception of ICT that they were not able to hold positive beliefs towards incorporating technology in their practices. They recommend that technology-inexperienced teachers need personal technology experiences in daily communication and classroom teaching in order to develop understandings about the possibilities of technology in teaching.

To conclude, activity theory is a conceptual framework that raises the awareness of contextual issues of technology adoption processes. It proposes a view of technology adoption as a complex process in a particular context. This view is also suggested by Warschauer (2003, p. 26) who states, “Technology does not exist outside of a social structure, exerting an independent force on it, but rather the technological and social realms are highly intertwined and constantly co-constitute each other in a myriad of ways.” In general, this sociocultural framework supports a holistic view of teacher thinking and concerns towards technology adoption, and appears useful to probe emergent sociocultural factors that support or constrain technology adoption in a particular environment. It also suggests that the contextual units within the activity system need to be taken into account in the analysis of technology adoption.

However, Demiraslan and Usluel (2008) suggested that activity theory is a descriptive theory that emphasises understanding the culture and the context of a particular environment and the underlying interactions rather than prescribing changes or solutions for effective ICT integration in teaching and learning. In addition, activity theory seems to focus on how humans interact with their environmental aspects, including technology tools inside the activity system. Thus it does not suggest much about an individual's personal beliefs, values, understanding, and past experiences of language teaching and technology. In this study, it is not regarded as the main theoretical frame for investigating teacher cognition about technology use in educational settings. Nonetheless, implications from key studies adopting this framework are useful for reflecting on technology-mediated language instruction in terms of the sociocultural influences upon individual teachers' practices and principles in a particular setting. As Russell (2009) stresses, looking into teachers' working conditions through a sociocultural lens helps in the understanding of conflicts and challenges that may occur during the process of innovation adoption as well as the interrelationship between the notions of policy and practice in language teaching.

## **2.3 Teachers and technology use in language classrooms**

### **2.3.1 Types of technology use in language classroom**

As computer and Internet technologies become more accessible in many educational institutions, face-to-face classroom teachers are offered a variety of technology tools for instruction. According to Felix (2003), there are two types of technology use in language classrooms. The first type is stand-alone web-based instruction in which teachers deliver lessons and interact with students via online 'virtual classrooms', while in the second type teachers give both face-to-face instruction and use online instruction as an add-on. This second type is also known as a hybrid classroom or blended learning solution. According to Rovai and Jordan (2004) blended learning is defined as a mix of "classroom and online learning that includes some of the conveniences of online courses without the complete loss of face-to-face contact" (p. 1). Lord and Lomika (2008) note that blended learning courses provide students with the benefits of both face-to-face and online communities, as they combine the two methods of delivery.

In blended courses, a variety of technological tools such as CMC, wikis, and blogs can be implemented to facilitate discussion and interaction. The integration of these tools is important for the promotion of learning engagement and interaction that strengthen students' face-to-face classroom learning experiences. Sharma and Barrett (2008) point out that teaching with technology in a blended learning environment should be driven by pedagogy, focus on learners' needs, and allow teachers to add variety to the lesson and maintain a balance between teachers' roles and those of technology. Brandl (2002) suggests that any type of technology use in language classrooms starts from providing teachers with possible ways to incorporate technology into the curriculum, as well as offering ideas for developing pedagogically well-designed lessons. This suggests that although technology tools are provided, teachers may also need examples of technology-enriched teaching of a particular skill for instructional intervention that benefits English language learning.

### **2.3.2 Technology tools and language learning and teaching opportunities**

The advancement of the computer and the Internet has not only offered people a wide range of information and communication channels, but also new opportunities and tools for language learning and teaching. Language teachers can make use of recent developments in computer and Internet technology which support diversity in learning methods and multimedia materials that can be useful for language learners. Kern and Warschauer (2000) point out that language learners with access to the Internet can potentially communicate with native speakers of English all over the world. Students can communicate either on a one-to-one or a many-to-many basis any time they need from school, home or work. In addition, CMC research in language teaching often indicates that tools such as e-mails, web discussion, and chat allow the implementation of more communicative and collaborative approaches to language instruction (Bonk & King, 1998; Kern, 1996). Previous studies show that, during CMC chat, learners can reduce anxiety about participating, increase motivation for using the target language, and also produce greater quantities of the target language (Beauvois, 1992; Chun, 1998; Kern, 1995). Asynchronous modes of CMC, such as e-mail and threaded discussion, allow participants to have additional processing time in a conversation. This extra time encourages careful deliberation and critical thinking as students develop knowledge at their own pace (Jonassen, 1994; Kamhi-Stein, 2000b). Warschauer, Turbee, and Roberts

(1996) suggest that students' use of asynchronous CMC can enable them to take control in language learning and allow them to communicate whenever and wherever they like which may increase learner-to-learner and learner-to-teacher interactions.

The Internet and related technologies are considered an ideal learning and teaching tool for foreign language teaching because they offer authentic learning resources available without having to travel to English-speaking countries (Gonglewski et al., 2001; Singhal, 1997; Smith, 1997). With online communicative tools, teachers can reinforce students' use of the target language in an authentic setting (Daugherty & Funke, 1998; Mosquera, 2001). This can increase EFL learners' participation (Beauvois 1992, 1998; Sullivan & Pratt, 1996) and motivation to learn the target language (Jarvis, 2005; Rico & Vinagre, 2000).

Recently, researchers and educators have shown increased interests in adopting Web 2.0 and Lesson Management System (LMS) in language instruction. Web 2.0 technologies, namely, blogs, wikis, podcasts and social networks, are recent innovations which offer powerful opportunities for both language professionals and learners. Using Web 2.0 tools in the classroom can facilitate conversations, online connections, and networks of learning. Students also have opportunities to create meaningful conversation, express their ideas, respond to questions and comments, and receive suggestions and further information that expand their language experiences (Beldarrin, 2006; Davis, 2006; McLoughlin & Lee, 2008). In addition, the adoption of a Lesson Management System (LMS), also referred to as Course Management System (CMS) and Virtual Learning Environment (VLE) (e.g. Blackboard, WebCT, Moodle), has become popular among educational institutions. Originally designed for distance learning, an LMS is a web-based application for distributing course materials, communicating with students, facilitating student discussions, presenting quizzes, and managing classroom tasks. Levy and Stockwell (2006) point out that an LMS is a powerful tool for language classrooms as teachers can integrate multiple learning applications, create teaching resources, and share experiences with colleagues and students. Brandl (2005) suggests that an LMS may have great potential to create a successful e-learning experience by providing tools that can be used to enhance both conventional and hybrid classrooms. Nevertheless, Tudor (2003) remarks that the real effectiveness of technology depends not just on the potentiality of the technology itself but rather on the appropriacy of its

use within a particular context and the perceptions and attitudes of the people who will be using it. This means that teachers may have to think about the practicality and feasibility of technology integration which involves their local curriculum, supporting software and hardware at their schools, and their own classroom pedagogy. However, technology tools and applications mentioned here are only part of what technology can offer in language teaching. More detailed descriptions are provided elsewhere (see, for example, Egbert, 2007; Felix, 2003; Sharma & Barrett, 2007).

Educators and researchers broadly agree that these technologies, when integrated appropriately into language classrooms, can promote a range of exploratory and global learning affordances including access to authentic materials, greater opportunities for communication and interaction, individualised instruction, independence from a single source of information, and learner motivation (Blake, 2001; Warschauer & Healey, 1998;), and reinforce students' use of the target language in an authentic setting (Daugherty & Funke, 1998; Mosquera, 2001). However, teachers are faced with decisions about how to integrate new technologies into teaching a specific language skill in their classroom settings. The next section will provide perspectives on technology uses in writing instruction.

### **2.3.3 Technology uses in EFL writing instruction**

Acknowledging that writing is one of the most essential skills for students in academic tasks and their future careers, teachers and researchers have always searched for effective ways to help language learners become better writers. This may have motivated them to explore and experiment with instructional technologies and innovative use of networked computers in language teaching. A number of researchers have proposed a wide range of computer and network-based activities in foreign language writing curriculum and indicated resulting student benefits (e.g. Hertel, 2003, Knight, 1994, LeLoup, 1997; Warschauer, 1995; Meloni, 1995). For example, encouraging students to publish their work on classroom websites is a means to motivate their writing. Since students also realise that their work could reach real-life readers, they are likely to put more effort into their written texts, as writing to an authentic reader and receiving feedback have a positive effect on students' writing performance and motivation (Karchmer, 2000; Meyer & Rose, 2000; Reinking & Bridwell-Bowles, 1996). E-mail writing projects that enable students to correspond with

native speakers of the target language are implemented to enhance the language learning experience and provide students with authentic communicative experiences (Gonglewski et al., 2001). Communicating with other English-speaking keypals through e-mail is also considered less threatening for students because of the ease of correction and more time allowed than in synchronous chat sessions (Shetzer, 1997). Nevertheless, e-mail projects may prove to be difficult in EFL contexts because of different topics of interest and the motivation needed to keep up contact between the students and the keypals (see, for example, Rooks, 2008).

More recently, researchers have suggested using weblogs to support interactive and authentic writing in language classrooms. According to Seitzinger (2006), blogs can be used to enhance writing skills, facilitate self-reflection, encourage critical thinking with collaborative learning, and provide feedback and active learning. Class blogs also allow “students to collaboratively write blog entries” (Stout & Murray, 2007, p. 756). According to Goodwin-Jones (2003), publishing a blog on the Internet gives student opportunities to write for readers beyond their classmates. Writing for a real audience can encourage ownership and responsibility in content and structure.

Another web-based tool that is also considered effective for writing instruction is the Wiki, a freely expandable collection of interlinked web pages in which users can read, add, organise, and edit the content (Schwartz, Clark, Cossarin, & Rudolf, 2004). Wikis are used in writing classrooms to facilitate collaborative writing which support project-based learning and promote creativity, knowledge sharing, and social constructivist learning (Cress & Kimmerle, 2008; Guzdial et al., 2001; Yukawa, 2006).

Nevertheless, research also indicates that integrating network-based tools in writing instruction does not in and of itself improve student writing. Other aspects need to be taken into account such as students’ critical thinking and teachers’ facilitating roles. According to Stapleton (2005), second language students require both consciousness-raising and practice in recognising the biases that exist in websites. Thus, teachers need to provide guidance on how to critically evaluate web sources in academic reading and writing. In addition, writing teachers have to adopt a more active role in guiding the writing process, providing feedback, and encouraging students’ revisions and reflections (Reinking & Bridwell-Bowles, 1996).

As reviewed above, there are many technology application options for teachers to use in their language instruction and writing instruction. However, researchers consistently suggest that these technology programs and tools require appropriate methods that fit into specific contexts. Warschauer (2002) argues that teachers who adopt technology should have the skills beyond self-directed use of technology; teachers need to develop meta-skills of technology use which enable them to develop, explore, evaluate, and adapt new technology as it evolves. McLoughlin and Lee (2008) recommend that teachers need to be aware of the potential and range of tools that support teaching and learning as well as the pedagogical outcomes of the integration. Therefore, integrating technology into English language courses involves teachers' pedagogical adjustment, rather than implementing technology for its own sake. As Davies (1997) states, "Technology has to be treated as an aid and not as a panacea" (p. 29). Some important principles, such as establishing learning goals, teaching guidelines and classroom strategies, need to be discussed in technology integration so that technology can be fully integrated in a curriculum and become maximally effective.

## **2.4 Teacher practice and roles in using technology in language instruction**

### **2.4.1 Teachers' technology practice in language instruction**

It is generally accepted that successful technology integration requires appropriate understanding of the roles of technology and teachers in technology-mediated classrooms. According to Dias and Atkinson (2001), a current view of technology integration involves the practices of using technology in ways that are both curriculum-based and future-oriented. Often, researchers mention that technology-enhanced teaching works well when teachers' teaching philosophy and methods focus on learner-centred teaching and constructivist teaching practices (e.g., Becker, 1994; Becker & Riel, 1999; Judson, 2006; Rakes et al., 1999). According to Grabinger (1996), a constructivist pedagogy has significant implications for the uses of technology that promote meaningful learning, increase students' motivation to learn, and facilitate thinking and knowledge construction. Thus, technology is used rather to mediate

students' exploratory learning and knowledge construction than for the transmission of knowledge; it is something that students learn 'with' not 'from'.

However it is by no means certain that technology causes teachers to adopt constructivist beliefs. Dexter, Anderson, and Becker (1999) found no support for the view that computers are a catalyst for instructional change and concluded that this view underestimates teachers' instructional beliefs and practices. In their view, if teachers decide to use the computer in a constructivist manner, they do so, not because of features in the technology, but on the basis of their knowledge and expertise. Judson (2006) conducted a survey to measure 32 classroom teachers' beliefs about instruction. The teachers were also directly observed and rated with the Focus on Integrated Technology: Classroom Observation Measurement (FIT:COM), which measures the degree to which technology-integrated lessons are aligned with constructivist principles. Results revealed no significant relationship between instructional practices and teachers' stated beliefs. It was found that although most teachers identified strongly with constructivist convictions in the survey, they failed to exhibit these ideas in their practices. Tondeur et al. (2008) investigate the relationship between primary teachers' educational beliefs and their typical approach to computer use in the classroom. The results point at a specific relationship between teachers' belief profiles and how computers are used in the classroom. It was found that teachers with a traditional teaching profile are more likely to use computers in drill-and-practice activities, while teachers with a constructivist profile are more likely to give students more freedom when the computer is used to research and process information. This means that teachers would show traditional or constructivist use of technology because they already hold these beliefs in their classroom practices.

Lately, some researchers have argued that technology adoption does not have to align with the best practices in the literature. Ertmer et al. (2001) and Windschitl and Sahl (2002) both suggest that exemplary technology uses are rather a result of the interplay between teachers' beliefs about the potential of technology and their educational philosophy. Several studies explain that teachers who use computers do so because their conceptions of using ICT fit into their existing teaching beliefs or belief system (Higgins & Moseley, 2001; Sugar, Crawley, & Fine, 2004). It is also found that teachers' educational beliefs are indicators of their classroom behaviours and how they

employ an instructional tool, including technology (Cope & Ward, 2002; Tondeur et al., 2008; Young & Bush, 2004). For instance, Cope and Ward (2002) interviewed a group of high school teachers to find out about their perceptions of learning technologies. A phenomenological research approach was used to examine the importance of teacher perceptions on the integration of learning technology. They further noted that successful integration is more likely to occur when teachers perceive technologies as tools which encourage students to use deep learning approaches which focus on interrelating aspects of the content being studied. This is supported by Egbert (2008) who indicates that effective technology-based learning tasks would take place when teachers focus on the following aspects: learning goals, training and support, times to learn relevant technologies, resources, and using technology only when appropriate.

Another important aspect is how instructional technology can be driven by sound pedagogical considerations. Felix (2003) comments that technology should be best used as a tool and the objective is to create learning environments in which teachers can set up authentic learning tasks, in which both the processes and goals are stimulating and engaging, and which take individual student differences into account. According to Young and Bush (2004), a pedagogical framework and critical questions can guide teachers of the English language arts to begin to construct their own 'best practices' with technology. Critical questions such as "Why do I want to use technologies?", "What technology resources are available for me and for students, and how can they be used?", and "How will the use of technology affect or enhance my students' overall literacy?" should be asked in order to guide effective use of technology (p. 10). Dias and Atkinson (2001) argue that it is important for teachers to anchor and integrate technology-assisted instruction within an authentic context that mirrors real-life problems. Technology integration is best in conjunction with multidisciplinary units in which activities are contextualised for students. Moreover, students should be given opportunities to participate in a community of learners in which they can expand their knowledge and develop expertise as well as collaborate with others. Such active participation has the potential to develop students' abilities to learn, think, and become motivated to use technology independently throughout their lives.

To conclude, effective technology practices can be established by teachers designing language instruction that provides opportunities for students to use technology to

enhance their learning according to their abilities, skills, and learning objectives. As Felix (2003, p. 8) states, “We interpret best practice to mean using the most appropriate tools to their best potential to achieve sound pedagogical processes and outcomes.” Teachers should ensure that the use of technology involves the practice of using technology in ways that are both curriculum-based and meaningful for students’ learning. In terms of best practice in using technology in language teaching, Hoopingarner (2009) proposes that technology should be used to “replace some aspects of teaching, augment aspects of teaching and of learning, and transform the learning experiences” (p. 233). It can be posited that technology use in language classrooms can reach the maximum potential when teachers see technology as a tool that can enhance teaching and learning by providing additional opportunities for language practice, and serve as a platform for extended interaction and learning activities. Hence, understanding the way teachers interpret technology and relate it to their classroom practices is thus crucially important.

#### **2.4.2 Teachers’ role and skills in technology-mediated language instruction**

Although technology innovations provide teachers and students with new opportunities and responsibilities, teachers need to consider adjusting their roles in online educational contexts as they are faced with the realities of a rapidly changing technology environment. According to White (2007), the online teaching environment has brought about paradigm shifts in language instruction. Teachers have to adopt new practices, understanding, and identities in online language instruction, and negotiate new roles in online instruction. This shift of roles in teachers also becomes the most crucial challenge for them because it is not only from changes in technology knowledge or skills, but also changes in teacher identity and self in the new teaching environment. This means that teachers need to be prepared for adjusting their roles in the new language teaching environment.

There have been several attempts to provide models of teachers’ roles and skills in online language teaching in different contexts. In an effort to understand the roles entailed in the context of online teaching, Goodyear, Salmon, Spector, Steeples, and Tickner (2001, p. 69) suggest a list of online teachers’ roles, responsibilities, and related activities as follows:

- a. The process facilitator is concerned with facilitating the range of online activities that are supportive of student learning (e.g. using CMC tools to foster interaction with and between students).
- b. The advisor-counsellor offers advice and support for individual learners (e.g. providing individual consultation by e-mail).
- c. The assessor provides students with feedback and validation of learners' work (e.g. providing feedback via CMC).
- d. The researcher focuses on developing knowledge, practices, and skills of relevance to discipline content teaching (e.g. locating resources needed for discipline teaching).
- e. The content facilitator is concerned directly with selecting, creating, adapting, and making available content to support students' learning (e.g. providing links and resources available on the web).
- f. The technologist is concerned with selecting and using appropriate technologies to facilitate learning and managing the subject (e.g. learning to use Web 2.0 tools or LMS).
- g. The designer is concerned with designing online learning tasks that promote learners' learning engagement (e.g. creating and sequencing activities and tasks).
- h. The manager-administrator is concerned with administrative aspects such as learner registration, record-keeping, and cooperation with other units (e.g. maintaining an archive of electronic assignment and students' records).

This model can help to explain teachers' roles and focus skills in the context of the online instruction by defining the associated activities and particular responsibilities of teachers. It also suggests key activities of online teachers which can be helpful in providing support and sustaining online teaching.

Another model in the context of online language tutoring is proposed by Hampel and Stickler (2005). Their pyramid of skills has seven levels which build on one another as illustrated in Figure 2.3. As can be seen, the two bottom sections are general computer skills and teacher competence and familiarity with some specific programs. The next level is skills and knowledge about online learning affordances and limitations, the ability to make use of the multimodality of the devices, and being able to adapt materials and content.

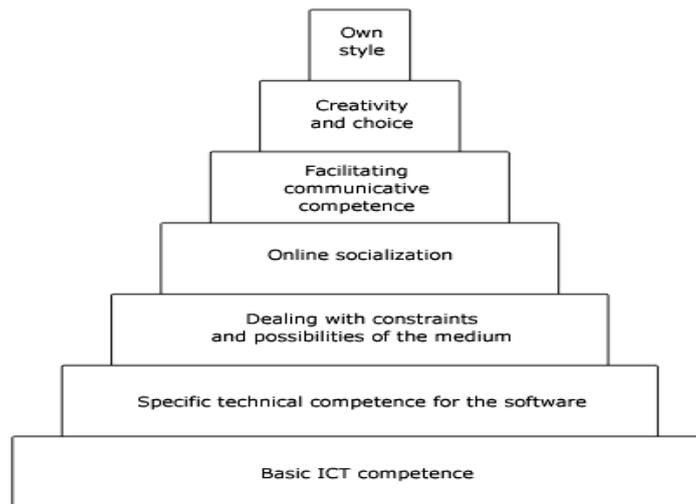


Figure 2.3 Skills Pyramid (Hampel & Stickler, 2005, p. 317)

On the next level, the emphasised skills are the teachers' ability to facilitate socialisation, create a sense of a learning community for students, and encourage interaction to enhance communicative competence. The next level up focuses on teachers' creativity and choices, which can include how they design a learning task and implement tools and resources, which are different from teaching in face-to-face settings. The highest level of the skills pyramid is about teachers' development of their personal online teaching style in terms of activities and resources that are most suitable for their students, and themselves as teachers.

In an Open University context, White, Murphy, Shelly, and Baumann (2005) studied the attributes and roles of distance language tutors by investigating maxims or underlying philosophy of tutoring. The accounts given by tutors articulated some of the maxims reflecting their understandings of what is important in their work in distance language learning. Maxims of online tutors, including Empowerment (giving learners a sense of possibility and agency), Appropriateness (ensuring appropriate support), Honesty (working for an honest, supportive relationship), and Openness (being approachable to students), were considered to influence the ways in which tutors perceived their role, relationship with students, and the instructional goal in the online tutoring context. However, the authors suggest that these maxims are personal principles applied in a

particular setting with particular group of students which may not account for other online language learning contexts.

The roles and skills of online teachers provided in earlier studies have indicated that technology integration does not lighten the role and responsibilities of teachers in the process of learning. Instead, teachers' roles have a great impact on students' learning in online environments as they are needed to provide students with typical support and guide them to participate actively and critically in the learning process, in which learner-centeredness is vital. As Pope and Golub (2000) point out, in online learning environments, the teacher's role has changed "from that of an 'information-giver' to one of 'designer' and 'director' of instruction" (p.95). In addition, it is worth noting that teachers' technology uses may serve as models for lifelong learning as both students and teachers learn to master the new technologies. According to Jacobs and Farrell (2001), students receive information about decision-making, how to deal with technology-related problems, and how to use technology for lifelong learning. Teachers' roles in online teaching may influence students' learning as well as the development of problem-solving and critical thinking skills. Students are likely to benefit from learning to take rights and responsibilities in their own learning as the teacher guides them through cooperative or collaborative online learning activities. In this respect, Salmon (2000) suggests that teachers need to have both content expertise and online communicative skills to support learners' knowledge construction.

Therefore, research about teachers' roles in online language teaching has suggested that teachers are required to adopt new skills and roles, including technology and teaching expertise to manage online teaching. According to Bennett and Lockyer (2004), an online teacher must create a coherent learning experience for students with whom they may not meet face-to-face and, therefore, must develop new support strategies that maintain motivation and encourage interaction. They explain that the nature of activities teachers and learners engage in in an online environment have changed significantly from face-to-face modes. Hence, teachers need a variety of techniques to achieve teaching in online environments. For example, they need to create and integrate a greater range of electronic resources, to develop skills and strategies for using CMC tools, and to facilitate collaborative activities in which students can participate in different places, at different times, and with varying resources and facilities. However,

online teaching roles and teachers' tasks may vary according to the types of online instruction delivery adopted by an institution. This is why teachers who adopt technology in language teaching should acknowledge the need for expanded roles in technology-enhanced classrooms, so that they are able to adopt different roles according to the challenges of using technology for instructional purposes.

## **2.5 Factors influencing technology integration in language instruction**

### **2.5.1 Teachers' attitudes and attributes towards technology**

Educational research has identified a wide variety of factors influencing teachers' decisions to use Information Technology in classrooms. Teachers' technology adoption can be influenced by several factors at either the individual or institutional levels. Sugar et al. (2004) found that personal beliefs and attitudes were critical individual factors, while support from key colleagues and contextual resources were important organisational factors for teachers' use of IT in the classroom. Research also indicates that teacher beliefs and values play an important role in defining technology in an instructional context and making technology become part of student learning. Indeed, teacher beliefs about learning and instruction are a critical indicator for the classroom use of computers (Becker, 2001; Dede, 2000; Ertmer, 2005). Hennessy, Ruthven, and Brindley (2005) recommend that teacher involvement should be at the centre of technology integration in teaching and learning rather than the technology itself. Many researchers concur that the successful implementation of educational technologies depends largely on attitudes of teachers in relation to technology in learning and teaching (Albirini, 2006; Christensen, 1997; Pelgrum, 1993). For example, Pelgrum's (1993) study indicates that teachers with positive attitudes behave differently in terms of how they use computers than colleagues who are less positive. Christensen (1997) presents a similar conclusion that technology integration in education appears to be strongly related to teachers' attitudes towards computers. In short, teachers with positive attitudes towards the educational impact of computers tend to use computers more intensively for teaching. Albirini (2006) explored the attitudes of EFL teachers in Syria toward ICT. A strong connection was found between teachers' attitudes toward technology in education and their perceptions of computer attributes. The findings also

indicate that the majority of teachers wanted to learn about technology and to use computers when they were more available on site.

It has been widely discussed that teachers' attitudes towards information technology are linked to teacher self-efficacy in working with computers. According to Bandura (1989), self-efficacy is defined as personal judgement about one's ability to adopt certain behaviours and actions in order to accomplish certain objectives and expected outcomes. The importance of self-efficacy has been supported by research in the area of teachers' technology adoption (Albion, 1999; Compeau & Higgins, 1995; Cox, Preston & Cox, 1999). Compeau and Higgins defined computer self-efficacy as "judgement of one's capability to use a computer" (p. 192). Research shows that computer self-efficacy influences expectations, attitudes, and reactions regarding the effective use of modern technologies (Looney et al., 2004). According to Albion (1999), a positive attitude towards computers and a strong sense of computer self-efficacy are basic preconditions in computer-aided teaching; teachers with a strong sense of self-efficacy are more open to new methods at the same time offering students new and different learning opportunities or experiences. This attribute may determine the ability to develop such technology as an instructional tool. Similarly, Cox et al. (1999) show that perceived ability to use ICT in classrooms is one factor that correlates positively with ICT use in education. Specifically, computer self-efficacy is positively related to a willingness to choose and participate in computer activities, the ability to persevere when faced with computer-related difficulties, and one's computer-related performance (Holcomb, Brown, Kulikowich, & Zheng, 2003). Therefore, evidence from research in the field of teachers' use of ICT addresses both strong self-efficacy and positive attitudes as important factors encouraging technology adoption in classroom.

In addition, teachers' entrepreneurship is another factor that can affect technology integration. Drent and Meelissen (2008) argue that teacher educators who use ICT innovatively in their classrooms are characterised as 'personal entrepreneurs' who possess a specific combination of knowledge, skills, attitudes, or competencies that are advantageous for the innovative use of ICT. The characteristics of entrepreneurship include: providing actively engaging activities, interacting with other teachers or experts, being reflective about their own teaching and their use of ICT, taking the initiative in ICT projects, having strong engagement towards their own professional development,

being motivated to undertake activities, having research-oriented attitudes, and having general teaching skills. These characteristics of personal entrepreneurship in teachers are regarded as stimulating factors of the innovative use of ICT in education.

### **2.5.2 Students' characteristics and instructional conditions**

There has been considerable discussion as to how teachers view other determining aspects of what to do with technology in their classrooms. Among these aspects are learners' current academic needs and characteristics as well as supportive institutional conditions. Debski and Gruba (1999) conducted a qualitative survey into foreign language teachers' attitudes towards CALL at the University of Melbourne. They note that the interviewed instructors expressed reservations regarding the implementation of learning based on learner autonomy: "Instructors did not think that students would want to be truly in charge of their own language studies" (p. 231). While the instructors realised the empowering value of the new technologies, they noted some difficulties in actual implementation into the existing curricula.

Other research studies indicate that technology is integrated because of supportive students and social factors. For example, Warschauer (1999, 2000) investigates the sociocultural context of several forms of implementation of online learning in an ethnographic study of four classrooms in Hawaii. The findings point out that the success of technology use in classrooms was strongly linked to students' perceptions about the social and cultural relevance of classroom activity. Brill and Galloway (2007) examined lecturers' use of instructional technology and their perceptions of such technology. It was found that instructors perceived technology to have had beneficial impacts on the instructional setting in several aspects, such as enhancing the learning engagement of students, encouraging student-student and student-instructor interaction, and providing structure and support to the in-classroom experience. Chanlin, Hon, Horng, and Chu (2006) interviewed eight teachers in Taiwan and found four categories of factors influencing their technology use, namely, environmental, personal, social, and curricular issues. Of the environmental factors, issues related to computer facilities (hardware, software, and bandwidth of network system) were the most frequently mentioned. In-service training, support, and reward for technology use influence their teaching with technology. Curricular issues included using technology to help cope with the achievement of course objectives and the nature of the learning objectives. Among other

factors, social factors such as students' reaction and achievement, and supportive colleagues and principals also inspire teachers to take the initiative in technology integration. These studies suggest that it is essential for policy makers to address the students' perceptions about technology-enhanced learning and curricular design, as well as to consider providing administrative and technological supports to promote teachers' technology adoption.

In addition, teachers' institutional contexts play a significant role in the diffusion of technology in teacher education. Rogers (1995) indicates that it is often not possible for individuals to adopt innovations until they are first adopted by their organisations. This means individual use of technology is shaped by organisational attitudes, resources, and the support an individual receives in a particular context. Successful technology adoption in teachers' classrooms is dependent upon school administrators providing an individualised, differentiated process of training and implementation (Gray, 2001). Egbert, Paulus and Nagamichi (2002) indicate that teachers' non-use technology or online resources is not due to a lack of confidence or interest in instructional technology. Rather, teachers do not use technology because of the lack of time, or administrative or curricular restrictions. Teachers may also need more time to develop the skills and knowledge related to teaching with technology. Researchers have proposed that it normally takes five to six years for teachers to accumulate enough expertise and understanding to use technology to its potential (Becker, 1994; Sandholtz, Ringstaff, & Dwyer, 1997).

However, it has often been found that teachers still report difficulties in adopting technology in classroom teaching despite having ready access to technology and a supportive environment. For instance, Cuban (2001) found that lack of time and inadequate generic training remained as technology integration barriers in technology-rich high schools. Palak and Walls (2009) examined the relationship between teachers' beliefs and their instructional technology practices among technology-using teachers. They found that even when teachers were in technology-rich schools, technology was used in ways that support already existing teacher-centred instructional practices. They concluded that future professional development efforts need to focus on the integration of technology into curriculum and multiple contextual conditions under which teacher practice takes place.

On the other hand, research has suggested that the shortcomings of computer facilities can be handled by teachers knowing how to maximise the existing tools. As Egbert and Yang (2004) argue, even though teachers have limited technology, they can still enhance language learning by using the technology at hand. They suggest using language learning principles as a framework for technology application in the classroom to create opportunities for learners for effective and efficient language learning. The principles include conditions whereby learners have opportunities to interact socially and negotiate meaning, be involved in authentic tasks with authentic audiences, be exposed to and encouraged to produce varied and creative language, learn in a supportive atmosphere, and receive the opportunity to develop autonomy. It does not mean that teachers using technology have to incorporate every condition for students in every lesson. Using these principles to guide the implementation of the available technology may bring about effective language learning experiences.

### **2.5.3 Perceived usefulness of technology in classroom instruction**

Recent studies have suggested that determining factors in technology adoption may not all be about having computer skills or technology-rich environments (Ertmer, 2005; Hernández-Ramos, 2005; Schoepp, 2005). In fact, teachers' personal values and their ability to perceive the usefulness of technology are crucial for classroom technology adoption. Research also reveals that before teachers make use of technology in their teaching, they must be personally convinced of its benefits and must see the utility of using a particular technology (Lam, 2000) and how technology fits within their localised classroom setting (Stein, Smith, & Silver, 1999). When technology is used in the classroom, teachers want to know what impact it will have on students' learning outcomes (see, for example, Higgins & Moseley, 2001). Blanchfield, Patrick, and Simpson (1999) argue that a particular technology is to be judged useful when it appears to users appropriate in terms of access (easy and economical to get to), value (adding benefits), and congruence (supporting existing methods and approaches). Teachers use technology because it motivates students and offers a different mode of presentation. Instead of using computers for drill and practice, more confident teachers use technology as an instructional tool to enhance students' learning (Lam, 2000). According to Becker (2000), computers serve as a "valuable and well-functioning instructional tool" (p. 29) in classrooms when teachers: (a) have convenient access, (b) have adequate skills, (c) have some freedom to design their curriculum, (d) hold

supportive pedagogy beliefs (e.g. constructivism). Nevertheless, it is not always true that teachers will integrate technology in their classroom when all the variables are present. Ertmer (2005) points out that the first three conditions appear less influential than the last condition. The first three conditions are about tools and skills that can be added at any time, while the last condition is more stable and irreversible. For example, it is easy to provide teachers with workshops about LMS but it is more complicated to make them believe that LMS is effective to support students' language learning unless they experience the usefulness of the tool themselves.

In this respect, perceptions about the attributes of technology seem to be key factors in adoption. According to Rogers (1995), people's perceptions about attributes of an innovation, including technology, are key elements in diffusion. He presents the Perceived Attributes theory, suggesting that how people perceive the attributes of an innovation is important in forming a favourable or unfavourable attitude toward that innovation. There are five relevant attributes that influence an innovation adoption, which include relative advantage, compatibility, complexity, trialability, and observability. Relative advantage indicates an advantage over other innovations or the present circumstance. Compatibility means users perceive technology integration as being consistent with their values, experience, and needs. Complexity refers to the perception of technology as not overly complex to learn or use. Trialability is the degree to which users can experiment with technology. The results of technology use can be observed or visible to users in the observability factor. These attributes can provide important benchmarks for people considering whether to adopt or reject an innovation or technology. The more features present, the more likely the technology will be adopted. Although Roger's theory has been widely incorporated into the field of instructional technology, it is originally developed to investigate the adopters' perceptions in regard to attributes of innovation in general (Surry & Farquhar, 1997). Therefore, it may not address the situatedness of technology integration, especially in second or foreign language instruction and may not be applicable to all sociocultural settings.

From the review of factors influencing technology adoption, it is suggested that providing external facilities and support is not enough for effective use of technology. Instead, teachers should be equipped with the required knowledge and skills to ensure

the effective integration of ICT into the teaching-learning process (Cope & Ward, 2002; Galanouli, Murphy, & Gardner, 2004; Jedeskog & Nissen, 2004). In other words, to be able to use ICT in courses effectively, teachers should be aware of its potential, select tools and methods which are appropriate for the needs of students, design their teaching methods effectively, and develop new teaching strategies. Furthermore, it is essential for teachers to know and apply classroom management rules in order to cope with potential problems encountered in technology-aided learning environments (Gobbo & Girardi, 2001; Herzig, 2004).

Although access to technology may still be a major obstacle for teachers, it is the understanding and attitude of the teacher that determines the effectiveness of its integration into the classroom. Therefore, not only should the accessibility of equipment be ensured, but teachers should also be provided with opportunities for lifelong learning and development in relation to ICT. As Egbert et al. (2002) suggest, teachers need help, including freeing them from constraints and restrictions, knowing ways to teach around these barriers, and having access to resources and helpful colleagues in their working contexts. In an online language teaching environment, Hampel and Hauck (2004) investigated the use of audio-graphic conferencing for online language tutorials in Open University language courses in terms of activity design, tutor training, and student support. They note that online language tutors need substantial peer support networks as well as pedagogical support to sustain distance language teaching. Also, Smerdon et al. (2000) note that teachers seem to "learn best by seeing methods used in actual classrooms, by trying out new techniques and getting feedback on their efforts, and by observing and talking with fellow teachers" (p. 80). Therefore, teachers using technology also need to learn the theory and pedagogy of technology to cope with daily practices. McKenzie (2001) also suggests that a focus on teaching and learning strategies that make a difference in daily practice will influence technology use, noting that "Learning is the goal. Technologies are mere delivery systems." (p. 2). Infusing technology into teaching involves personal and contextual aspects, and so it is crucial that teachers' beliefs and perceptions of institutional elements in technology adoption are taken into consideration.

#### **2.5.4 Barriers to technology adoption in language classrooms**

Researchers have identified barriers that teachers have encountered when planning and implementing technology in educational contexts (Chen, 2008; Cuban, 2001; Ertmer, 1999). According to Cuban (2001) and Ertmer (1999), these can be categorised into first and second-order types. First-order barriers are external and institution-related which may include obstacles such as the lack of access to ICT (Ertmer et al., 1999; Pelgrum, 2001), insufficient time to plan instruction and for teachers to familiarise themselves with ICT (Cuban, Kirkpatrick, & Peck, 2001), inadequate technical and administrative support (Butler & Sellbom, 2002; Sandholtz, 2001;), the lack of ICT training programmes for teachers (Adams, 2005; Hunter, 2001), and the pressure for students to pass examinations (Lim, 2001).

On the other hand, second-order barriers are internal and related to teachers' personal values and characteristics. Examples of second-order barriers are lack of confidence in professional use (Chen, 2008; Ertmer et al., 1999; Preston & Cox, 1999); lack of computer knowledge and skills (Fabry & Higgs, 1997); lack of beliefs that ICT can enhance the instruction (Greenberg, Raphael, Keller, & Tobias, 1998); lack of beliefs about students learning with technology (Windschitl & Sahl, 2002; Zhao, Byers, Puge, & Sheldon, 2002); teachers' unwillingness to change pedagogical practices (Ertmer et al., 1999; Snoeyink & Ertmer 2001). Second-order barriers are often thought to cause more difficulties than first-order ones (Dede, 1998). These barriers are usually rooted in teachers' underlying beliefs about teaching and learning and may not be immediately apparent to others or even to the teachers themselves. Even when technology and facilities are readily provided, teachers may find it difficult to integrate technology into their teaching (Cuban, 2001; Schoepp, 2007). In fact, they are obstacles that impede fundamental change in teachers' attitudes towards ICT integration (Ertmer, 1999).

Researchers have found evidence of the impact of both first-order and second-order barriers (Chen, 2007; Fang & Warschauer, 2004). In a case study of technology and curriculum innovation in East China carried out by Fang and Warschauer (2004), the positive impact of technological innovations to the learning process was reported. However, it was also found that instructors were reluctant to adopt technology-enhanced project-based courses because student-centred learning clashes with more traditional

norms and incentives in the traditional Chinese education system. The innovation adoption seemed to have been constrained by a variety of teacher-related and contextual factors such as material conditions, sociocultural norms and institutional practices. Hence, it was speculated that both kinds of barriers need to be addressed and eliminated to increase the adoption of ICT. In a Taiwanese tertiary context, Chen (2007) investigates technology integration in language instruction. Results reveal issues of personal and contextual barriers to teachers' technology adoption including time, lack of confidence in technology and lack of support and cooperation at work. Most teachers are uncertain about the skills they need, which technology they should use, and which course content areas are suitable for teaching with the Internet. In addition, teachers try to match up their instructional methods with school policies; however, they are unsure whether Internet implementation is effective or whether it enhances student learning. The study concludes that institutions should provide more support on how to teach with technology, along with actual technical support.

A study in a Thai EFL context by Darasawang, Singhasiri, and Keyuravong (2007) also reports factors that limit the effective use of SEAR (Student English Access Rooms) in secondary schools across Thailand. Although technology support and facilities are provided, there are reports on implementation problems including teachers' overwhelming workload, teachers' lack of a clear understanding of the principles of technology and learner autonomy in English language instruction, and students' lack of motivation to take control over their own learning, which requires a lot of support and encouragement from teachers. Moreover, technology and self-access systems are implemented because of the top-down government policy with minimal or no reference to learners' learning objectives. These kinds of barriers are also mentioned by Vrasidas and Glass (2005) who suggest that a number of significant obstacles to technology integration include the conservative nature of the traditional culture of schooling and classroom instruction, teachers' resistance to changing their teaching approaches and the lack of time, technology infrastructure and support.

Therefore, the literature suggests that several and different types of barriers can be found at different points of the technology integration process in an educational setting. Identifying the types of barriers in tertiary technology adoption may be useful to provide essential support and solutions to problems of technology integration. To

overcome the obstacles, Vrasidas and Glass (2005) suggest that it is not simply a matter of providing access to technologies. Teachers need continuous support, training, and collaboration with experts to gain successful experience and the ability to teach with technologies.

## **2.6 Summary**

This chapter has reviewed the literature on key concepts related to the study, including teacher cognition in language teaching, sociocultural perspectives in network-based language instruction, technology use in language instruction, and teachers' perceptions about technology in language instruction. The review of teacher cognition studies has suggested that the investigation of the relative components, such as beliefs and knowledge of teachers, needs to be done in reference to classroom practices. In the same way, sociocultural perspectives have offered guidelines to investigate teachers' technology use and perspectives which are embedded in the personal, social, and cultural world of teachers. In addition, literature studies suggest that teachers' perceptions about teaching with technology vary according to personal experiences and institutional influences as well as technology facilities and support. It is also suggested that teachers may need to adjust their roles and responsibilities to accommodate students' language learning in an online environment. Several influencing factors and barriers to technology adoption reported in previous studies have revealed that it is also intertwined with multidimensional aspects of a particular institutional setting. This review of key studies has implied that tactful research approaches and multiple perspectives should be taken into consideration in the investigation of teachers' thinking and technology use in particular contexts, especially in the Thai EFL context in which little evidence has been provided in the literature regarding how teachers' pedagogical beliefs and instructional contexts have impacted their views of technology integration. Thus, in the next chapter, Chapter Three, the selection of such research methodology, which is informed by key theoretical frameworks, is discussed. The research design, procedures, settings and participants, and the analysis of the data are also presented.

# **CHAPTER THREE**

## **RESEARCH METHODOLOGY AND DESIGN**

### **3.1 Introduction**

The purpose of this study is to investigate teachers' cognition about technology-mediated language teaching in Thai tertiary EFL instruction. The study specifically looks at how teachers perceive the use of computers and the Internet in EFL writing instruction. The study also aims to explore the nature of technology-using teachers' cognition and practice in relation to the integration of computer technology in a particular context.

In the previous chapter, the literature review has indicated that teachers' personal principles and perceptions about language teaching and learning have a great impact on how technology is used in language classrooms. Moreover, previous studies have implied that there are many factors affecting teachers' beliefs and practices of teaching with technology which include language curriculum, students, and other contextual elements of language instruction in particular settings. Although there are research studies attempting to describe teachers' conceptions and behaviours at different stages of technology adoption as well as factors affecting technology integration and barriers to technology adoption in language teaching, there has been little interest paid to teachers' personal perspectives on their technology-mediated teaching practices which are situated in particular educational settings, especially in tertiary EFL contexts. To investigate teachers' cognition about technology use in EFL teaching, this research is conducted to answer these research questions, which have also shaped the conceptual framework of the study:

- 1) What is the nature of Thai tertiary teacher cognition about the use of technology in EFL instruction?
- 2) What is the nature of Thai tertiary teacher cognition about the use of technology in EFL writing instruction?

- 3) How do Thai tertiary teachers perceive their practices and roles in relation to their technology-mediated EFL instruction in particular settings?
- 4) What are the sociocultural aspects that shape teacher cognition and practice about technology-mediated EFL teaching in the Thai tertiary context?

This chapter presents a detailed description of the methodological approach of this research. It begins with an overview of the study, the research settings and participants, the theoretical frameworks used to guide the research design and methodology, and the research approaches adopted with rationales for specific methods used. This is followed by the data collection procedure, the development of instruments and how they were used, and data analysis procedures. Finally, discussions about procedures to ensure the trustworthiness of the research, ethical considerations, and a brief conclusion are presented.

## **3.2 Research setting and participants**

### **3.2.1 Research setting**

The research was carried out with EFL teachers from seven Thai public universities, six in provincial areas and one in the capital city, Bangkok. These universities were selected using purposive sampling according to the replies to a research participation enquiry e-mail that I sent in December 2007 to lecturers in 12 public and private universities whose e-mail contacts were shown on the university websites. The main research started in May 2008 when a survey questionnaire about teacher cognition was administered to participants who agreed to participate in the study. Thereafter, semi-structured interviews and unstructured interviews were conducted with lecturers who had agreed to be interviewed, concluding in September 2008.

### **3.2.2 Participants**

All the participants were in-service Thai EFL lecturers in the seven public universities selected. They were all full-time instructors in English language departments. The number of participants in the survey was 47, 14 females and 33 males. Among these participants, two hold a Bachelor's degree, while 25 have a Master's and 20 have a Doctorate. There were 10 assistant professors, three associate professors, and the rest

were lecturers. The average teaching experience of the participants was 9.6 years. The participating teachers in this study do not, as Cohen, Manion, and Morrison (2007, p. 104) put it, “represent the wider population” of tertiary teachers in Thailand, so that the findings from this study group are not applicable for any generalisability to be made as they present the particular perspectives of these participating teachers.

### **3.3 Theoretical frameworks**

#### **3.3.1 Teacher cognition and sociocultural framework**

As mentioned in Chapter Two, the term teacher cognition refers to the unobservable complex, personalised, and context-sensitive knowledge and beliefs that teachers hold with regard to their work (Borg, 2003). Researchers suggest that teacher cognition generally cannot be assessed directly as it can be held unconsciously and is difficult to express (Pajares, 1992; Woods, 1996). The difficulty of assessment of teacher cognition also extends to teachers’ thoughts and beliefs beyond the classroom level. The previous chapter has revealed that it is important to understand teachers’ social and institutional contexts, because actions are related to teachers’ values and beliefs regarding the elements and processes of teaching, their understanding of the systems in which they work, and their roles within it. This implies that the study of teacher cognition needs to address not only teachers’ thoughts in relation to personal values and experiences, but also their perceptions in response to external elements including curricula, students, and teaching environments. Considering these challenges, this study was set to discover not only what individual teachers think about themselves and their teaching experiences but also their perspectives about ecological and contextual elements that surround their technology-mediated language perspectives and practices. Hence, both teacher cognition and sociocultural frameworks were drawn on to help design the research approach and instruments and determine key areas of examination in teachers’ thinking, particularly in the use of technology.

For teacher cognition investigation, the research literature suggests that there is a wide range of instruments and techniques to elicit teachers’ thoughts and concerns about teaching and learning. The instruments include journals, questionnaires, concept maps, stimulated recalls, interviews, practical arguments, short-answer tests, repertory grids, metaphors, picture-drawing on story-lines, and conversations (Beijaard, van Driel, &

Verloop, 1999; Black & Halliwell, 2000; Kagan, 1990; Meijer et al., 1999). According to Borg (2003), the different kinds of evidence are likely to reflect different assumptions about the nature of teacher cognition. Self-report instruments are based on the assumption that beliefs can be rated against predefined propositional statements and not necessarily related to classroom practices. Interviews reflect the view that beliefs can be articulated orally as teachers are aware of the beliefs that they are holding as well as being able to provide verbal accounts of the cognition underpinning their work. Both self-report instruments and interviews may generate data which reflect teachers' ideals but concrete examples of real practices may not be referred to. Obtaining data from classroom events may more efficiently capture teachers' cognition in relation to actual practices. Barcelos (2003) and Borg (2003) suggest that using a combination of different research approaches to study teacher cognition and beliefs may result in revealing different dimensions of teachers' thinking towards particular actions or concepts and they may counteract the limitations of using one individual strategy.

Since this study also focuses on teachers' perceptions about what they do in relation to their environments, sociocultural perspectives were drawn on to help identify the areas of teachers' situated cognition about technology-mediated language teaching. According to Warschauer (2001), Vygotsky's concept of mediation (Vygotsky, 1978) has contributed to the understanding of educational technology use because it draws a connection between individuals and the learning environment which includes society, ICT, and other language learners. Based on the concept of mediation, all human activity is mediated by tools or signs, such as computers, writing implements, or language itself. The study of human beings and computers is not about abstract perspectives but rather how they fundamentally transform human actions. Therefore, what is important for researchers to consider is what the humans think and do when they use the tool. In addition, studies in technology integration and teacher professional training have adopted activity theory as proposed by Engeström (1987), which is often regarded as a theoretical framework to analyse ICT integration in classroom environments (Cope & Ward, 2002; Demiraslan & Usluel, 2008; Lim, 2002; Lim & Hung, 2003). The elements within the activity system (see Chapter Two, p. 38) suggest the key areas to investigate when exploring teachers' perspectives of technology integration. Those key areas are: the teachers; the specific tools used in language instruction; the goals of using the tool; the actions of people in the activity; the people involved in the activity; the

responsibility of people in the activity; and the outcome of using the technology in the activity. The recognition of these sociocultural aspects aligns with an ecological perspective of learning. In this respect, Van Lier (1997) notes that an investigation into language teaching and learning involves an understanding of participants' local realities as well as the dynamic interaction between participants and contexts (i.e. stresses the interconnectedness of influences). This suggests that while teachers are using the tool, their actions and perceptions are embedded in interactive sociocultural elements. They are likely to perceive the tool within its relevant environmental context and use the tool in accordance with their operational practices, and so the analysis of teacher perception in technology integration cannot be detached from a particular setting in which the activity is taking place.

Hence, the two theoretical frameworks above suggest key methodological issues for the data collection and analysis of this study. First, the teacher cognition framework has recommended that teachers' personal and professional lives, including their educational and teaching background, are best examined indirectly by employing multiple forms of inquiry such as unstructured interviews and classroom observations. Teacher cognition is reflected through how teachers make sense of their past experiences, through practising beliefs and professional knowledge and training, which may be held unconsciously and difficult to express. Therefore, it stands to reason options or choices of tasks should be provided to enable participating teachers to express their thoughts (e.g. completing a questionnaire; writing reflective journals; providing personal accounts for open-ended questions). Second, the sociocultural perspective indicates that the investigation into individuals' thinking systems needs to be done in natural settings. Activity theory is used to guide the inquiry topics about teachers and their classroom technology conditions, school policy, curriculum, co-workers, and students. Hence, this research employs multiple methods to capture teachers' complex and contextualised perspectives regarding computer and Internet integration in EFL instruction. Looking through the lens of sociocultural frameworks allows the researcher to gain insights into participants' perceptions about the external aspects such as institutional support, students' characteristics, curriculum, and colleagues as well as the identification of potential affordances or constraints of technology use in a particular educational setting.

Nevertheless, it is sensible for researchers to adopt a pragmatic approach and feel free to choose the research method according to a specific inquiry. As Dörnyei (2007, p. 307) states, “research is not a philosophical exercise but an attempt to find answers to questions, and just as we can go about this in our everyday life in many different ways, the varied palette of research methodology is clear evidence for the possibility of diverse solutions in the scientific inquiry.” Although it has been suggested that teacher cognition studies require multiple strategies in the investigating processes, researchers should have a clear objective when selecting different tools for the inquiry (Barcelos, 2003; Borg, 2003; Kagan, 1990). The choice of research methods needs to be made not just on methodological grounds but also with an awareness of what is practically feasible, acceptable, permissible, and appropriate in the particular settings of the study, particularly in a study that involves teacher understanding about technology and their perceptions of the instructional surroundings.

### **3.4 Research methodology and design: Mixed-method approaches**

Based on the purposes and theoretical frameworks of the research, this study was designed to employ mixed-method approaches in order to help interpret or explain the results gained through different research instruments. Based on the notion of method triangulation as a means for seeking convergence across qualitative and quantitative methods (Patton, 1990), integrating the different methods is likely to produce better results in terms of quality and scope. Mixed-method inquiry is usually associated with field methods, such as observations and interviews, combined with traditional surveys. The results from one of these methods can help identify particular groups of participants for further study or potential questions to ask for the other method (Tasshakkori & Teddlie, 1998), while different types of data are also useful to “generate deeper and broader insight, to develop important knowledge claims that respect a wider range of interests and perspectives” (Greene et al., 1997, p. 7). This aspect of mixed-method inquiry is a significant advantage for researchers because it can “expand the scope of, and deepen their insight from, their studies” which can reflect upon better understanding (Sandelowski, 2000, p. 246) and is accountable to broader audiences such as teachers, student teachers, educators, and teacher researchers as different types and levels of data are generated (Creswell & Clark, 2006).

In order to apply the theoretical frameworks and different methods, this study adapted the concurrent transformative strategy proposed by Creswell (2003). According to this strategy, theoretical perspectives are used as lenses to guide the choice of methods that best facilitate the inquiry (see Figure 3.1). Quantitative and qualitative data are collected simultaneously and may have equal or unequal priority. The data from both qualitative and quantitative sources are integrated most often during the analysis phase; however, integration during the interpretation phase is also possible.

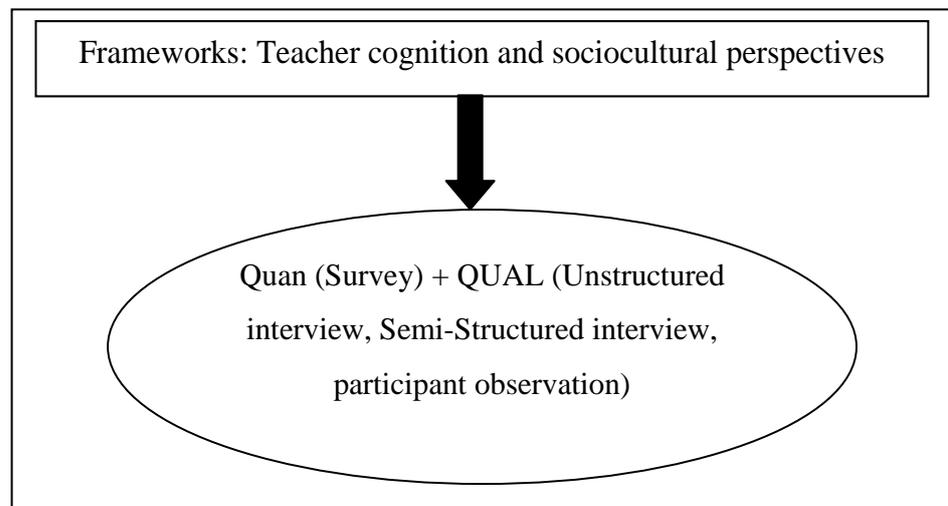


Figure 3.1 Concurrent transformative designs adapted from Creswell (2003)

Following this design, this study adopted teacher cognition and sociocultural perspectives as frameworks for research strategies and instrument construction. Qualitative data from interviews and observations take priority while quantitative data from the survey are embedded to offer a broader perspective on the findings. The strategy of inquiry used in the quantitative part of the study was a survey, whereas inquiry strategies applied in the qualitative part were unstructured interviews, semi-structured interviews, participant observations, and research journals. Therefore, data collection strategies generated both numerical and narrative data that support similar questions. For instance, the study involved asking participants to complete closed-ended questions asking about technology applications in EFL instruction while at the same time interviewing some participants about the same questions using an interview

protocol with an open-ended format. This strategy allows the researcher to analyse the numerical data and the narrative data from the interviews as well as to look for instances of agreement and disagreement between the two data sources (Tasshakkori & Teddlie, 1998).

The reason for adopting this strategy is that it provides a high degree of flexibility in data collection as both quantitative and qualitative data are collected simultaneously (i.e. the questionnaire is administered at the same time as the unstructured interviews and participant observations). Besides, the data collection is an iterative process; that is, each instrument is used to develop another method of inquiry, the answers from the survey questionnaire shaping the interview questions as well as the selection of interview cases, and the interviews guiding participant observations. Dörnyei (2007) suggests that including a survey questionnaire in qualitative research can deal with the issue of the small number of respondents. In addition, it can be used to identify extreme or typical cases or to highlight individuals with certain traits. Therefore, the incorporation of a survey questionnaire in this study helps the researcher to identify appropriate participants, as well as eliciting and developing aspects of investigation into each case.

### **3.5 Data collection procedures**

The data were collected during May-September 2008. Before starting the data collection phase, e-mails and letters asking for permission to collect the data from lecturers in English departments were sent to the Presidents of seven universities in Thailand (see Appendix A for a copy of the letter). After permission letters were approved, I contacted the lecturers in the English Department of those universities by e-mail, inquiring whether they would like to participate in the study. Responses from 80 lecturers in seven public universities were received. Then, I started sending the questionnaire to them by post and e-mail and 47 of these were later returned. As questionnaire were returned, I e-mailed those participants who had left their contact and indicated on the questionnaire that they wanted to give more detailed information about their actual practice of teaching with ICT to arrange the interviews. There were seven lecturers who participated in semi-structured or scenario-based interviews. Each interview took about

50 minutes, and all interviews were conducted in Thai and audio-recorded. Three of the seven lecturers, who reported substantial use of computers and the Internet in their classroom teaching (e.g. using LMS for classroom teaching, or having students create online portfolios or web pages for language learning), were invited to participate in unstructured interviews and observations. These three teachers became the key informants who were a rich source of evidence regarding technology-mediated EFL teaching. They were observed in their institutions and requested to provide other additional teaching resources such as teaching materials, students' assignments, or classroom websites. During the whole process, I kept a research journal to record events and issues regarding the use of research instruments (see 3.5.4 for more information). The data collection procedure is illustrated Figure 3.2. The instrument used for each of these phrases is discussed in the next section.

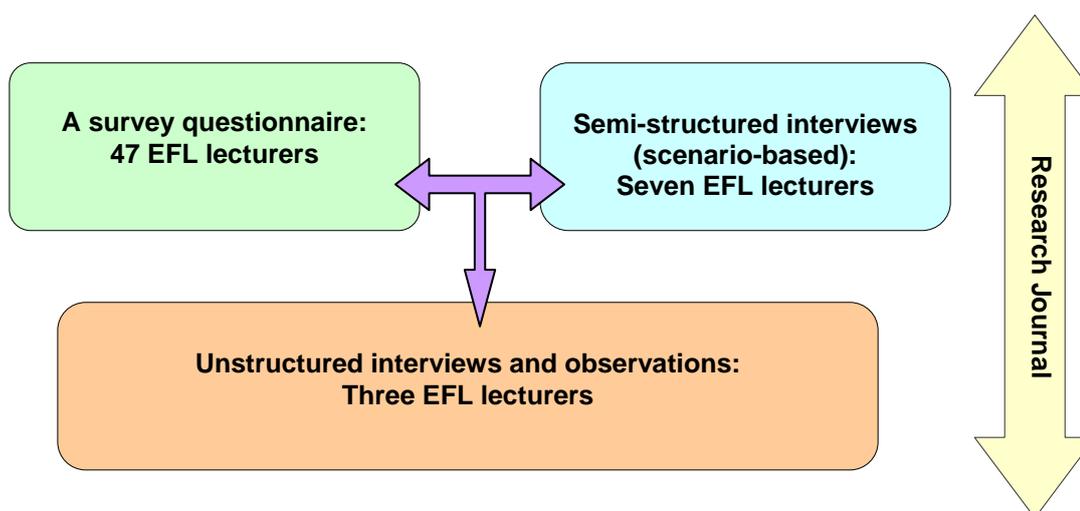


Figure 3.2 Data collection procedure

### 3.6 Instruments

Data for this study was taken from qualitative and quantitative instruments. Quantitative data was collected from a teacher cognition questionnaire. Qualitative data was collected primarily from individual unstructured interviews, semi-structured interviews,

observations and research journals. Table 3.1 presents the research instruments, their objectives, and the corresponding research questions.

Table 3.1

*Research questions, instruments, and objectives*

<b>Research Questions</b>	<b>Research Instruments</b>	<b>Objectives</b>
Research Question 1: What is the nature of Thai tertiary teacher cognition about the use of technology in EFL instruction?	Questionnaire	To collect quantitative data about technology use in tertiary EFL instruction, beliefs about technology use in EFL instruction, beliefs about EFL writing instruction, and beliefs about using technology in EFL writing instruction.
Research Question 2: What is the nature of Thai tertiary teacher cognition about the use of technology in EFL writing instruction?	Semi-structured Interview (with scenarios)	To collect qualitative data about teachers' perspectives, beliefs, and concerns about typical use of computer and Internet technology in tertiary EFL writing instruction.
Research Question 3: How do Thai tertiary teachers perceive their practices and roles in relation to their technology-mediated EFL instruction in particular settings?	Unstructured Interview	To collect qualitative data about teachers' perceptions towards the role of technology in tertiary EFL instruction, personal practice, and critical approaches in using technology in their EFL instruction.
Research Question 4: What are the sociocultural aspects that shape teacher cognition and practice about technology-mediated EFL teaching in the Thai tertiary context?	Participant Observation	To provide insights into key participants' technology practices, roles, and beliefs in real-life settings as well as contextual conditions for technology-mediated teaching.
	Research Journal	To reflect on sociocultural elements of the research, emerging research challenges, and approaches to data collection and analysis.

### 3.6.1 Questionnaire

The questionnaire (see Appendix B for the full version of the questionnaire) was created based on the literature review of network-based language teaching (Shetzer & Warschauer, 2000) and second language writing instruction (Hyland, 2003). The questionnaire was created to address the sociocultural sensitivity of technology-mediated teaching in Thai tertiary EFL settings which cannot be inferred from other studies in different research and cultural settings. Therefore, I reviewed the research literature in both Thai tertiary and EFL settings to identify common ICT activities. Such activities and technology tools widely used in Thai EFL settings include word processors for written assignments, selected online reading exercises, vocabulary exercises, presentation programs, e-mail exchanges, search engines, creating classroom websites, and using LMS (Boulter, 2007; Monsakul et al., 2007; Yutdhana, 2004). These activities were used to design questionnaire items asking Thai EFL tertiary teachers about their beliefs regarding technology-enhanced EFL instruction.

The questionnaire was piloted during November 2007-January 2008. The questionnaire in English with some Thai instructions was sent by e-mail to six Thai tertiary EFL lecturers who were on study leave and were not included in the main study. The comments received from the pilot-test participants were about the length of the questionnaire, double-barrelled questions, and unnecessary instructions. Three examples of modification and revision of items are given here.

Firstly, the researcher discarded some open-ended questions and changed some into closed-ended questions to make the questionnaire shorter. Two open-ended items in section 1 “What are the EFL courses where you are currently using technology in classroom instruction?” and “How many students are there in your EFL course where you integrate technology in classroom teaching?” were discarded because they were focusing on context-specific information which could be collected by qualitative instruments. In addition, an open-ended item in Section 1, “What technology applications are you currently using in your language teaching?”, was changed into a close-ended form in which participants were given choices of technology applications to choose as many as they wanted.

Secondly, some questionnaire items were changed to avoid double-barrelled questions, a single question combining two or more issues. For example, a statement about beliefs in EFL writing instruction in Section 2, “Students are able to write grammatically correct sentences and logical paragraphs”, was changed into “Students are able to write grammatically correct sentences.” Another example is the statement about teacher behaviours in web-based writing instruction: “Upload and download online materials for a language classroom” was divided into two statements which focused on only one issue at a time.

Thirdly, the researcher removed questionnaire directions which were in between Section 2 and Section 3 indicating, “Instructors who are currently using technology in classrooms please continue to Section 3. Instructors who are not currently using technology in classroom please stop here. Thank you very much for your cooperation.” These directions were considered as obstructions for participants who were not using technology in writing instruction but interested in stating their beliefs and perspectives in technology-mediated writing instruction. Therefore, they were removed to allow continuity throughout the questionnaire.

After the modifications, there were three main sections of the questionnaire with a total of 65 items. The first section of the survey contains six parts: In part A of the first section, the respondents were asked to identify their frequent uses of computers and the Internet and respond to open-ended items asking their views on the advantages and barriers relating to technology integration. In part B, participants were asked to choose statements representing their beliefs about technology use in EFL instruction. The questionnaire was anonymous in order to encourage teachers to respond truthfully. The following are examples of questions about teachers’ beliefs in relation to using technology in Thai EFL classrooms.

**Examples of questionnaire items in section 1:**

**(Part B) Teachers' beliefs about IT integration in the Thai Tertiary EFL classroom**

*DIRECTIONS:* Put a check ✓ to CHOOSE UP TO 7 ITEMS that you want to integrate in your EFL instruction.

Statements of Beliefs	Select
Students are encouraged to join social network sites or online groups such as Facebook, Hi5, Yahoo, or Google group to exchange ideas with other people in English.	<input type="radio"/>
Students do language exercises (e.g. pronunciation practices, choosing the correct verb forms, and error detections) in the CD-ROMs or recommended websites according to their proficiency levels.	<input type="radio"/>
Computers are used to deliver multimedia lessons (e.g. shopping, using health services, and using public transportation) in order to promote learners' motivation.	<input type="radio"/>

In the next part, Part C, participants selected items which accorded with their beliefs about EFL writing instructions. Then in Parts D and E, participants were asked to select statements representing their beliefs about integrating computers and the Internet into their EFL writing instruction. After that, they were asked to rate nine classroom scenarios to indicate whether they fit into the Thai EFL context on a four-point Likert scale ranging from the least fitting (1) to the most fitting (4). Among the nine scenarios, they were asked to select one for the most preferred instruction and one for the least preferred. Open-ended answers were required for the explanation of the two choices that they had made.

**(Part C) Beliefs about EFL writing Instruction**

*DIRECTIONS:* Please read the following statements about student behaviours and put a check ✓ to CHOOSE 5 ITEMS which you think are the most important features for Thai Tertiary EFL writing instruction.

Statements of Beliefs	Select
Students are able to write grammatically correct sentences.	<input type="radio"/>
Students learn how to revise their own drafts as well as to give feedback on the others'.	<input type="radio"/>
Students have opportunities to exchange ideas about their writing.	<input type="radio"/>
Students are aware of the readers' expectation when they write.	<input type="radio"/>

**Examples of scenario rating questions:**

**(Part E) Teachers’ Beliefs about web-based EFL writing instruction scenarios**

***DIRECTIONS*** : Please read the descriptions of classroom scenarios and put a check ✓ in the box to identify “How well would these web-based teaching examples fit into the Thai tertiary context?”

Classroom Scenarios	Definitely not fit	Probably not fit	Probably fit	Definitely fit
Rattana has her students write essays and e-mail them to their classmates for feedback. The students learn how to give online feedback on each other’s writing. They revise the essays according to peer feedback before e-mailing the final drafts to her. She gives each student written feedback and asks them to revise and resubmit the essay.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wuthichai encourages his students to use English as much as possible with keypals to practise their language at least one hour a week in the computer lab. The keypals can be native speakers or non-native speakers of English who may or may not provide language feedback to students. He gives students help on their language and recommends them to use online dictionaries.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In Section 2 of the questionnaire, the participants responded to four-point Likert scale items in Part F about how often they and their students are involved in technology-enhanced teaching and learning activities in EFL writing instruction. At the end of the questionnaire, two open-ended questions were used to gather additional comments, beliefs, and best practices relating to using technology in Thai tertiary EFL instruction.

**Examples of questionnaire items in Section 2:**

**(Part F) Web-based writing instruction in the tertiary EFL classroom**

***DIRECTIONS***: Please read the statements and put a check ✓ in the box to answer this question “How often do your students do these web-based writing activities?”

Students’ Activities	Never	Rarely	Often	Very Often
Students write e-mails to communicate with their classmates or the teacher in English	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students join web discussions exchanging ideas in English	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students chat online with their classmates or the teacher in English	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### **3.6.2 Interviews**

There were two types of interviews used in this study: the semi-structured interview and the unstructured interview or informal conversational interview (Patton, 2002, p. 342). All the interviews in this study were conducted in Thai. Conversational interview techniques were used with the key informants because this study focuses on the deep meaning of teachers' views and perceptions regarding computer and Internet use in particular Thai tertiary contexts. On the other hand, semi-structured interviews equipped with scenario prompts were used to find out what teachers think about typical web-based activities in EFL writing instruction.

#### ***3.6.2.1 Semi-structured interviews***

One of the main issues in teacher cognition research is asking teachers to expose or critique their personal beliefs about what they do in the classroom and their teaching profession. Previous studies have suggested that teachers may feel uncomfortable when questioned about their teaching beliefs and practices and their responses may not reflect their own beliefs (Kagan, 1990; Murphy, 2000). Researchers are required to find ways and strategies to help teachers feel comfortable to express their deep thoughts and beliefs. To counter this research challenge, semi-structured interviews with scenario prompts were conducted in this study. As semi-structured interview can be used both to give and receive information, the scenarios, which also appeared in the survey questionnaire, were incorporated as prompts to point participants' thoughts and instances towards a particular technology use.

I constructed classroom scenarios by combining frameworks in two areas: network-based language teaching and second language writing (hereafter NBLT and SLW) approaches. According to Kern and Warschauer (2000), there are three major theoretical perspectives on NBLT: structural, cognitive, and sociocognitive. For SLW, there has been a wide discussion of three main approaches, namely the product approach, the process approach, and the genre approach (Raimes, 1991; Richards & Rodgers, 1986). NBLT and SLW approaches may share characteristics when they are influenced by common language learning approaches: behaviourist, cognitive, and social. In this study the product approaches of SLW were paired with the structural use of technology. Under this first combination, three scenarios were designed to represent

teachers using technology to encourage language drills, stand-alone language practices, and language tasks that are detached from real-life contexts. The three structural scenarios were represented by Siripen, Wanwisa, and Pipat (see Appendix B). For the second combination, I matched the cognitive approach of SLW with the cognitive use of computer technology. This yielded three scenarios, Chanchai, Rattana, and Tassanee, representing teachers and students using technology to access a large amount of language input, organise learning content, and enhance communication supporting the development of students' knowledge and language learning. Thirdly, scenarios inspired by the concepts of socio-cognitivist and genre approaches were Wuthichai, Jintana, and Arunya. In these scenarios, the use of technology was to facilitate collaboration and interaction among students as well as to establish connection with other language users through online messages and web pages. Table 3.2 presents the three categories of web-based writing classroom scenarios and their instructional foci.

Table 3.2

*Classification of principles and activities in web-based writing instruction scenarios*

<b>Principles from NBLT and SLW</b>	<b>Web-based Activities</b>	<b>Scenarios</b>
Structural: giving drills, practices, models, corrective feedback	<ul style="list-style-type: none"> <li>- Students practise grammar exercises and do online tests.</li> <li>- Students practise writing texts in threaded discussion with model structures.</li> <li>- Students do recommended language exercises and use online references.</li> </ul>	<ul style="list-style-type: none"> <li>- Siripen</li> <li>- Tassanee</li> <li>- Pipat</li> </ul>
Cognitive: collaborative work, comprehensible input, planning and revising	<ul style="list-style-type: none"> <li>- Students revise their own drafts and exchange online feedback with peers.</li> <li>- Students practise writing through asynchronous communication with other language learners.</li> <li>- Students write collaboratively and practise online research.</li> </ul>	<ul style="list-style-type: none"> <li>- Rattana</li> <li>- Wanwisa</li> <li>- Chanchai</li> </ul>
Socio-cognitive: construct knowledge through negotiation and interaction, use language to socialise	<ul style="list-style-type: none"> <li>- Students use chat rooms to communicate with NS or NNS key pals.</li> <li>- Students join public discussion forums and search for information on websites.</li> <li>- Students create multimedia web-based content and interact with global readers.</li> </ul>	<ul style="list-style-type: none"> <li>- Wuthichai</li> <li>- Jintana</li> <li>- Arunya</li> </ul>

In addition, the web-based classroom scenarios were designed to appeal to Thai EFL teachers: Thai names were used for each scenario teacher, so that the participants may feel connected to the scenarios, as if they were watching their colleague teaching in the next-door classroom. It was hoped that participants would find it easy to relate each scenario to their belief systems and may be able to express opinions, suggestions, and concerns towards the particular form of instruction representing EFL teaching in the Thai tertiary context. Below are examples of three types of scenarios.

**Structural scenario example:**

Tassanee introduces her students to web tools such as Moodle or Blackboard for classroom communication. She usually gives prompts or initiates an issue on the web board and asks students to join the forum and follow her model posts. Students will be given additional scores for the frequency of posting and the correctness of the language.

**Cognitive scenario example:**

Rattana has her students write essays and e-mail them to their classmates for feedback. Her students learn how to give online feedback on each other's writing. They revise the essays according to peer feedback before e-mailing the final drafts to her. She gives each student written feedback and asks them to revise and resubmit the essay.

**Sociocognitive scenario example:**

In Arunya's class, each student is required to have a web page to post weekly written journals, essays, or other class assignments. Students can design their web page layout including videos, images, and external links. At the end of the course, students evaluate their own web writing performance and have their classmates, the teacher, and real-life web readers' assessments as well.

The procedure for using the scenarios was as follows. In the semi-structured interviews, participants were presented with nine scenarios of web-based activities used in tertiary EFL writing instruction. They were asked to express thoughts about each type of web-

based writing scenario, and to imagine that it was being used in their institution. Questions that were used to elicit their underlying beliefs include: How well would this scenario fit into your classroom instruction? Is the instruction in this scenario relevant to your current beliefs in EFL teaching? How would your students react if you were to teach as in this scenario? What seem to be the benefits or drawbacks of this scenario? If you were the teacher in this scenario, what do you think would need to be done? In addition, other questions were used to encourage the participants to reflect on their views of possible challenges in the classroom, practical solutions, and strategies to deliver the lesson. They were encouraged to give comments on the scenarios based on their teaching experiences, especially how they would deliver the lessons if they were the teacher using the tool in each scenario as well as what they would suggest to other teachers when applying each scenario in their real-life classrooms.

### ***3.6.2.2 Unstructured interviews***

According to Creswell (2003) and Fontana and Frey (2000), this type of interview is conversational, and no predetermined questions are asked, in order to remain as open and adaptable as possible to the interviewee's nature. This approach offers maximum flexibility to ask spontaneous questions depending on individual differences and situational changes. Interview questions can be adjusted according to participants' elaborations. Therefore, preceding interviews help in "constructing a more robust investigation in the succeeding one" (Patton, 2002, p. 342). In addition, the conversational talk usually creates a relaxed atmosphere for both the researcher and the participants who may find it easy to share personal and professional values about the topics covered.

Nevertheless, this does not mean that conversational interviews in this study were unfocused. The concepts and purposes of the study were still maintained by means of an interview guide (see Appendix C). As Patton (2002) suggests, on any given topic, it is possible to ask any of six main types of question focusing on: experiences and behaviour, opinions and values, feelings, knowledge, sensory information, or even what the interviewer would have seen or heard if the participant had views or experiences of the phenomenon. Therefore, I adopted the types of questions suggested above as a guideline for the interviews. In addition, this study also drew on sociocultural approaches by forming questions covering the five domains suggested in activity theory

(the people, tools, goals, rules, and objectives of technology integration). Using these key notions, I developed a list of useful topics to address in the interview as follows: (1) the participants' experiences regarding technology adoption in language teaching; (2) types of computer and Internet technology used in their language teaching; (3) factors affecting technology adoption in their teaching; (4) personal beliefs, values, understanding, and perceptions about ICT in Thai tertiary EFL instruction; (5) recommendations about technology use in language teaching.

The unstructured interviews were conducted with three lecturers who used technology substantially in their everyday teaching and had indicated willingness to give more information about their personal practices. Before the interview with each participant, I initiated contact with them by sending postcards, e-mailing, and talking on the telephone. Then I requested a visit to their institutions during their working hours for interviews and observations. To start the interview, I introduced myself as a teacher researcher asking for an opportunity to share ideas about using technology in EFL teaching. The participants were informed about the research objectives and data collecting protocol. They were asked about their teaching responsibilities and current research interests as useful, non-threatening starting points in discussions. Each interview took more than one hour and forty-five minutes as the participants were encouraged to talk freely and clarify their views on particular topics. In addition, I took notes and audio-recorded each interview. These two recording techniques were less threatening than video-recording would have been for most of the participants. After that, each interview was transcribed and summarised for the participants to review and add comments. Nevertheless, audio recordings inevitably lose some information such as eye movement, facial expressions or gestures, all of which are significant in the investigation of teachers and their personal perspectives. In order to document this information, I wrote a follow-up research journal after each interview to record the perceived non-verbal communication used by the participants and potentially salient contextual features.

### **3.6.3 Participant observations**

I followed up these three unstructured interviews with participant observations. Since this study aimed to collect data in the natural setting with minimum interruption to the participants' personal and professional lives, I was careful to make the participants feel

comfortable with my presence at their work settings. During the visit, I asked the participants to show me examples of teaching materials they used (see Appendix D). I also took photos and fieldnotes on the institutional atmosphere, the capacity of the technology facilities, and participants' activities related to teaching with technology at their sites. Notes also included demographic information about the time, place, and date of the field setting where the observation took place. A reflective protocol of observational records was used to capture the ambience of participants' working conditions including the students, faculty administration, computer facilities, technology resources, and related technology integration activities (Bogdan & Biklen, 1992, p. 121). In the classroom, the teacher-student and student-student interactions were observed as exemplified in one of the notes taken during an observation in a participant's lesson provided below.

<b>Date:</b>	25 June 2008	<b>Time:</b> 8:00-11:00 a.m.
<b>Participant:</b>	Ajarn Panadda and her seven English major students	
<b>Settings:</b>	A computer lab in the School of Social Sciences.	
<b>Course:</b>	Computer Technology for Language Learning	
<b>Lesson:</b>	Creating and English story slides by using PowerPoint program.	
<b>Objectives of the lesson:</b>	Students are able to use PowerPoint applications to present information in English as well as embed photos and sound files in their presentation with appropriate narration, timing, animation, and graphic layout.	
<b>Tools:</b>	Microsoft PowerPoint, Window Media Player or other music player tools, the Internet, Microsoft Photo Editor, Google, Google image search, and ClipArt websites	
<b>Students and their activities:</b>	Each student was sitting in a horizontal row with a personal computer. They were assigned to create a PowerPoint presentation for a karaoke song in English. Students followed the instruction carefully and had limited time to complete individual task.	
<b>The teacher and his/her role:</b>	She carefully gave lectures in steps of using each application such as how to embed a sound file in a slide. Necessary websites and tools were provided from her Moodle page. She told students that the lyrics appear on the slide should match with the song pace. This could be adapted to a presentation with narrated voice.	
<b>Classroom Ambience:</b>	Students appeared to be engaged and interested in the tasks. Everybody tried to keep up with the instructions. However, it was so fun and kept everybody alert all the time. As I attended this class as a participating observer, I learned a lot about how to make a good presentation with PowerPoint. I felt like I was a student in her class. I wish I could be a master student again. The web-based activities went well because the Internet connection was quite fast. The computers were capable to handle multiple tasks. There were only seven people and the class and everybody was focusing on the assignment and helping each other at the same time.	
<b>Teachers' Reflections:</b>	"PowerPoint is a very powerful tool in classroom nowadays. As these students are becoming language teachers in the future, this activity will benefit their instruction and make presentation in English more comprehensive, enjoyable, and attractive with multimedia features."	

According to Evertson and Holley (1981), classroom observation gives a view of the climate, interaction, and functioning of the classroom that is not available from any other source. In this study, the observation during the institutional visits allowed for descriptive records that capture the setting details, sociocultural background of teachers' teaching conditions, and surrounding activities which could not be taken from other research instruments, although, of course, the classroom visit only represented a small portion of the total teaching behaviour and practice of each teacher. The observation data was incorporated and triangulated with other types of data such as interviews and self-reported answers to elicit teachers' personal principles underlying their practices of English language instruction and technology use at their particular settings. For example, I went to interview one of the teachers at his language lab and what was observed at the scene helped me identify his maxims in using technology as it corresponded with what he said in the interview (e.g. see 6.3 and 6.3.2).

### **3.5.4 Research journal**

According to Dörnyei (2007), personal agency is an important part of qualitative enquiries; data generated by the researcher offers valuable insights on the research. Researchers should keep records including field notes, real-time comments, memos, and annotations which can be used as a source of data. This means that, in qualitative research, almost anything can be perceived as potential data. Therefore, I kept a research journal to record information, emerging events, and challenges during the course of the study. The journal contained information on what I did during the data collection, my thoughts and feelings about the data, and ideas relevant to the research. In fact, the research journal in this study served as a source of personal reflection towards the whole body of the research. It includes evidence from the development of instruments, through issues in conducting interviews, to the data analysis phase. Provided below are extracts from the research journal:

#### **Research journal extract 1:**

I'm so lucky that I started my first interview with a lecturer who is one of my colleagues. Even though I have known her for a long time, talking about her professional beliefs and experiences are totally new for me. We did not talk about work that much among lecturers. We spent one hour talking about her

work experiences and her teaching beliefs. After the interview, I asked for my interview feedback and she suggested to me to look carefully into each participant's working context and underlying reasons influencing their IT use and teaching with technology....

### **Research journal extract 2:**

Then it is time for my first interview with Ajarn Nawarat (pseudonym). She seems to me a very kind lady who always replies to my e-mails. Her voice is soft and pleasing. She's got the kind of voice that you can tell she's a kind teacher. A friend told me that she had been using technology in her instructions. She is currently a teacher educator who trains language teachers to use technology in language teaching and learning. She started telling me about her educational background and how she became an English teacher. When she was a school student, she learned English with American missionaries. Her passion for language learning led her to language teaching career. She was always happy to learn English from native speakers and English media available at hand. She described herself as an autonomous learner who never waits for input from teachers. What is very surprising for me is that she mentioned autonomous learning and autonomy several times in her interview accounts...

The journal was used to keep records of events, perceptions about research conditions, success and failure in using particular instruments, and how to approach participants to gain access to their individual professional information. There are both online and offline versions of the journal. The online journal (see Appendix E) was useful as it elicited comments from readers who sometimes provided advice on how to solve data collection problems. For example, I expressed concerns about how to ask useful questions in unstructured interviews and how to establish rapport with participants. A reader left a comment that I should look for the common themes of participants' comments and the interview should be focused on the key aspects of the study (see Appendix E, Extract 1). This conversation helped me eliminate irrelevant questions during the interviews. Moreover, this online journal was used throughout the research process to present the challenges during each stage of the study and how I dealt with them. It also helped me to organise artefacts such as web page links, photos, and maps as well as to present preliminary findings with participants who were interested (see Appendix E, Extract 3).

### **3.7 Data analysis**

First of all I organised and prepared both the quantitative and qualitative data for analysis. The data were sorted into types depending on the sources of information. For quantitative data, close-ended items were assigned numerical values. For qualitative data, all interviews were transcribed, while fieldnotes and journals were organised according to date and location.

#### **3.7.1 Quantitative data analysis**

The answers to the questionnaire items which include checklist and four-point Likert-type scale items were assigned numerical values. Numerical data were keyed into the computer and analysed using SPSS for Windows. Descriptive statistics (percentages, mean scores, and standard deviations) were formulated to summarise and present that data. Frequency and descriptive statistics, tables, and figures were constructed to display results with respect to the research questions.

#### **3.7.2 Qualitative data analysis**

Qualitative analysis involves continual reflection upon the data, making sense out of text data, and making interpretations about the larger meaning of the data. It requires asking general questions and developing an analysis from the information. Researchers need to tailor the data analysis to specific types of qualitative research strategies (Creswell, 2003). Since the major qualitative data in this study were interview accounts, they were subjected to content analysis which involves coding and categorising the data. In this respect, Cohen et al. (2007) suggest that content analysis involves not only coding and creating meaningful categories, but also comparing and making links between data, and drawing theoretical conclusion from the text.

I started the data analysis by reading all the open-ended answers and listening to all the recordings and transcribing the accounts into text form. In order to obtain a general sense of the data, I read through all the transcriptions, took notes, and wrote general thoughts about the data. The data and related materials were reviewed and reorganised for the preliminary coding. At this stage, I went through several interview accounts and written answers, clustered related data together, and labelled each cluster according to its characteristics (e.g. teachers' perceptions of their computer skills, teachers'

perceptions of students' English language ability). Table 3.3 provides examples of emerging categories from the analysis of open ended interviews and answers to the questions related to perceived advantages of and barriers to technology integration in EFL instruction in participants' institutions.

Table 3.3

*Examples of emerging categories from the analysis of open ended answers and interviews*

Open-ended answers and interview accounts	Categories labelled
<p>“Many students do not have Internet connection at home. The computer labs are usually crowded during weekdays. It’s difficult to get them do online activities at a specific time.”</p> <p>“The computers at the lab haven’t got the programs that we want to use such as e-book or Adobe Photoshop. Unfortunately, students are not permitted to install any programs in university computers.”</p>	<p>Barriers: lack of computers and programs</p>
<p>“Students have problems with using the language to express their thoughts. They haven’t had enough practice especially in productive skills such as writing and speaking.”</p> <p>“Thai students have problems with English when they communicate. Participating in an online language task may be too demanding for them because a lot of skills are required.”</p>	<p>Barriers: students’ low language ability</p>
<p>“Giving a lecture embedded with multimedia features is always fascinating for students. They tend to participate more when technology is integrated in the lesson.”</p>	<p>Advantages: enhancing language instruction</p>
<p>“Students do not have to study from the same materials as they do in traditional classrooms. They have freedom to choose what to read, watch, listen, and learn from websites at any time they want to.”</p>	<p>Advantages: supporting students’ autonomous learning</p>

After primary categories were developed, I looked for similar or closely related categories which could be clustered together under a broader label. At this time, it was found that some specific extracts could be linked to the already formed broader categories and some new categories emerged. For example, the participants' views about barriers to technology adoption in EFL instruction were initially divided into six sub-categories: students' lack of motivation, students' low language ability, students' lack of access to computers, teachers' lack of skills and training, teachers' lack of access to computers, and teachers' lack of supportive attitudes.

However, some answers and interview extracts about issues such as class size and restrictions of the curriculum were not yet assigned to any of the existing categories. Dörnyei (2007) suggests that the revision of the code can be done by going back to the original transcripts and recoding according to the new categories. If the majority of the extracts fit the new system, this can be seen as a sign of the validity of the code. Therefore, I looked into the categories and regrouped them as well as creating new categories. Hence, the final categories of barriers to technology adoption in EFL instruction were: 1) students' unsupportive characteristics, 2) teachers' unsupportive characteristics, 3) lack of facilities and support, and 4) lack of supportive contextual elements.

The next step of the analysis was arranging the coded data into themes for analysis. The themes were analysed, segmented into smaller parts and supported by evidence from multiple sources. Aspects of teachers' understanding, beliefs, and perceptions in using technology were considered. Evidence from teachers' quotes, fieldnotes and research journals were used to support the analysis.

### **3.8 Ethical considerations**

The ethical considerations in this study include concerns about participants' rights and the sensitivity of the information about personal and professional values, attitudes, and experiences. Ethical approval was obtained from the Research Ethics Committee at Massey University, Manawatu Campus, in March 2008. A copy of the approval letter can be found in Appendix F. Survey and interview participants were given the

information sheet (see Appendix G and H) containing the following sources of information regarding: 1) the research objectives and a description as well as their rights as participants; 2) a consent form to participate in the study. In addition, participants were informed of all data collection devices and activities and of how data would be used, which were stated both verbally and in writing so that they could be clearly understood by the participants. The transcriptions and written interpretations and summaries were also made available to the participants. Most importantly, the participants' identity, position, and institution were kept confidential through the use of pseudonyms.

### **3.9 Issues of trustworthiness and generalisability**

Since this study adopted mixed-method strategies which included both quantitative and qualitative approaches, the issues of validity or trustworthiness and generalisability were taken into consideration. Construct validity was addressed to ensure the quality of the survey instrument. According to Fraenkel and Wallen (2003), construct validity refers to the degree of confidence that the information provided by the questionnaire reflects the activities that are being measured. In this study, I established the construct validity of this study by comparing trends or relationships that previous research findings had provided (e.g. the elements of teacher beliefs, sociocultural influences of technology-enhanced teaching, and the common ICT-related activities and tools in Thai educational contexts) to establish the types of questions and sections of the survey. The questionnaire items and the scenarios were designed to elicit teacher beliefs and perspectives about technology use in EFL teaching based on the literature review of NBLT and SLW approaches. The survey instrument was also pilot-tested with a group of volunteers, who are as similar as possible to the target population. According to Baker (1994), the pre-testing or trying out of a particular research instrument can identify potential practical problems in following the research procedure or whether proposed methods or instruments are inappropriate or too complicated. It is also useful to evaluate the questionnaire content as well as to identify and correct inconsistencies between questionnaire items.

Regarding the issue of trustworthiness, Lincoln and Guba (1985) suggest that the aim of trustworthiness in a qualitative inquiry is to support the argument that the inquiry's findings are "worth paying attention to" (p.290). The trustworthiness criteria include the notions of credibility, transferability, dependability, and confirmability. Creswell (1998) recommends that a qualitative researcher should engage in at least two verification procedures to ensure those trustworthiness criteria. These criteria can be achieved by implementing the following techniques: prolonged engagement, persistent observation, triangulation, peer debriefing, negative case analysis, member checks, providing thick descriptions, compiling an audit trail, and producing a reflexive journal. Therefore, the following procedures were employed to establish the trustworthiness of this study. First, triangulation of methods was assured by using different sources of data collection (a questionnaire, semi-structured interviews, unstructured interviews, and observations). Second, member checking with key participants was used to check the credibility and accuracy of transcripts (Creswell, 1998; Lincoln & Guha, 1985; Miles & Huberman, 1994). The summaries of interview transcripts and observations were given to the key participants for them to check for accuracy. They were also asked to comment on the summaries of their interviews. I also e-mailed some key participants for further information and to clarify some points that they made in the interviews. Moreover, a reflective research journal was kept to help eliminate researcher bias and to assist in understanding the challenges and complexities of the research process (Pitman & Maxwell, 1992). In addition, I made a selection of seven interview participants to ensure these were sufficient to increase confidence in the matching of themes and patterns from the coding. This is a technique suggested by other researchers to cross-validate and triangulate the findings of the study (Tellis, 1997; Yin, 2007) where patterns from one participant are compared with patterns in other participants.

For the notion of generalisability, the aim of this study was not to accomplish a generalisation, although a survey was conducted. Rather, the survey in this study served as a methodological tool for gaining baseline data as well as identifying potential participants for interviews and developing qualitative data elicitation. For example, I was able to identify interview participants by using the questionnaire to request opportunities for further investigation. Interview participants were teachers who stated that they were interested in sharing their thoughts and experiences after doing the questionnaire; thus, they left their contact address in the questionnaire. In addition, the

quantitative data in this study shows what the findings about teacher cognition would be if teachers' personal accounts and perceptions about particular contexts of technology use were not taken into account in the investigation. The preliminary findings from survey participants' responses provided a basis from which to create appropriate interview questions and observation protocols that would elicit more personalised and contextualised views and practices, including technology use in EFL instruction. Therefore, the use of quantitative instruments in this study was for the development and implementation of other instruments as well as triangulating findings from different perspectives about teachers' views on technology use in language instruction.

### **3.10 Summary**

In this chapter, the overview of the research and theoretical frameworks used in the study were presented. The design, methodology and strategies that were used throughout the research stages were described and supported with rationales. The researcher also noted the characteristics of the settings and the research participants. Data collection procedures and the development of data collection and instruments were explained and exemplified. The method of content analysis was used to analyse qualitative data while quantitative data were analysed statistically. Finally, the issues of trustworthiness and generalisability as well as ethical consideration were discussed.

From the discussion of the methodology in this chapter, it is suggested that the use of a mixed-method approach and different research perspectives has the potential to uncover teachers' multidimensional thoughts regarding their personal beliefs and approaches in technology-mediated EFL instruction in particular settings. Hence, the following chapters will present findings in which quantitative and qualitative data are incorporated. The next chapter, Chapter Four, provides the findings focusing on participants' general views on technology-assisted EFL teaching including the advantages and barriers of technology integration. Chapter Five discusses participants' perspectives on EFL writing instruction and typical web-based classroom scenarios. The last findings chapter, Chapter Six, presents pedagogical views and practices of the three focal teachers, as well as the sociocultural aspects of teaching with technology in three different tertiary EFL settings.

# **CHAPTER FOUR**

## **TEACHER COGNITION ABOUT TECHNOLOGY IN THAI EFL INSTRUCTION**

This chapter presents findings from the survey questionnaire about teacher participants' use of technology in language teaching, their beliefs related to technology integration in EFL classrooms, and perceived advantages and barriers to technology adoption, as well as best approaches to integrating technology in Thai tertiary EFL contexts.

### **4.1 Participant demographics**

The questionnaire respondents were 47 Thai EFL lecturers, working full time in Thai public universities. One university was located in Bangkok while the other six were provincial universities located in different parts of the country: two in the Lower Northern, one in the North Eastern, one in South Eastern, and two in the Central region. Participants were asked to provide such demographic information as gender, education level, academic position, and the number of years in their teaching career. Seventy percent (N=33) of the participants were female and 30 % (N=14) of them were male. In terms of educational and professional background, 42.5 % (N=20) of the participants reported having a doctoral degree and 53% (N=25) reported having a master's degree. The remaining 4% (N=2) reported having a bachelor's degree. Seventy-two percent of the participants (N=34) were lecturers, 21% (N=10) were assistant professors, and 6% (N=3) were associate professors.

### **4.2 Participants' use of technology and beliefs about EFL instruction**

#### **4.2.1 Participants' use of technology in EFL instruction**

In the first section of the questionnaire (see Appendix B), participants were asked to select items to indicate their frequent computer and Internet technology use in EFL

instruction. The finding is presented in Figure 4.1 which shows that more than 80 % of the participants use computer programs (e.g. Microsoft Word, PowerPoint) to prepare teaching materials and use online materials as teaching resources. More than half of the participants reported having their students use word processors for written assignments, as well as using e-mails and web board to communicate with students. Only 21.2% of the participants (N=10) reported that they used a course management program, while 14.9% (N=7) created their own web page, and only 8.5% (N=4) had their students create weblogs as a part of language learning activities (see Appendix I, Table I1 for corresponding figures).

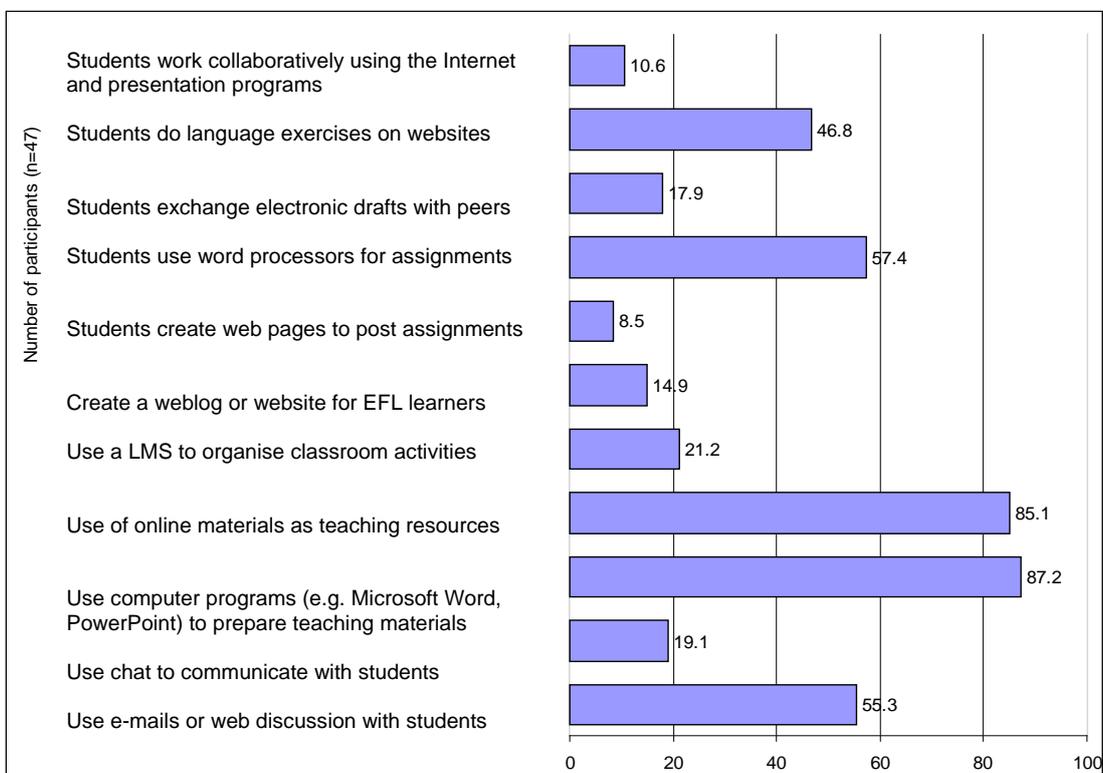


Figure 4.1 Percentages of technology use in tertiary EFL instruction

The responses to this question reveal that the majority of participants used technology for creating materials and lesson preparation rather than facilitating exploratory or collaborative learning by students. Although participants reported that they used e-mails and web discussion in their teaching, it was found that there was a low use of technology that involved interactions among students such as online collaborative work and exchanging electronic writing. Considering tasks assigned to students, it was found

that the lowest percentages were having students create web pages and teachers themselves creating web pages. High-level applications of technology (i.e. creating a webpage, online discussion), which require students' critical thinking and collaboration, were less frequently used by these participants. Students' computer use was mainly word-processing assignments and doing language exercises on websites. Despite their potential communicative and interactive features, computer and Internet technologies were rarely used to promote students' communicative and social language learning in this study context.

#### **4.2.2 Participants' beliefs about technology in EFL instruction**

Participating teachers were asked to select propositional statements in Part B of the questionnaire that were close to their beliefs about using technology in EFL instruction (see Appendix B). As shown in Figure 4.2, the majority of participants (N=34) agreed with statements number five and seven that technology is used to provide students with exercises according to their proficiency levels, as well as to stimulate verbal or written communication in language learning. More than half of the participants were also positive about the use of word processors for reducing mechanical mistakes (N=31) and the use of online dictionaries and translation tools for written assignments (N= 32). On the other hand, fewer than half of the participants (N=17) thought that technology should be used to promote knowledge construction and establish connections between students and other language users or with outside communities, as presented in statements number three, six, and nine. Only a small number of participants (N=11) agreed with statements number eight and eleven that students would get corrective feedback from online language partners, or publish academic or personal web pages. The corresponding figure to this data can be found in Appendix I, Table I2.

This suggests that participants perceived technology as a tool to support controlled language practice in their classrooms. They frequently agreed with the use of technology when students were assigned to do specific learning tasks such as using online references and resources, doing language exercises, or writing electronic texts. All the highly rated items were activities in which students use technology to develop basic language skills with less emphasis on interaction or meaningful communication with other people. These reported technology beliefs of participants appear to

correspond with their reported use of technology presented in the previous figure (see Figure 4.1).

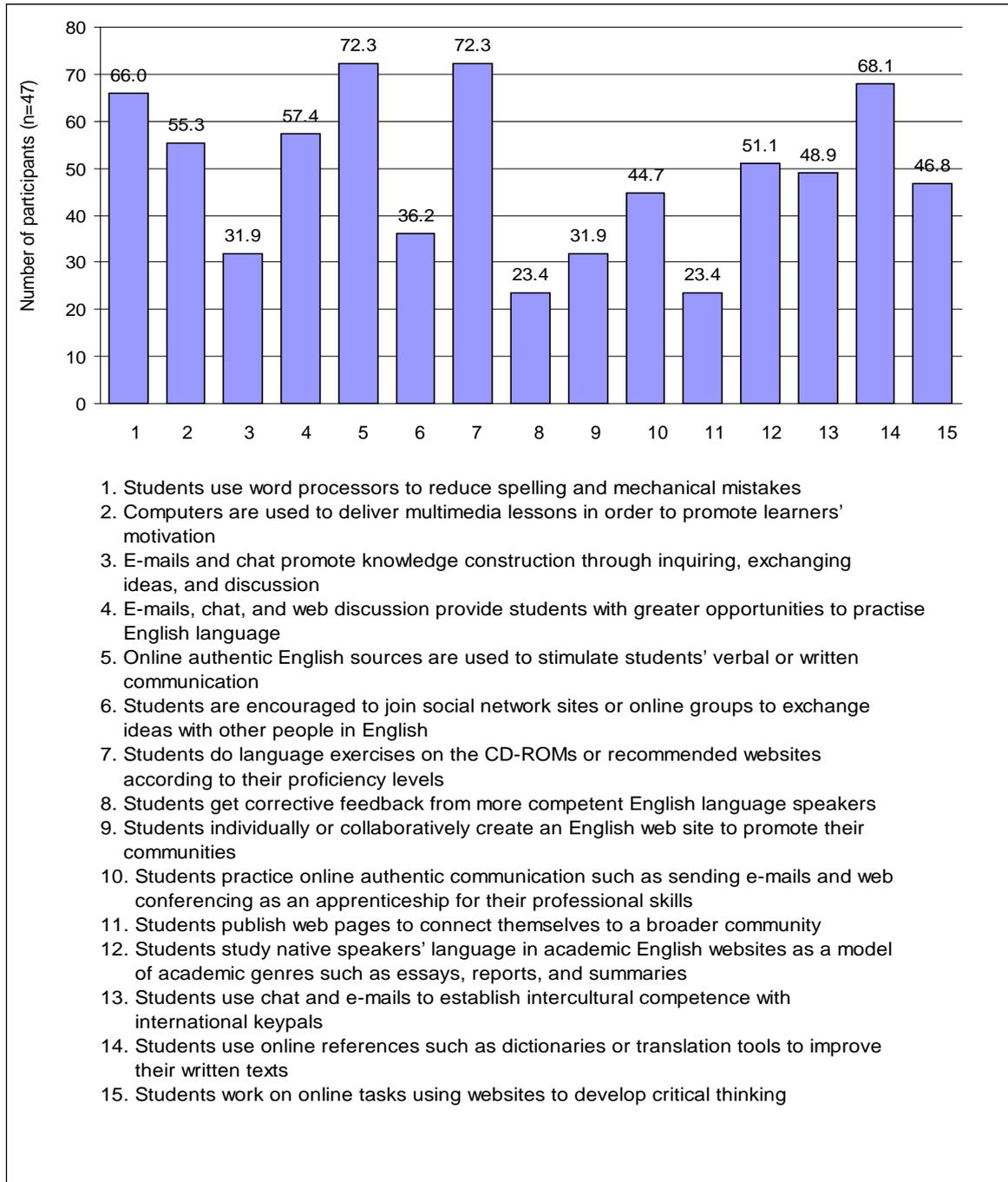


Figure 4.2 Percentages of selected beliefs statements about technology use in EFL instruction

The dominant beliefs and behaviours about technology in EFL instruction of these teachers seem to support teachers' instructional tasks rather than students' exploratory and collaborative language learning tasks. They believed and used technology applications to maintain teacher-led instruction and students' assigned practices and activities. Although their use and beliefs about technology were mostly related to the low-level use of technology in language learning and teaching, these findings may tend to reflect the existing situation of technology use and perceptions of these Thai tertiary teachers according to their working contexts. As Levin and Wadmany (2006) indicate, there is a relationship between teachers' educational beliefs and their educational practices as shaped by institutional variables including the curriculum, students, and colleagues.

In addition, Ertmer (2005) suggests that it is necessary to investigate what exactly is influencing teachers' technology behaviours and beliefs. These findings about teachers' technology use and perspectives also reflect the existing complexities of technology adoption, particularly in individual teachers' working contexts. At this stage, the best explanation to provide is that these teachers accepted technology that they already knew and felt comfortable with. Hence, they expressed positive views about a particular technology that had proved useful in their classroom teaching and students. These findings will be integrated with the qualitative data from interviews in the next chapter to present a deeper interpretation regarding the different contextual elements in tertiary situations.

### **4.3 Participants' perceptions of technology use in EFL instruction: advantages and barriers**

In Part A7 of the questionnaire, participants' were asked to respond to open-ended question asking about the advantages of using technology in EFL instruction. Their responses were broadly grouped into two aspects: teachers' teaching and students' learning.

### **4.3.1 Advantages of technology for teachers and EFL teaching**

In terms of advantages of technology for teachers, six participants thought that technology helped them with their lesson preparation as it was convenient, economical, and time-saving. Three participants agreed that online materials enhanced their language lessons with interactive and communicative content. Three participants stated that technology provided them with more channels of communication with students. The following examples of participants' statements illustrate these views:

Using a search engine like Google is convenient for teachers to search for language exercises and materials. Nowadays, teachers can prepare lesson materials by sitting in front of a computer without going out of their offices or going to the library. It's time, energy, and money saving.

There are many trusted online resources such as OWL (The Purdue University Online Writing Lab) or language institutions' tutorial websites (The British Council's, AUA) that offer a large collection of exercises for students at different levels. Teachers can use materials from these websites to supplement their course. It's economical and convenient for teachers to prepare materials, especially for a large class with differing student needs.

Participants also expressed positive views about using online materials in that they have the potential to increase the effectiveness of language teaching; multimedia features such as video, audio, and interactive contents can hold students' attention and may increase their learning motivation. Using technology-enhanced materials was seen as interesting for students. For example, a teacher stated:

It would be more interesting for students to learn the language from both visual and audio inputs. Imagine the differences between giving them passages of a story to read and showing them a movie or animated narration of the same story. Young learners are always fascinated by multimedia information.

However, teachers may have to spend more time screening the materials and checking the content before making the materials available to students. It meant that teachers would have to work longer hours on top of their tight schedules, research, and administrative work. A participant reported that she preferred to use online materials as an add-on to the regular textbook-based lessons:

The text books are still the core of the instruction because they are more structured and have been developed according to learning objectives. In this case, content and materials from the web are regarded as a supplementary in my class.

In addition, participating teachers realised that using technology in the language classroom would offer them more channels of communication between teachers and students. Some of them often used CMC tools, especially e-mail to contact students after the class time. As two participants stated:

I give my e-mail address to my students telling them that they are welcome to send me e-mails asking questions about assignments or their language learning. Some of my students have never used e-mails to communicate in English before, so they have to sign up an e-mail account for this purpose. I can give direct feedback and advice to each student via e-mail. Students do not have to make an appointment to see me in the office.

I'm teaching part-time MA students, the main channel of teacher-student communication is e-mail. Since most of these students are full-time teachers and we only meet on weekends, e-mail is the most practical way to keep in touch. I often send them assignments and feedback. It's very economical and convenient for us to communicate as students do not have to leave their work and travel to the university.

Participants' viewpoints presented in this section indicate that teachers perceived the effectiveness of technology in terms of enhancing their language instruction. There were features of computers and the Internet that provided a wide variety of language resources, interactive language exercises, electronic text creation, multimedia materials,

and tools for personal communication. Participating teachers acknowledge that these multimodal and communicative features of computer and Internet technology helped them improve and reinforce effective instruction.

### **4.3.2 Advantages of technology for students and EFL learning**

In terms of advantages of technology for students, participants thought that using technology in the classroom would provide students with more learning opportunities and experiences including receiving authentic language input and developing autonomous learning. Five participants expressed the thought that technology has the potential to provide students with a wide range of authentic language input and facilitate students' autonomous learning. These following comments are examples of their viewpoints:

There are plenty of authentic language resources out there in the cyberspace. Students can search for almost any kind of information that they want to learn on the Internet by themselves. I think this would somehow compensate EFL students for the lack of real-life language experiences and face to face communication.

The advantages of technology upon language learning are huge. Language teachers should give students instruction and guidance in learning language through online resources. This generation of students learn fast when it comes to technology. They even know better about new web gadgets than their teachers.

Furthermore, the respondents perceived that technology had the potential to offer students more language learning experiences. They believed that students can do a lot of things when technology is integrated into language learning opportunities. Technology also facilitated individualised language learning and skills that are essential for students, as these comments suggest:

Using technology in language learning would definitely help students in their future careers. Every kind of work requires people who know how to

send e-mails, search online information, or create online databases. This is something that traditional English language classrooms cannot provide.

Online language practice offers students the opportunity to learn at their pace. They can study materials according to their needs and interests. They do not have to study the same material or wait for the whole class to finish. This is a good opportunity for students to develop autonomous learning which can be applied as a fostering tool in any form of education.

Participating teachers appeared to recognise the usefulness of technology for students and their learning as it provides more learning options and resources. This perception of potential usefulness has been mentioned by researchers as a key determining factor for technology adoption in classroom teaching (Becker, 2000; Lam, 2000; Rogers, 1995). For teachers in this study, there was clear evidence of the perceived usefulness and potential of technology in enhancing language instruction and students' learning, which would in turn influence their prospective technology-related perspectives, although they did not confirm their actual usage of technology in classrooms at this stage.

### **4.3.3 Barriers to technology integration in EFL instruction**

In Part A8 of the questionnaire, participants were asked to give their opinions on what appeared to be the barriers to integrating technology in tertiary EFL instruction in the Thai context. Table 4.1 presents participants' perceived barriers which were grouped into three areas.

Table 4.1

*Perceived barriers to technology integration in EFL instruction*

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**Barriers to technology adoption in tertiary EFL instruction**

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Lack of computer facilities:

- Low access to networked computers
- Not enough computers for language classrooms

Lack of supportive contextual elements:

- Large class
- Inflexible curriculum
- High workload/ teaching hours

Students' characteristics:

- Low English language proficiency
- Lack of motivation
- Lack of online learning experience

The most frequent comments were about the lack of computer facilities. In addition, there was an equal number of responses noting students' characteristics which were not contributing to technology-mediated instruction, and the lack of supportive contextual elements.

#### ***4.3.3.1 Lack of computer facilities***

Although there were computer labs installed for student use as well as for classroom teaching in many institutions, some participants reported lack of computer facilities for EFL teaching. One teacher experienced difficulty in allocating students to the facilities:

Making a reservation in a computer lab for a language class is very difficult. Computer lab schedules are normally booked for computer technology classes. We may be able to use the labs once in a while.

Problems about lack of personal access to networked computers were also reported:

I sometimes ask students to practise online language exercises or browse information in pairs or groups when we are able to use the computer lab. I haven't assigned any major task that requires a lot of time on web-based applications. I know that some of them do not have access at home. It's not fair for students who can't afford computers and the Internet connection.

Right now I am waiting for our computer lab to be set up. I have some language learning programs for students which need to be installed in networked computers but nothing can be done at this stage as the lab is not ready.

In participants' views, the lack of computer facilities means that they could not fully conduct technology-based teaching or facilitate students' language learning that require online resources or communication. Insufficient computer facilities in these cases appeared to slow down the integration of technology in EFL teaching. Although teachers realised the potential of technology in their teaching, it was difficult for them to embrace the tool in their everyday instruction because of the limitation of facilities in their institutions. This finding is consistent with the literature which reports that insufficient numbers of computers was commonly identified by teachers as barriers to the use of ICT (Pelgrum, 2001; Guha, 2000), and in Thailand at the time at which the study took place, this was still the case.

#### ***4.3.3.2 Students' characteristics***

Teachers felt that the integration barriers came from the students' lack of competence and experience in using the target language, and expressed concerns about students' low language proficiency in using English to communicate. Two participants gave the following remarks on students' English language ability that seemed to hinder online language learning:

My students are still struggling to create a sentence, let alone writing a paragraph. Their vocabulary is very limited. I think they are not yet ready

to use English in real-life online communication. Using technology may be fun for them but they need to develop basic essential language skills before going online.

To be straightforward, tertiary students' English language ability is considerably low. Some students are quite good but overall they are at low-intermediate level. They may be able to read online materials. They may be all right working in groups searching for information and contents. I find it hard giving assignments that require them to produce a piece of writing from online researching because many of them have shown copy-and-paste behaviours.

Concern was also expressed over some students' lack of motivation in language learning especially when they have to take control of their learning process.

There were some students who did not want to participate in any kind of activities that require autonomous learning or individual inquiry. They just want to be spoon-fed all the time by the teacher. If there are no additional marks given, it's impossible to get them to do any kind of extra exercises. Teachers have to pick on them and push them to do the assignment.

Participants also understood that online language learning required some degree of students' online learning experience and skills as two teachers commented:

Online language tasks may work well with a particular group of students. I mean students who can take control of their language learning and know what to do or what to click without the presence of the teacher. From what I have seen, not many students can do that by themselves. They need a lot of time to get acquainted with online language materials.

I used to ask my students to read some online articles as a reading assignment with comprehension questions. After that I asked them to submit the answer by e-mail within a week. It took them longer than that.

Some students told me that they could not find the articles and did not know where to get the information to answer those questions.

These comments show that participants perceived students' low language ability, lack of motivation, and lack of experience in online learning as barriers to online language learning. Although participants recognised the benefits of online language practice, they were not sure about its applicability to every group of students, especially students with lower proficiency levels. In addition, their responses reflected the fact that they felt responsible for providing the skills that students currently needed. This finding is in contrast to previous research which has mentioned that teachers' frequently cited barriers to technology integration were mainly lack of support, facilities, time, skills, and attitudes (Beggs, 2000; Ertmer et al., 1999; Snoeyink & Ertmer, 2002). Nevertheless, this could be explained by the findings from the national assessment in 1997-1999 by the Ministry of Education, namely, that Thai pre-university level students' English language ability, especially writing ability, was low in comparison with those of students in many Asian countries (Wongsothorn et al., 2002). Furthermore, Thai EFL students appeared not to be used to student-centred language learning according to a study which revealed that most Thai EFL teachers still used traditional teaching methods they were familiar with, namely, a textbook-based or grammar-translation approach (Maskhao, 2002). These perceptions about students' characteristics may have influenced teachers' decisions in technology adoption in language teaching: teachers appeared to accept technology use on the basis of how well they could match the affordances of technology with particular groups of students, their teaching ecology, resources, and their own educational perspectives.

#### ***4.3.3.3 Lack of supportive contextual elements***

Some teachers in this study reported that they were not able to use technology in their classes because of the large number of students and inflexible curricula, which do not allow teachers to modify or adjust what they do in order to enhance technology integration. The following are some of the comments:

I personally agree with the advantages of online language learning.  
However, we have got content and test schedules to follow. It's very

difficult to add extra activities into the predefined course plan. Students also need something that relates to the course outline and the exam.

Although teachers believed that learning computer and internet skills was highly important for tertiary students, they thought that adding technology-related activities into their classroom teaching may not work for them because of the large size of class:

We normally have more than 50 students in each of our English foundation class. There are difficulties of managing computer work with this large size of class, for example, checking whether students are doing the required task or giving students individual feedback.

Moreover, participants thought the implementation of technology in a language classroom places an extra burden on teachers. A time constraint was mentioned as the main barrier:

There are requirements for university lecturers to do other things such as research, academic service, and administrative work. These tasks already keep teachers busy. Having students use technology in the classroom is extra work for teachers because new technology skills need to be learned. Besides, technology-infused lessons need a lot of preparation time.

It seems that time is another of the cited barriers in this research context as in others, time has been noted as a main barrier to integration (Dawes, 2001; Preston et al., 2000), leaving teachers feeling unprepared for the use of technology in the classroom, even though computers and facilities might be provided (Becker, 1999).

According to Cuban (2001), there are two types of barriers that teachers encounter while using technology. The barriers are categorised into first- and second-order barriers. First-order barriers are external and institution related, whereas second-order barriers are internal and teacher related. From the participants' responses, it appears that they encountered both types but that concerns about first-order barriers predominate. The majority of participants claimed that the main barriers to technology integration were restrictions relating to the students, classroom settings, and lack of facilities and support. These findings are consistent with what was found in earlier studies in which teachers

report problems related to a lack of computer and Internet equipment (Pelgrum, 2001), a lack of administrative support (Butler & Sellbom, 2002), and being uncertain about using computer technology to fit the course content (Chen, 2007).

#### **4.4 Perceptions of the best ways to integrate technology in Thai tertiary EFL instruction**

At the end of the questionnaire and all interviews, participants were asked to share their beliefs, knowledge, concerns, and perceptions relating to technology integration in language instruction. They were also asked to recommend the best way to integrate technology in tertiary EFL teaching. Participants contributed suggestions and remarks on how to make the most out of technology features in their tertiary language instruction based on their beliefs and actual classroom experiences.

##### **4.4.1 Focus on students' language learning objectives**

Participants who gave comments on features of online activities agreed that web-based activities should be designed to serve students' needs, learning objectives, and types of activities. Some teachers thought that technology use should be guided by language learning objectives to achieve successful integration.

My students are always informed as to why they are using technology in language learning. It is not just for fun. This is one way to make them feel that technology is a part of language teaching, not an additional computer skills class. Student will gradually understand and accept technology as a part of their language learning activities because they know they will gain benefit from this experience.

Students should be able to use technology to get what they want from the WWW for their language learning. Needs assessment will help both teachers and students to know what needs to be worked on. Without specific objectives and self-evaluation, technology use may be a waste of time or even a distraction.

These comments suggest that using technology needs to be congruent with the needs of students, course objectives, and available technology. Participants acknowledged that students should understand the objectives of integrating technological tools in their language learning as this would make the task more meaningful to them. According to Egbert (2008), learning goals and supporting features of the tools should be evaluated prior to the implementation of technology, and the participants here emphasised this, considering learners and their learning objectives as fundamental to integrating technology in their contexts.

#### **4.4.2 Focus on integrated skills**

Some participating teachers commented that technology use in language learning would be more effective if the task was designed to require multiple skills as well as higher-level thinking skills. Examples of perceived usefulness were provided by two participants:

I think that any activity that includes technology should offer students something different from what they normally do in a non-technology class. A web-based task such as an online journal requires students to use many skills including reading, writing, and presentation. They do not only produce their writing but also search for related materials, as well as read their peers' texts.

I recommend that teachers assign project-based tasks when technology is included. What I did in my class was to give students specific goals of technology use such as creating a video file promoting local products in English and post it on YouTube. My students know very well how to create a video and upload it on a webpage. They enjoyed the activity very much because they were able to use skills that they are already good at.

From the participants' evidence, focusing on integrated skills in a web-based task would offer excellent opportunities for Thai students to practise using multiple skills in communicative and collaborative situations. The teachers acknowledge that technology has the potential to enhance language learning with multimedia content, more communication channels and authentic language input. Since Internet technology offers

students more resources, channels of communication, and options to present their ideas in writing, students should be able to make use of these features in their language projects. According to Warschauer, Shetzer, and Meloni (2002), technology-enhanced instruction has the potential to maximise students' learning by allowing them to use multiple skills and create their own comprehensible input. In addition, web-based support materials may promote active and creative mastery of skills, collaborative learning, autonomous learning, cross-cultural learning and critical learning.

#### **4.4.3 Focus on interactions**

To successfully integrate technology in language teaching, one theme that emerged was promoting student interactions as well as peer evaluations. It was suggested that students in technology-enhanced language classroom should have more opportunities to learn from each other, as in the following comments:

I asked my students to keep their learning log or database online where their peers can view and learn from their log. They are encouraged to give each other feedback on their language products. Doing this, they spend more time talking about their learning experiences and questioning each other. This will enhance their language development in the long run.

When online activities are used, extensive interaction among students should be highlighted. E-mails or other kinds of CMC should be used as a means of communication among students. Students can also interact with the sources of information they found in the WWW. They can think about it, write about it, and share them with classmates and online communities. This is something that can fulfil what we lack in a non-technology classroom.

Based on this evidence, a theme emerged about teachers recognising the interactive potential of technology to bring about more interactions among students and more opportunities for them to practise and use the language in authentic situations. As Warschauer, Turbee, and Roberts (1996) state, students are given opportunities to have control over their learning and to communicate their thoughts at their own pace in network-based language learning environments. In addition, some of the teachers in this

study were convinced that focusing on interaction in web-based language activities could result in greater enthusiasm, initiative and commitment in students' learning.

#### **4.4.4 Focus on pedagogy and adjustment in attitudes**

Participants in this study expressed their views on the attitudes of teachers that affect technology adoption in language instruction. In their opinion, technology would be used more effectively if teachers possessed positive attitudes and practical approaches to adopting technology in daily instruction. Below are two sample responses from participants who made their points on this issue:

Although teachers are computer literate, they do not always know how to use computers and the Internet in English language learning and in developing language skills. There are a lot of educators who have few real-life experiences with computers; therefore, they may not have positive attitudes towards technology. The big challenge here is how to convince them that technology can enhance language learning so that they may want to give it a try.

I think it depends on how each individual recognises the usefulness of technology. Many teachers don't try to use technology or attend a workshop because they do not believe in it. If there is evidence to how effective technology is in supporting teaching and learning, there will be more positive attitudes towards technology among teachers and this may result in more technology adoption in tertiary language classrooms.

As the above comments show, the participants considered that teachers' supportive attitudes played an important role in making technology possible in language learning. It therefore suggests that to make integration possible, teachers need to have appropriate understanding as to how it can enhance language instruction and be more open to adopting new technologies in their classroom teaching. This is consistent with findings from other studies indicating that teachers' positive attitudes towards ICT and self-efficacy in working with computers are determining factors in technology-aided teaching (Albion, 1999; Albirini, 2006; Sugar et al., 2004).

Therefore, the above-mentioned issues related to successful integration were not a matter of having cutting-edge technology at their institutions. Rather, these teachers perceived that technology use needs to be combined with many skills and supportive characteristics from teachers, students, and instructional contexts. Teachers reported that modern technologies would be best applied when sound pedagogical strategies were also considered and implemented. In addition, flexibilities in the content and curriculum are vital for adjustment and creativity from both teachers and students. This means that technology integration for these teachers requires pedagogical knowledge, accessible facilities, supportive instructional design and institutional policies. This finding lends support to Egbert (2008) who suggests that effective learning tasks require that teachers focus on learning aspects and relevant technologies and use technology only when appropriate. Similarly, Young and Bush (2004) contend that it is important that language teachers perceive their own best practice with technology by considering their needs, goals, students, and classrooms rather than accepting a decontextualised use of a particular technology.

#### **4.5 Summary**

The findings from the survey questionnaire revealed that teachers in this study perceived the potential of technology to enhance students' language practice and to provide extended language learning resources. Generally, participating teachers recognised the capabilities of web-based technology to empower EFL learning and teaching. Nevertheless, technology was used for what may be seen as relatively low-level tasks in EFL instruction which mainly supported students' individual skill practice and access to references and resources. Even those teachers who had not engaged students in communicative and interactive uses of technology in EFL instruction, their reported beliefs show prospective technology acceptance in classroom instruction when other affordances are available such as a more flexible curriculum, sufficient computer facilities, and an appropriate level of student language proficiency. Key advantages of technology in language instruction, such as enhancing instruction and improving students' motivation, were perceived. However, participants expressed concerns that they were challenged by the complexities of the adoption process and constraints which related to both external and internal factors of technology integration.

The next chapter will present findings about how participating teachers perceived technology use in EFL writing instruction. Data from the questionnaire, semi-structured, and unstructured interviews are incorporated to provide more evidence about teachers' perspectives on typical web-based instruction according to their personal views and instructional situation in the Thai tertiary context.

# **CHAPTER FIVE**

## **TEACHER COGNITION ABOUT THAI**

### **WEB-BASED EFL WRITING INSTRUCTION**

This chapter presents findings from the survey questionnaire and semi-structured interviews about teachers' perceptions towards both EFL writing instruction and integrating technology into EFL writing instruction. Teachers' perceptions towards different web-based writing scenarios are also presented and discussed. Interview accounts from semi-structured interviews and open-ended answers from the survey are provided as evidence of teachers' underlying beliefs and understandings about the use of technology in tertiary EFL writing instruction.

#### **5.1 Teachers' beliefs about EFL writing instruction**

##### **5.1.1 Beliefs about student behaviours in EFL writing instruction**

As a starting point, participants were asked to select items concerning students' expected behaviours in an EFL writing classroom in Part C1 of the questionnaire. It was found that the majority of teachers in this study agreed that students should be able to write grammatically correct sentences (N=36 or 76 %), learn how to revise their own work and give feedback to their peers' (N=34 or 72 %), as well as develop different kinds of writing (N= 34 or 72 %). A few participants (N=10 or 21%) regarded writing as a means of communication for students to develop relationships with people through written texts (see Figure 5.1).

The results revealed how participating teachers perceived 'good behaviours' in writing classrooms. They expected students to achieve several goals in terms of EFL writing abilities including producing grammatically correct texts, revising their own work, and giving feedback to peers. In addition, participants thought that it was important for students to be able to write different kinds of texts according to different communicative

purposes, as tertiary students are usually required to read and produce different types of textual organisation. However, many of the participating teachers did not think that students would develop relationships with others through written texts. This implies that writing is not regarded as a social tool which may support authentic language practices through text exchange communication. It seems that these teachers are more concerned with students' development of grammatical correctness, text revision, and discourse development, rather than writing for social purposes.

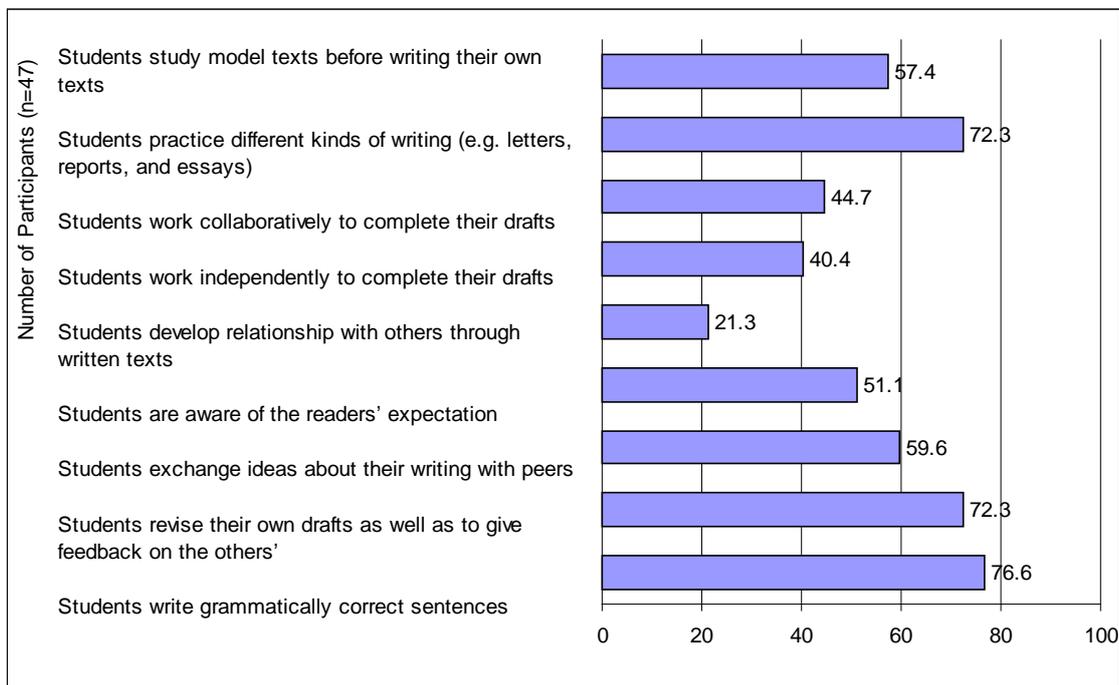


Figure 5.1 Percentages of beliefs about student behaviours in EFL writing instruction

### 5.1.2 Beliefs about teacher behaviours in EFL writing instruction

In Part C2 of the questionnaire, teachers were asked to select items of teachers' roles and behaviours in the EFL writing classroom. Figure 5.2 shows that almost 80 percent of the participants (N=39 or 78%) agreed that teachers should help students to develop both the content and ideas of the writing. They also agreed that teachers should give students corrective feedback and provide students with different types of text models (N=36 or 76%).

On the other hand, only a small number of participants thought that the role of teacher was to encourage students to write to a local newspaper (N=5 or 10%) or exchange writing with penpals or keypals (N=14 or 29%). These two items involve encouraging students to interact with readers and to present themselves as language users in real life communication. Perhaps teachers in this study considered that these behaviours were not major concerns in EFL writing instruction in Thai tertiary contexts and these activities were towards the end of the writing tasks when students finished a piece of work and looked for audiences or feedback. Participating teachers were more concerned about the students' earlier stages in writing, such as developing ideas and using correct structures. They realised that students needed help in the construction of ideas and organisation, which are preliminary steps in the writing process.

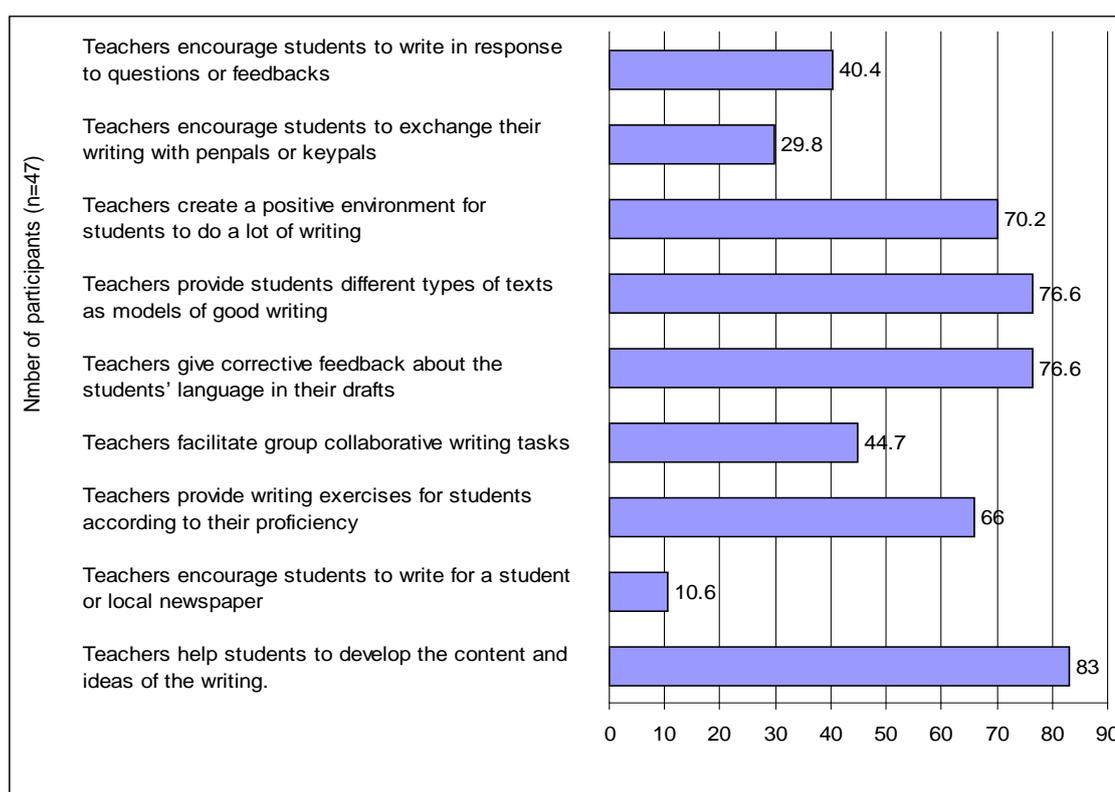


Figure 5.2 Percentages of beliefs about teacher behaviours in EFL writing instruction

In addition, participants thought that it was their responsibility to give corrective feedback to students, reflecting how teachers viewed their roles in EFL writing instruction. They also recognised the importance of providing students with different

genres as well as creating a positive environment for writing. Perhaps these teachers are acknowledging that tertiary students are required to process different kinds of information, including reading and writing papers and project reports according to their disciplines. This has support from Hyland and Hyland (2006b) who argue that teachers' practices in writing instruction are influenced by personal beliefs and mediated by the institutions and culture in which teachers work. Besides, these teachers know that providing a supportive environment and language scaffolding in classrooms may help students to improve their writing ability. The participants' understanding about writing problems of NNS and facilitating writing environments is considered critical for students' improvement in their ability and confidence in writing (Leki & Carson, 1997). This finding indicates that participating teachers acknowledged aspects contributing to students' writing development, their supporting roles, and the priorities in Thai tertiary EFL writing instruction. It is likely that these teachers drew on situated and integrated views in EFL writing instruction which corresponded with their tertiary students' contextual academic demands.

## **5.2 Teachers' beliefs about web-based EFL writing instruction**

Participating teachers' beliefs about web-based EFL writing instruction were gathered from the responses to the questions in Part D, E, and F of the questionnaire. They were asked to select statements representing beliefs about how technology tools were used in EFL instruction, to what extent their students were involved in web-based writing activities, and what their behaviours relating to technology use in web-based writing instruction were. The findings are provided in the following sections.

### **5.2.1 Beliefs about web-based writing in EFL instruction**

With respect to their beliefs, figure 5.3 indicates that the majority of participants (N=34 or 72.3%) thought that online writing increases students' writing fluency. They also thought that teachers' involvement (feedback, facilitation, instruction, and guidance) was significant for the development of student writing when using technology in EFL writing instruction (N=27 or 55.4%). Nevertheless, only a small number of participants perceived web-based writing instruction as meeting students' needs for academic skills (N=5 or 10.6 %), supporting equal participation among students or improving writing

quality via chatting (both N=11 or 23.4%). The corresponding figure is also provided in Appendix I, Table I.5)

These findings suggest that, for these teachers, technology would best fit in writing classrooms when used for improving fluency and facilitating teachers' involvement. They acknowledged that it can provide more channels of communication between teachers and students. In addition, they understood that online writing practice may have positive effects on students' writing fluency since the writing was done in a less formal environment. This appears in line with other researchers indicating that online writing, especially in an asynchronous medium, allows students to practise writing at their own pace and extend the language processing time, which is important for EFL language learners (Kamhi-Stein, 2000; Meskill & Anthony, 2005).

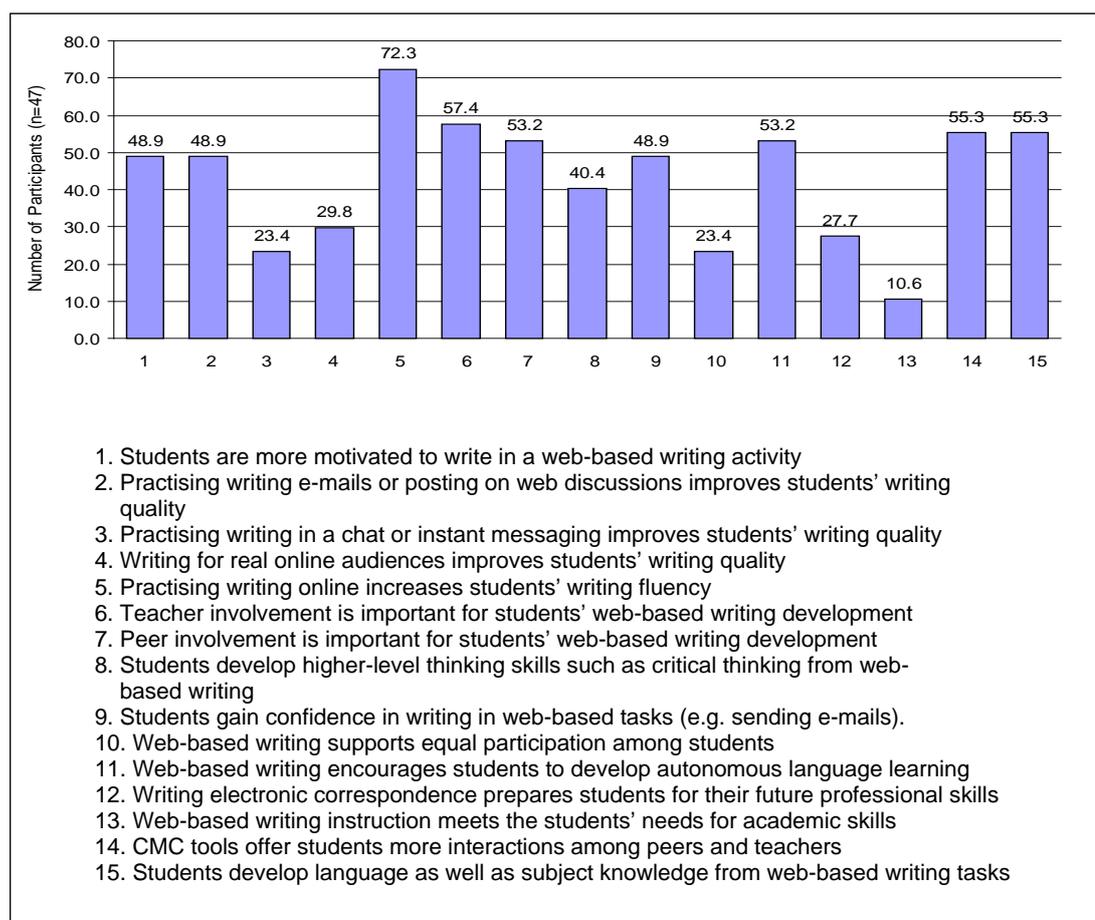


Figure 5.3 Percentages of participants' beliefs about web-based writing in EFL instruction

Participants also emphasised that technology would facilitate teachers' involvement in students' online writing. Their perspectives were in line with views in the literature that teacher involvement in online learning has an impact on students' learning and successful technology integration (Herman, Tondeur, van Braak, & Valcke, 2008; Pachler, 2001) and is critical in promoting deep learning (Roberts, 2002; Speck, 2002). In addition, the teachers' role in a technology-enhanced classroom has shifted to being more of a facilitator than a dictator or a transmitter in a traditional class (Fairman, 2004; Jenkins, 1999; White, 2002). To some extent, participants in this study also considered that they were responsible for providing students with essential skills for target language learning; teacher involvement was considered slightly more important than peer involvement.

In addition, more than half of the participants showed that they recognised the benefits of web-based activities in the writing classroom, such as students developing subject knowledge as well as having more interactions with their teachers and peers. Nevertheless, less than one third of the participants believed that web-based writing practice would result in equal participation among students. Furthermore, less than ten percent of the participants thought that web-based writing would meet students' needs for academic skills. This means that the participants do not regard it as being associated with students' academic skills (reading, note-taking, critical-thinking, writing papers).

### **5.2.2 Students' web-based EFL writing activities**

Participants responded to a question about how often their students were involved in web-based writing activities according to 16 statements in Section 2, Part F1 in the questionnaire. They were asked to rate each activity into four-point scales from Never (1), Rarely (2), Often (3), to Very often (4). Figure 5.4 shows the mean scores of students' web-based writing activities. Participants reported that their students most frequently engaged in these activities: online searching before writing (2.7), using web-based references (e.g. dictionaries) to improve their writing (2.5), and submitting writing assignments by sending e-mails (2.25). A small number of participants stated that their students engaged in the following activities: creating a webpage or blog to post their written work in pairs or groups (1.3), giving feedback on each other's electronic drafts (1.34), and posting written assignments on web pages (1.44). The corresponding figure is also provided in Appendix I, Table I.8.

The results indicate that common web-based activities in tertiary EFL classrooms mostly involve getting information and references from online resources. Participants reported that they usually had their students search for online materials before doing writing. It implies that they perceive technology-related activities as a means to increase students' language input as they are exposed to rich data relevant to the targeted content and forms.

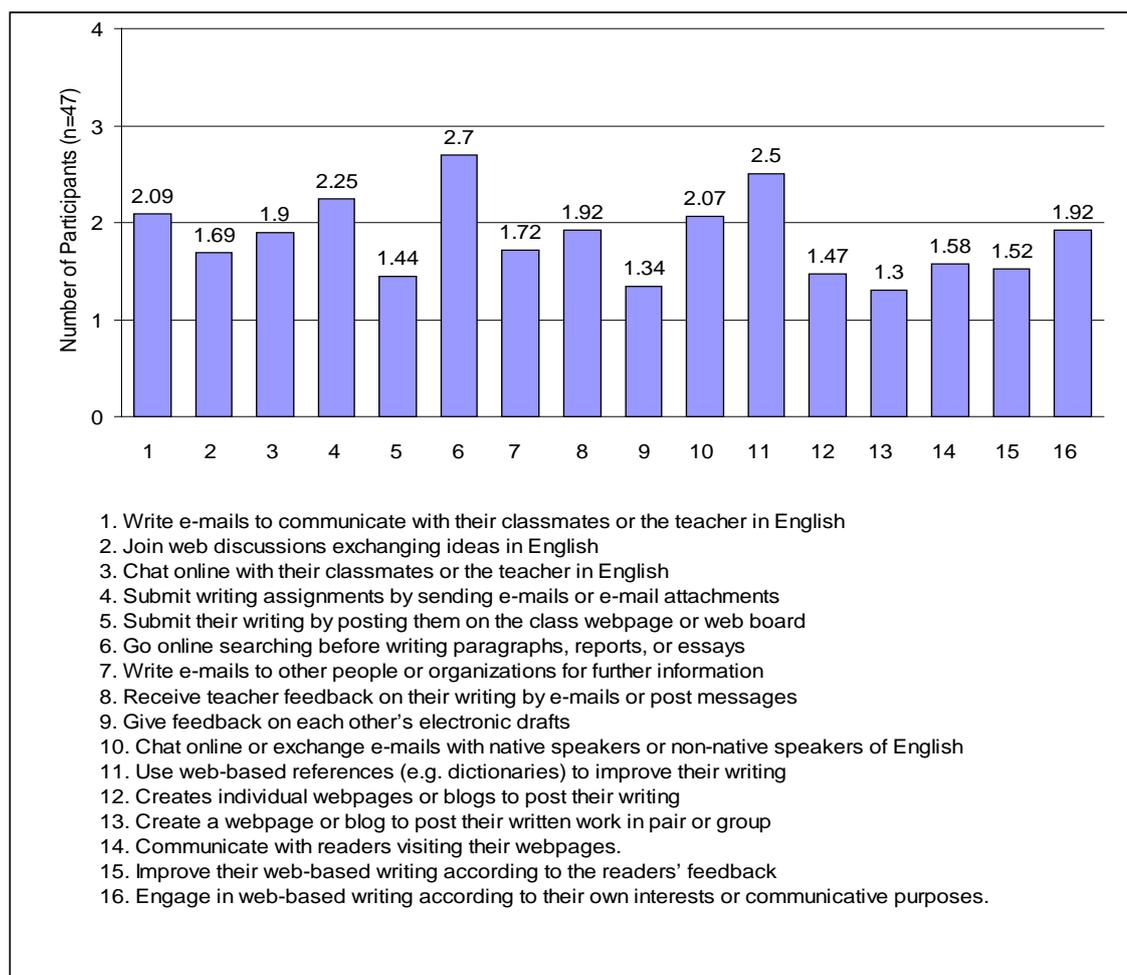


Figure 5.4 Mean scores for students' web-based writing activities

Having students exposed to this kind of input prepares them for producing their own writing. Receiving an abundance of relevant materials about writing is supported by Krashen (1985), who claims that the best way to learn to write is to obtain rich and comprehensive input. Thus, teachers in this study seem to acknowledge the benefits of online language exposure and encourage their students to do so.

### 5.2.3 Teachers' practices in web-based EFL writing instruction

Participants were asked to indicate how often they were involved in web-based activities; they rated a range of teacher web-based activities according to the same four-item frequency scale. Figure 5.5 illustrates mean scores for teachers' activities related to web-based writing instruction. It was found that participants usually downloaded online teaching materials to use in the classroom (3.08) and read EFL writing websites or journals about web-based writing instruction (2.47). A small number of teachers reported that they were engaged in: keeping an e-journal or web-based writing log about teaching (1.58), exchanging ideas about web-based teaching with other ESL/ EFL teachers online (1.65), and having a website or blog for classroom communication (1.69). The corresponding figure is also provided in Appendix I, Table I.9.

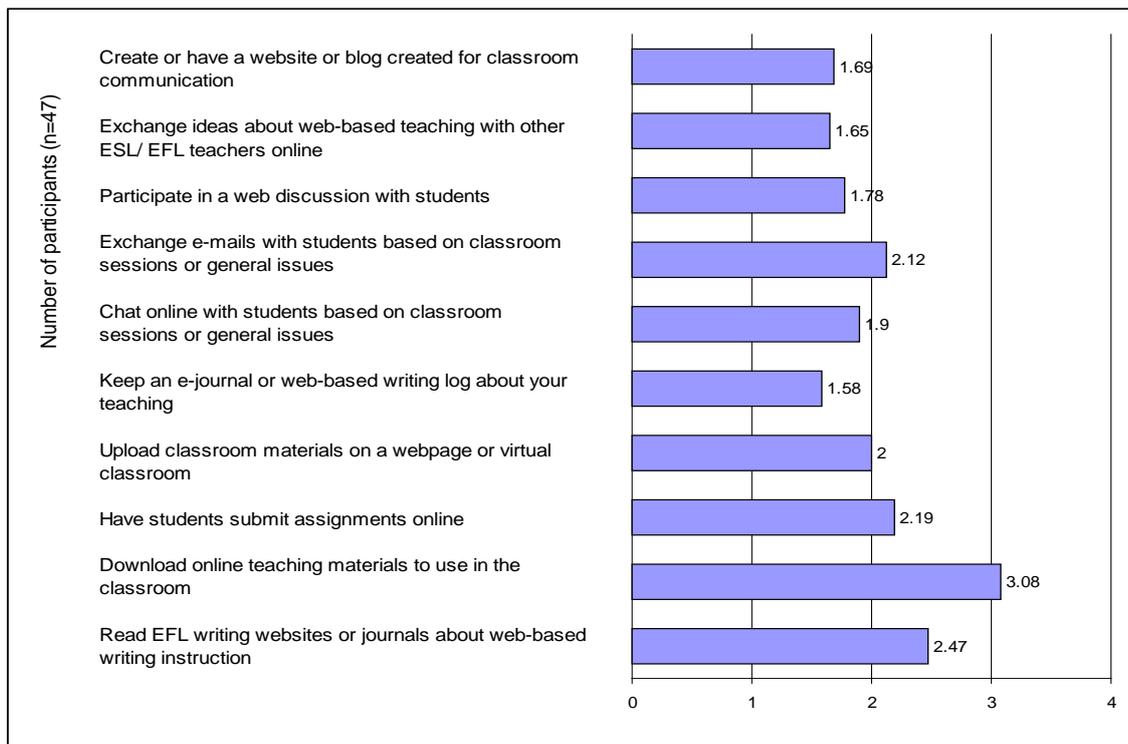


Figure 5.5 Mean scores for teachers' practices in EFL writing instruction

Generally, participants were involved in technology-related activities when they wanted to get information for their classroom teaching and were seeking knowledge about writing instruction. In this cohort of teachers, the uses of technology remained low-level ones, such as seeking online teaching resources or communication with students.

Teachers' reported technology behaviours in writing instruction were in accordance with their technology use in general EFL instruction reported in Chapter Four. Their perspectives and behaviours appear to fit the description of early stages of technology adoption in which teachers use technology to support their existing teaching and learning practices (Sandholtz & Reily, 2004). Sandholtz et al. (1997) explain that teachers may need time to accumulate their expertise in technology use in order to adjust their practices towards more constructivist approaches. In addition, research into the diffusion of innovation indicates that adoption of innovation is a social process and can take a very long time. As Rogers (2003) points out "an important factor regarding the adoption rate of an innovation is its compatibility with the values, beliefs, and past experiences of individuals in the social system" (p. 4). The picture that is emerging at this point is that these teachers might be at an early stage of learning how technology works in their classrooms. At the same time, they are in the middle of developing a cognitive intervention between their pedagogical beliefs and technology contributions in language teaching. However, they showed positive signs of supportive beliefs and behaviours which may facilitate higher-level use of technology in classrooms in the future.

Although the teachers indicated what they valued in writing instruction and how web-based activities were supposed to be used in the classroom, their underlying beliefs may not have been fully explored because of the limitations of self-reported data (Fang, 1996; Kagan, 1990). In addition, the statements in the self-report instrument may not cover the full range of information that participants have or want to express (Borg, 2003). Therefore, a further investigation into teacher cognition towards technology was conducted in a more qualitative way by scenario-based inquiry. Findings from scenario questions and interviews are presented in the following sections.

### **5.3 Teachers' perspectives on web-based EFL writing instruction scenarios**

To investigate teacher perspectives on different kinds of technology-based activities in language instruction, I used nine scenarios representing three approaches to NBLT and SLW instruction, structural, cognitive, and sociocognitive, in Likert-scale questions (see

Appendix B, Part E) and semi-structured interviews. Participants were asked to what extent the nine scenarios would fit into Thai tertiary contexts. They rated each one according to four-scaled answers from Definitely Not Fit (1), Probably Not Fit (2), Probably Fit (3), or Definitely Fit (4). After that, they were asked to give explanations for the most and the least fitting scenarios. Table 5.1 presents the mean scores for each scenario while Figure 5.6 shows the mean scores for each type of scenario.

Table 5.1

*Mean scores and standard deviations of web-based writing instruction scenarios*

<b>Web-based writing classroom scenarios</b>	<b>Mean</b>	<b>S.D.</b>
Scenario 1: Siripen (Structural)	2.82	0.76
Scenario 2: Rattana (Cognitive)	2.89	0.75
Scenario 3: Wuthichai (Sociocognitive)	2.89	0.82
Scenario 4: Wanwisa (Cognitive)	2.97	0.82
Scenario 5: Jintana (Sociocognitive)	2.53	0.92
Scenario 6: Chanchai (Cognitive)	3.00	0.84
Scenario 7: Tassanee (Structural)	2.93	0.86
Scenario 8: Pipat (Structural)	3.32	0.85
Scenario 9: Arunya (Sociocognitive)	2.89	0.87

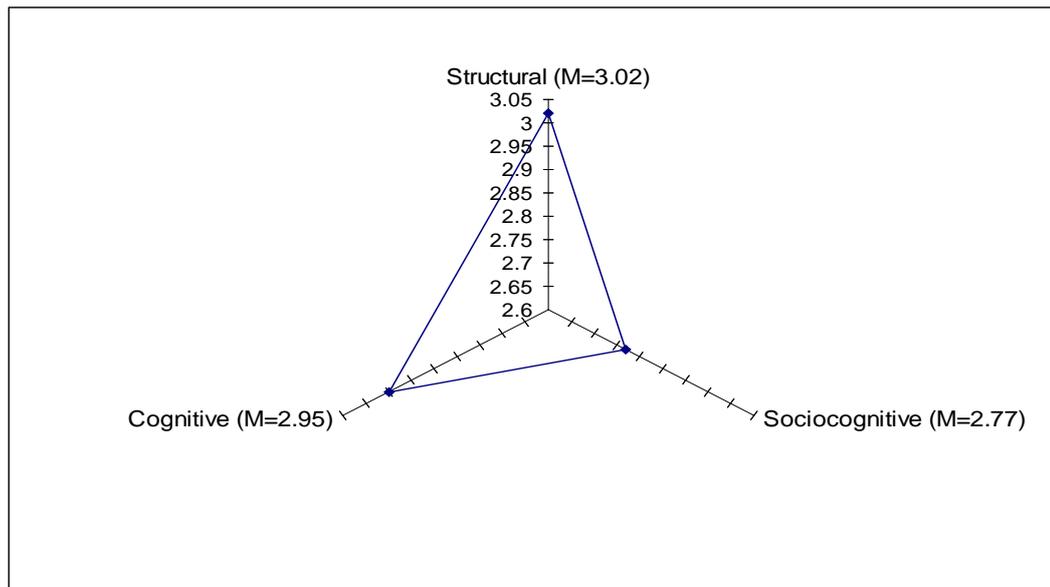


Figure 5.6 Mean scores for each type of scenario

It was found that the scenario that received highest scores was Pipat (3.32). In Pipat's class, technology was optimised in such a way that the teacher maintained control over the task and the objectives of using the tool. The teacher was the one who selected online materials and made decisions concerning the tasks, while students followed the instructions. On the other hand, participants perceived Jintana's class as the least fitting technology use (2.53). In Jintana's class, the activity required student initiative and taking responsibility in using technology (e.g. browsing information from the WWW, posting messages on the web forum) to participate in an online class assignment. From Figure 5.6, the structural group was ranked the highest (3.02) followed by the cognitive (2.95) and sociocognitive (2.77) respectively. This means that these participants agreed that such structural uses of technology in writing instruction as having students do online exercises, using recommended resources, or learning to post from model texts appeared most fitting for their teaching contexts.

Giving teachers scenario prompts close to their particular sociocultural tertiary contexts revealed underlying beliefs relating to their pedagogical approaches toward the new technologies. That Pipat's scenario was rated the highest implies that participants preferred to see teachers maintaining control over technology and web-enhanced activities in language teaching. Pipat, who portrayed this kind of teacher, represents the

use of common applications (e.g. search engines, the WWW, and e-mails) to enhance his writing instruction. The online materials were selected and sorted according to the course structure and the teacher's plan. While students were using the tools, he provided them with suggestions and scaffolding. These technology uses were friendly to teachers with different levels of technology skills. Some explanations from participants are given to support their choices.

I like this scenario because this is what I have been doing in my class. I found EFL websites and online writing labs such as Purdue OWL Writing Centre websites very useful to EFL writing classes. It's economical, and the students can have direct access to the websites. Using texts from various sources will yield the best result.

Students have access to authentic materials which are selected by the teacher. They can study from websites and do exercises that are suitable for their language level. They can study at their own pace.

Participants' comments implied that the most fitting scenario (Pipat) appeared to be the friendliest and least complicated use of technology because most of the teachers already knew how to operate it. Consequently, classroom instruction using this kind of technology was likely to be accepted by these teachers.

On the other hand, the least fitting scenario (Jintana) was not so convincing as a feasible form of instruction. There are instances from sceptical participants who remarked about the teacher's role and the management of web-based activities in this scenario.

I personally believe that a course book is needed for Thai students. Meeting fortnightly is probably too little. Teachers should provide guidelines and learning objectives for students so they know what they are doing and what they want to achieve. They also need constant feedback from the teacher, so they can improve their writing.

Good writing requires knowledge and understanding of sentence structures, organisation, and genres. Students also need time to work on their ideas and

information before they write. This activity is too far from the reality of Thai EFL contexts.

From the above comments, it is evident that teachers were less confident in using technology when they felt that there might be problems in the learning and teaching processes, for the people involved, and in maintaining the course objectives. This is congruent with findings about teacher resistance regarding the adoption of technological learning practices that could take them away from their existing pedagogy (Goodwyn et al., 1997; Rogers et al., 2002). In this situation, when the activities were more dependent on unstructured approaches, teachers were likely to express concern and reservations about using the tool. Participants' comments in relation to the scenarios revealed that they perceived challenges about pedagogical issues when incorporating technology rather than issues regarding the operation of the technology tool.

In order to provide explanations for participants' situated perceptions, semi-structured interviews using these scenarios as prompts were conducted to elicit teacher cognition toward a typical use of technology in language classrooms in a particular technology setting. Further discussions about how interview participants responded to the three groups of classroom scenarios: structural, cognitive, and socio-cognitive, are presented in the following sections.

#### **5.4 Perspectives on structural scenarios**

According to structural perspectives, language teaching is based on providing learners with drills, practices, models, and corrective feedback. Teaching and learning activities are constructed for the production of correct responses with an emphasis on structures (Richards & Rodgers, 2001, p. 43). Second-language writing instruction in this approach has focused on students' production of formally correct sentences and paragraphs with the study of model structures (Zamel, 1987). These characteristics were embedded in three web-based writing scenarios: Siripen, Tassanee, and Pipat. The results from both open-ended answers from the questionnaire and the semi-structure interviews are presented in the following subsections.

### 5.4.1 Structural scenario 1: Siripen

The first scenario portrayed students' practice with web-based exercises, especially grammar and structural exercises. The teacher assigned individual language tasks including such sentence skill practices as error detection and editing sentences. The task was compulsory and marks were given as reinforcement as well as to engage students in the activity.

Siripen has her students study online grammar tutorials and spend at least one hour a week studying in non-class time. She sends the students an online quiz via e-mail once a week. The online exercises are error detections and editing sentences. The online quizzes are compulsory and count 15% of the whole assessment apart from in-class quizzes and an essay test.

Based on this scenario, some participants acknowledged the benefits of these instructional techniques. They understood that having students practise grammatical exercises on the web supports students' individual language practice. Giving additional marks also encourages students to participate more in the classroom activity. A number of teachers agreed on this point:

Grammar tutorials are always useful for Thai students. With the help of technology, students now can do language exercises any time that they want. There is more time spent on learning the language in addition to normal contact class hours. Low level students can work on their weak points. In addition, students are motivated to do the tasks to receive reward points.

Both classroom teaching and web-based teaching are provided. This means students have more language practice in class and in non-class time. This would also be useful in a large class to save time and energy to give hand-outs to every student.

The multimedia used in online grammar exercises is attractive for students. Students can catch up with the instruction. Definitely, giving students additional points always works for me. Without some kind of reward, it's really hard to get the task done.

The key advantage of structural use of technology mentioned by these teachers was providing a variety of exercises and quizzes for students at different levels. To reinforce the task, incentives such as additional marks are needed to maintain students' motivation and participation. Teachers also thought that students could practise focused skills at their own pace whenever they go online. However, one participant disagreed with the more traditional way of giving students grammar exercises without relating them to meaningful language use:

I don't think this kind of online grammar practice will benefit students. Grammar should be thought about and learned through meaningful activities in which students can practise the structure with their friends. Moreover, I absolutely disagree with the compulsory online grammar quizzes. It's unfair when some students do not do the quizzes by themselves but ask somebody to do it for them. The teacher wouldn't be able to know.

From participants' comments, it can be posited that the way a teacher perceives technology depends on personal beliefs about how a language classroom should be managed and how a language is learnt in a particular context. Teachers who recognised students' different needs to develop language forms and structures may think that this kind of activity would accommodate a large number of students. On the other hand, a teacher who held constructivist views would be less likely to agree with this kind of activity because language learning was isolated from meanings and functions in real-life situations. In other words, accepting a particular use of technology depends on teachers' personal pedagogical orientations and practices. Teachers who held different pedagogical views were likely to perceive and make use of the tool differently according to applicability of technology in their language instructional contexts.

#### **5.4.2 Structural scenario 2: Tassanee**

In this scenario, giving models for online writing practice was the focus. The teacher provided model texts to initiate web discussion. Students in this scenario were expected to practise a particular structure, according to the teacher's guidance. Teachers expected students to learn from the model texts and to try to produce their own. Students' texts were evaluated and given marks according to the accuracy and appropriateness of the language used.

Tassanee introduces her students to web tools such as Moodle or Blackboard for classroom communication. She usually gives prompts or initiates an issue in the web board and asks students to join the forum and follow her model posts. Students will be given additional scores for the frequency of posting and the correctness of the language.

Some participants agreed that giving models for students in writing practice is crucial. They thought that using LMS tools was a convenient way to provide a large collection of language input and models for students. As two people shared:

The LMS can enhance language instruction and help organise class assignments and activities. This is similar to my current classroom practice. Web tools can help teachers to provide more learning resources. Teachers' and students' posts are stored in the database which everyone in the class can study and read at any time.

I agree with this scenario showing a balance between the teachers' role and students' participation. The teacher brought students to the task and then let them practise the language while the teacher monitored the task. It's necessary that students learn how to communicate online. Many students haven't had any experience in writing on a web forum. This is a good way to practise writing.

These teachers perceived that students needed extensive authentic English language input and models. They were aware of shortcomings of students' language ability and knowledge; therefore, they gave support to the use of technology that provided students with language resources and models. Although an LMS was used in this scenario to organise classroom activities and provide additional writing practice for students, interaction among students and collaborative activities were not focused on. Some participants noticed this contradiction and made remarks on the teacher's role and objectives for the activity:

The language used in online communication is different from textbooks. The focus is on communication rather than accuracy. Students in this classroom should be allowed to make mistakes to develop their confidence

in using English with peers and teachers. If marks were given according to correctness, students would be afraid of making mistakes and held back from what they want to express.

The controlled topic of discussion on the forum may not fit into students' interests. Students received only the teacher's language models which is too limited.

Asking students to follow teachers' models limits their creativity. They may not feel free to express their thoughts because they have to follow the models. In addition, giving additional scores for participation may create problems as students do not have equal access to the Internet at home.

Although there is a range of activities that can be done in Moodle from having students do controlled exercises to relay chat among students, the focused task in this scenario was guided writing practice whereby students learned to produce the target discourse with instruction from the teacher. Some participants criticised this technology use for not promoting interaction among students and just providing structured practice. They perceived that this technology should be employed to encourage more exploratory learning and free writing practice among students rather than following the teachers' language model. Nevertheless, some participants had different views and gave positive comments. They agreed that giving text models was suitable for tertiary writing instruction because many students need cognitive and discourse models in developing their own texts. These teachers supported the idea that technology can provide students with appropriate input and facilitate writing practice. In other words, the uses of technology were perceived differently according to teachers' understanding about how students should practise writing given the affordances of a technology tool.

Another reason behind this may be teachers' lack of first-hand experience with using Moodle in real life teaching. Although Moodle is a free open source software package for creating online courses with self-study tutorials, the majority of teachers in this study reported that they had not yet used the system in their language teaching according to the answers in the general uses of technology in Chapter Four. It was

probably difficult for them to figure out what the system could do in language teaching when they had not experienced using the tool themselves.

### **5.4.3 Structural scenario 3: Pipat**

In this scenario, the teacher made decisions about which online materials and activities should be used in the classroom. The online materials were selected and recommended to the students. E-mails were used for communication between the teacher and students. The teacher offered help when students faced learning problems.

Pipat usually downloads materials from EFL websites and online writing labs to use in the classroom. Students' written drafts have to be word-processed and emailed to him. He recommends EFL writing websites to students so they can study after class. Students are welcome to email him asking about course assignments and general questions about their study.

According to the questionnaire, this scenario was rated the highest among the nine scenarios. It seemed to participants that this image of technology use was very close to what they were actually doing on a daily basis. Therefore, they rated this scenario as having the highest preference for their classroom practice. There were expressions from participants showing their preference towards this activity:

He started giving input and expecting output from his instruction. I assume that the output is quite related to what the students learned. Also, he supervised the process and gave constant feedback and kept contact with the students. In addition, he familiarised students with the word processor which is an important tool for writing in the digital age. Students need this skill in their future career. Finally he provided or recommended additional materials for students to study and practise. This is a whole process of engaging students in language learning with technology assistance.

Lately, I have my students do something like this in my class. Students are quite happy to use word processors for their essay writing. It's easy for both the teacher and students to read, write, and rewrite. Using online materials is convenient for many teachers. E-mail is convenient for teachers and students to keep in touch after class hours. It saves a lot of time and money.

It's easy for the teacher to reach rich resources for teaching materials. Students can also search for further information for their study. Teachers can select materials which are appropriate for their students' language level and interests. They can also communicate in class and after class.

Nevertheless, some teachers, especially those who had more experiences in using web-based technology, thought that this was a marginal use of computer-based technology and lacking in terms of students' participation. They commented that the use of technology in this scenario failed to reach the full potential of technology that can bring learners together with the outside community and serve as a means of real-life communication.

Students don't have much freedom to choose materials. Why don't we let students find materials that they want to learn? There should be more options for students to explore the information online. Students at this level should have an opportunity to evaluate online information and choose what they want to learn by themselves.

Perhaps this is not the best way to use computer technology. There's not much participation from the students in choosing the materials. It may be easy for the teacher but it doesn't promote students' use of technology in language learning.

From participants' perspectives on the three structural scenarios, it can be assumed that these Thai tertiary teachers perceived some benefits from structural uses of technology in writing instruction. Activities including doing online language exercises, checking online references, using word processors, and using model texts appeared to benefit students' language learning. As Butler-Pascoe and Wiburg (2003) point out, using drills and practice programs can be valuable in reinforcing class instruction, teachers can provide students with focused practice of specific skills and adapt the instructions to the language proficiency of each student. Providing online model texts is also an effective way to guide students to the target discourse. In addition, assigning students to do controlled exercises is the form of instructions that many teachers have already adopted within classroom teaching. Perhaps the structural use of technology was not too complicated for these teachers to use in everyday teaching. They felt secure and

comfortable with this kind of technology and this might be the reason why they rated the structural use the highest among the scenario types (see Figure 5.6). Furthermore, teachers expressed concern about Thai students' need for extensive language practice and strengthening of basic language skills. Although some teachers argued that this kind of technology use did not promote students' critical thinking and self-directed learning, the structural uses of technology still appealed to the majority of participating teachers as it provided EFL students with essential practice. Therefore, these three structural scenarios appeared to be appropriate for Thai tertiary EFL classrooms and the characteristics and practices of teachers and students who were involved in technology-related activities.

## **5.5 Perspectives on cognitive scenarios**

One of the main principles of cognitive approaches in language learning is to provide learners with comprehensible input (Krashen, 1982). Learners construct new knowledge through exploration, and extensive comprehensible input. In the process approach, writing instruction moves learners from the generation of ideas and the collection of data through to the finished draft (Tribble, 1996). Writing tasks are organised in staged processes such as planning, drafting, and revising. Therefore, computers and Internet technology are used as a tool to facilitate learners in collaborative, problem-solving, and editing tasks. However, it is for the learner to decide what to do with the task or what to practise in a simulated language environment (Warschauer & Kern, 2000). Three scenarios, Rattana, Wuthichai, and Chanchai, were used to elicit participants' perspectives on cognitive technology uses.

### **5.5.1 Cognitive scenario 1: Rattana**

Students' ability to revise their own writing and give feedback on their peers' was focused on in this classroom scenario: the teacher wanted her students to exchange essays online and comment on each other's writing before submitting to the teacher.

<p>Rattana has her students write essays and e-mail them to their classmates for feedback. The students learn how to give online feedback on each other's writing. They revise the essays according to peer feedback before e-mailing the final drafts to her. She gives each student written feedback and asks them to revise and resubmit the essay.</p>
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Although participants generally agreed that this form of instruction seemed to moderately correspond to Thai tertiary EFL classrooms, some participants made remarks on both the positive and negative impact of peer feedback in EFL writing class.

Peer feedback is problematic in EFL classes. Students may not trust their peers' comments. Students can give comments on specific features of the writing such as punctuation or mechanical mistakes. Students may need extra instruction on how to give feedback to each other and still receive feedback from the teacher. Checking e-mail assignments is a burden for most of the teachers. Submitting essays online can sometimes be used in a large class but not too often.

I always encourage my students to revise their own writing. However, they need training about how to revise their own work and how to give feedback to peers. Rubrics should be given as evaluation standards for students. This can be introduced by group essays and the exchange of comments between groups. This task would make them engage in meaningful negotiation because they feel free to disagree with peers' comments not teachers.

These participants thought that teachers should be careful when using peer feedback in writing instruction. They thought that peer feedback was necessary but students need training in how to respond and give constructive comments. Peer response is supported by researchers in that it allows students to learn from evaluating one another's writing and forming criteria related to good writing so that they can apply them to future writing situations (Hyland, 2000; Topping, Smith, Swanson, & Elliot, 2000). According to Ferris (2002), learners' taking responsibility in correction improves their writing accuracy in the long run. These teachers thought that students would benefit from giving and receiving comments with peers as well as having feedback workshops.

### 5.5.2 Cognitive scenario 2: Wuthichai

This classroom scenario allowed students to practise the language in authentic situations. The aim of the activity was to promote students' confidence in using the language and to increase fluency. Students had the freedom to use technology to communicate with online partners that they selected. Students were encouraged to solve learning problems by themselves. Nevertheless, the teacher was ready to provide help and solutions.

Wuthichai encourages his students to use English as much as possible with keypals to practise their language at least one hour a week in the computer lab. The keypals can be native speakers or non-native speakers of English who may or may not provide language feedback to students. He gives students help with their language and recommends them to use online dictionaries.

This kind of activity allowed students to experience language use by themselves and to learn from other language users. Participants thought that this scenario had potential in EFL writing instruction in many aspects according to the following comments:

That the keypals can be NS or NNS implies that English is an international language. Nowadays English should be taught in the way that students can use it for global communication with international people. It's not limited to people who are from the inner circle.

The instruction is easy for the teacher. Writing tasks are communicative and meaningful. This will encourage students to develop skills for their autonomous learning.

The teacher's role in this classroom scenario seems like a facilitator. He recommended online references for students. Students were expected to develop problem-solving skills and learn how to get information by themselves.

It's a good way to develop fluency especially if students can find keypals who are able to help them improve their English communicative skills. Teachers also provide help when students need. This is a good way to

motivate students to use the language and at the same time teachers can guide them to learn from the activities.

However, some teachers found this activity might not engage students in a rigorous language learning experience. As the topic of the conversation was not controlled, students could chat for fun without learning anything new about the target language. In addition, they knew that students normally chat in their mother tongue for personal communication. In addition, it would be challenging to find a partner who can chat in English and keep the conversation going.

I see limitations here as the keypals are outside the classroom. This activity may not be substantial writing practice for students. It can be used as an additional task for students. Teachers should make sure that students find appropriate keypals so that they learn something rather than wasting time on chatting.

It's quite difficult to find a decent keypal who wants to correspond with students on a daily or weekly basis. This activity requires a sense of commitment from another keypal to keep the conversation going for a period of time. This is something out of class which cannot be controlled. To me, it is unlikely that such a devoted chat partner could be found for every student.

Participants' views on practising writing through chat were diverse. Some teachers pointed out that this activity may not be suitable as the nature of the language input, in their view, was uncertain. Students, again in their view, may not always receive quality language input from chatting. Furthermore, some teachers were concerned about the practical use of this instruction: it was difficult to find keypals who were always available for students at any time. However, some teachers were aware of the importance of communicative language experiences that students received when they used CMC such as chat or online forum threads. This is in accordance with research suggesting that students' language fluency can be promoted in an online mode especially through CMC in which negotiation of meaning is highly focused on (Tudini, 2003; Smith, 2003). Nevertheless, these participating teachers were likely to evaluate

the practicality and possibility of integrating this tool to fit students' backgrounds and lesson objectives as quite low.

### **5.5.3 Cognitive scenario 3: Chanchai**

Group work and online searching were key activities in this writing classroom scenario. Students were given the opportunity to work in groups and contribute to the assignment. They learned the process of writing an essay in groups before they worked together to produce group essays. The teacher encouraged students to do online research and gather information as much as they could before writing an essay.

Students in Chanchai's writing class do a lot of online research. They are assigned to work in groups to write two discipline-related essays which are going to be published on the class website. They exchange essays among the groups, give comments, and submit them to the teacher. At the end of the course, each student has to write an academic essay and email it to the teacher.

Participants generally expressed positive attitudes towards this form of instruction. They agreed that group work was useful in this scenario as students spend time with peers and plan to write the essay by using online references and resources. Learning to write in a group would establish collaborative skills and create another intervention with the goal of developing individual skills:

Working in a group encourages the development of multiple skills and critical thinking. Students have to think about what they read online and how they use the information in their work.

Students are exposed to different kinds of writing discourse. They gain more knowledge from reading and studying online texts. They see many models of ideas and organisation, vocabulary use, and varieties of sentences. Later they would be able to use the language they have seen in online texts in their writing.

Thai students like to work in groups. Finally they know that they have to work on their own to fulfil individual requirements. However, students need a lot of guidance from teachers such as recommended resources and guiding

questions. In this lesson, exercises about how to look for answers using search engines should be included. The aims of the exercises are not getting the right answers but to offer students experience in digging for an answer in the online world.

In addition, the teachers realised that online searching tasks could introduce students to limitless language texts and various kinds of information. Students were exposed to a wide range of input for their writing by reading websites, watching video clips, and searching for relevant information. Some participants recognised the advantages of this activity.

The major problem for Thai students is the lack of ideas and information for writing. This is because many of them do not read newspapers or watch the news. Going through websites before writing exposes them to rich information. They would gain some ideas and input from reading the websites and developing their own writing. Posting essays on websites implies that they have to be careful about their language. This will automatically shape their language product. Students are likely to have motivation to produce writing for some real-life readers.

I think online searching skills are very useful for university students. This form of instruction allows students to practise reading and writing extensively and objectively at many levels and in various fields of study.

Nevertheless, there were concerns about students' ability to evaluate and integrate online information into their work.

That students exchange essays among groups and give comments is not enough to improve their writing skills since their knowledge is not very different. Sometimes they cannot see any error or mistakes in their friends' work, and they might say something wrong and make their friend misunderstand the concepts.

Some lecturers expressed concern about plagiarism which is one of the major problems among EFL learners when using online resources to produce their work. They suggested that teachers should plan the task to avoid this behaviour. Students should be instructed as to how to synthesise the information and how to use citations in their writing.

Students just take the material from websites. Again they cannot incorporate the materials into their own writing. Copying is too easy to resist. The processes of getting online information into the class should be monitored. Students need supervision in how to use online material for their own work.

From participants' perspectives, using technology according to the above cognitive scenarios can support students' learning to write in many ways. Students can exchange their writing electronically and learn from each other. This activity also provided students with access to authentic language partners and real-life language use, supporting students with potentially an increase in student confidence and more time on language processing. In addition, cognitive technology use in writing classrooms provides extensive language input and authentic resources for students and facilitates collaborative tasks. The advantages of cognitive technology use in writing instruction were recognised among participants in two main areas. First, access to authentic language resources is essential to language learning. This is congruent with an earlier study by Lai and Zhao (2005) who state that technology in the classroom not only exposes learners to a large variety of target language input, but also increases possibilities for learners to process and integrate the input. Second, it also promoted collaborative learning as students were encouraged to learn from working together. Collaborative or project-based work allows students to co-construct knowledge and interact while accomplishing the task (Barker, 2003; Relan & Gillani, 1997). Although some participants expressed concern about plagiarism issues when students use online resources, many of them recognised the benefits of cognitive technology use compared to what might have been previously available in non-technology teaching.

## **5.6 Perspectives on sociocognitive scenarios**

In sociocognitive perspectives, language learning is viewed as a process of meaning making through communication with others (Atkinson, 2002). According to Richards and Rodgers (2001), learners are expected to develop the ability to use the language through activities such as problem solving, writing for a purpose, and the negotiated discussion of topics. Language teaching focuses on developing students' ability to use language in social situations through various types of meaningful language tasks (Kern & Warschauer, 2005). In addition, writing instruction focuses not only on the development of individual strategies, but also on learning appropriate ways to communicate to particular audiences (Swales, 1990). Thus, technology is used to facilitate authentic interactions among learners as well as access to information and real-life audiences (Chun, 1994). Three scenarios were developed according to key concepts of sociocognitive perspectives, including the use of technology tools in different classroom activities.

### **5.6.1 Sociocognitive scenario 1: Wanwisa**

This instruction image was designed to highlight the use of asynchronous communication (e-mails) in a writing classroom. E-mails were exchanged between learners who shared some common background and experiences in language learning. Students were encouraged to use the language to communicate based on their own interests and experiences.

Wanwisa requires her students to find a keypal in other Thai universities. The pair exchange e-mails in English at least once a week sharing their experience of studying at the tertiary level, problems of learning English, and writing academic papers. The topics of the e-mail can be expanded to personal or course-related matters depending on the pair's interests.

E-mail is one of the most prevalent forms of communication nowadays, and has long been regarded as an important tool in foreign language instruction (Gonglewski et al., 2001; González-Bueno & Pérez, 2000; Warschauer, 1996). Since it provides a venue for out-of- class communication, students and teachers can keep in touch and carry out a range of activities with e-mail exchanges such as giving feedback, submitting assignments, and sharing ideas about language learning. Participants who agreed with the benefits of the e-mail exchange activity in this scenario commented:

Finding a keypal who shares the same experiences may help them to think about their own context and themselves. Asynchronous modes give students more time to polish their language before sending it. Using e-mails is one of the most common business and personal communication. Students will gain positive experiences as well as developing relationships with students from other universities.

The time frame, once a week, is possible for students to respond to an e-mail. Besides, students can choose the topic of the e-mail discussion, which will motivate them to write.

This writing activity is very interesting. Students would benefit from the correspondence as they share some common background in tertiary study. They may feel more comfortable to communicate with NNS. They would also learn about each other's study contexts.

Although many teachers realised that e-mail literacy is essential for students in the Information age, they expressed concerns about students' motivation to engage in the task. Some participants thought that students would find this activity uninteresting because of the controlled nature of the task. As one teacher commented:

If the keypals were Thais, students wouldn't be bothered using English in their e-mails. It's unlikely for them to do this because sending mobile or online messages in Thai is more convenient. Furthermore, the topic of e-mail exchange, to talk about study life, may not be interesting for them. It's not interesting for them to talk about a controlled topic. It sounds like writing to pen pals in traditional classrooms.

Some participants thought that it would be difficult to find a person who can correspond with students in English. In addition, one participant thought that e-mail exchanges between NNS may not benefit students' writing development.

I think there will be problems in managing this e-mail task. Students may not be able to find a promising keypal who will keep exchanging e-mails in English with them for several weeks.

This may not work as it is an exchange between Thai students. This activity would be more interesting if the e-mail partner is a native speaker.

For the participants, Thai students in general did not usually write e-mails to each other in English. Although pairing up students from different institutions would be organised, participants thought that students may find it irrelevant to their real life communicative purposes. This e-mail activity would be more effective in this context if students were able to exchange with a NS or more competent language user. Although e-mail was also used among NNS in business correspondence, these teachers perceived that exchanging e-mails with native speakers would be more useful for students' writing development and language learning. Moreover, they argued that students' motivation to use a technology tool in a language task needed to be considered. If students understood the benefits of the activity, they would be more willing to participate.

### **5.6.2 Sociognitive scenario 2: Jintana**

Students' interests and participation were highlighted in this classroom. All of the topics for writing were from their own interests. Students were assigned to go online and find information to discuss on the web forum. The web forum would serve as a means of communication and for hosting writing products. At the end of the lesson, the teacher evaluated each student's performance from their reports and how they contributed in the web discussion.

There is no course book for Jintana's writing class. Fortnightly, she meets her students and has them vote for the most interesting local and global issues. Then they go to the computer lab to search for information and discuss online in a public forum with classmates and global users. Each student has to email the teacher about what they have contributed to the web forum.

Although this activity was designed to promote students' participation and interactions which supported student-centred approaches in language learning, participants found the tasks were challenging. The majority of participants were doubtful about the lesson's

content, classroom instruction, and the teacher's role. Some participants questioned whether the teacher should have given any instruction or information prior to the activity since the activities required integrated skills and students' active participation. There were several dramatic comments made on this scenario which revealed teachers' beliefs in their current practices and teaching philosophy.

It's very difficult to incorporate this activity in our teaching. Problems arise when students vote for their favourite topics. Thai students are not likely to follow local and global issues. They may not have enough information about what's going on in the world. They need some background knowledge to make their points in the forum. Writing should start from a topic that they can write from their own idea and experiences, so they won't end up with plagiarism.

It is very hard for students to contribute to the web forum. Students' language ability is low and they may find it very hard to discuss in English in the forum. Many Thai students have limited English vocabulary and structures.

Writing in a forum requires critical thinking skills plus a good command of language. Students haven't practised thinking and writing critically. They may not yet be ready to contribute to online discussion.

It appeared that when facing a simulation of classroom activities such as open online discussion and a demand for students' autonomous learning, teachers unconsciously revealed underlying beliefs about challenges and issues in using technology in language instruction. Students' language ability, the teacher's role, and the course content were taken into consideration when these teachers expressed their thoughts about this scenario. Their concerns about this activity can also explain why the scenario received the lowest score in the questionnaire (see Table 5.1) which means that it was the least preferred instructional approach.

Nevertheless, some lecturers in this study acknowledged the positive attributes of students' participation and autonomy. They agreed that student-centred instruction

could promote students' motivation to learn and use the language in natural settings. However, this kind of activity should be done in an advanced class in which students have already received a lot of writing instruction and know how to navigate their own learning using web-based information.

These are good activities focusing on learners' interests. Especially when students have already learned how to write paragraphs and are competent enough to contribute on the forum. Online writing encourages students' autonomous language learning because it requires multiple skills to produce a text in a discussion forum.

The teacher uses multimedia materials and interactive instruction. Her instruction fosters critical and creative thinking skills. Learners are really involved in authentic situations. They also have opportunities to select various current topics to expand their vocabulary size. Furthermore, this teaching method supports students' searching skills and discussion.

Students can practise real-life communicative writing and exchange ideas with peers and teachers as well as international keypals. The teacher used the tool to serve students' learning needs and incorporate local issues in the classroom. This will be advantageous for a writing class.

According to the participants, students' language and thinking ability to do this task were key constraints. They expressed concern that students need a lot of time to practise before reaching this level of language use. Although they understood that autonomous learning was important for tertiary students, they stated several limitations in initiating student-centred activities in classrooms. From participants' comments, learner-centred tasks need to be well constructed and framed by clear learning objectives. They were uncertain what would happen when activities became more complicated as external participants and learning sources were incorporated. This phenomenon appears to be commonly found in ESL/EFL language teaching. According to Halliday (1985), the focus of language instruction is mainly for ideational function (i.e. use of language to express content) while the interpersonal function (i.e. use of language to maintain social relations) and the textual function (i.e. to create situationally relevant discourse) have

largely been neglected. Firkins, Forey, and Sengupta (2007) also support this, suggesting that teachers still need to focus on helping EFL students to improve their writing in terms of language structures and text organisation as fundamental skills. This may explain why these participants did not perceive students' active participation, authentic language communication, and exploratory learning as being related to technology use in language teaching.

### **5.6.3 Sociognitive scenario 3: Arunya**

Central to this scenario was enhancing writing instruction with purposeful writing tasks. Students were offered the opportunity to make contact with peers, teachers, and outside readers; they were responsible for providing content on their web pages with related multimedia and links, and for interacting with each other. Interaction between learners as both writers and audiences was focused on in this scenario.

In Arunya's class, each student is required to have a web page to post weekly written journals, essays, or other class assignments. Students can design their web page layout including videos, images, and external links. At the end of the course, students evaluate their own web writing performance and have their classmates, the teacher, and real-life web readers' assessments as well.

Not only did students write on their web pages, they were also responsible for reading and giving feedback to their peers. The teacher was regarded as both a supervisor of the activity and an audience. Students were given the freedom to maximise writing experiences and develop autonomous learning in this form of instruction.

Two participants who had already integrated this activity into their teaching were supportive about the effectiveness of this instruction. For them, this scenario was viewed as an ideal image of using technology to enhance writing activity in EFL contexts:

Students nowadays can create their own web blogs and provide multimedia content. I agree with the idea of letting students perform their template design skills. I selected this scenario as my most favourite. Students will be interested in these activities. The delivery method just fits with the current trend of social network site phenomena.

Students will definitely enjoy this lesson because they can add whatever they like on their web pages. Using web pages may encourage students' motivation in learning and using the language. Students can embed many kinds of information in their writing and receive readers' comments. This way of evaluating their web-based writing is interesting as many people can share and co-evaluate.

Nevertheless, the technology used in this scenario was also considered the most complicated among the nine scenarios. Students' computer literacy as well as their English writing ability was required at a high level in this case. It also demanded teachers' technology expertise in creating and using a web page in writing instruction. Several expressions about challenges were reported by participants:

This may not fit into everyday teaching and learning. Students do not always have access to computers and the Internet. Teachers may not have time to read all the students' web pages if it is a large class (which it always is), let alone give comments. Teachers have got a lot of things to do such as teaching preparation and research hours.

Creating web pages is very demanding for the teacher and students. This is a time-consuming activity. In addition, students' language is not yet good enough to publish their writing or communicate authentically. This may lead to plagiarism more than promoting learning. However, it's possible to ask students to create a group web page. English majors might be able to write on their web pages. This is another possibility.

It's a complicated and time-consuming activity even though this would support students' creativity and freedom to use their knowledge and language. There would be more work for the teacher in using this activity.

Students would need to already know how to create a webpage on their own. I'm not sure if our students are able to do so. Some students might be able to but I assume that the majority of students are not really into creating their web pages or blogs especially in English. This requires many skills such as embedding multimedia content. It may take a long time to make sure that

everybody can maintain their web pages. In addition, students may be distracted with some other multimedia features. They may not focus on developing their writing that much. Writing skills in this class may not be practised or developed enough.

Generally, high-level uses of technology demand high-level skills, autonomy, and exploratory learning; they also tend to be associated with student-centred, or constructivist, practices (Becker, 1994; Becker & Riel, 1999). In addition, more people are involved and multiple skills are required. Since there are more aspects brought into a classroom, these teachers may feel they have less control over some content, activities, and interaction when the language learning is mediated by technology. As noted by Nespor (1987), teachers will rely on their beliefs when they are confronted with “ill-defined and deeply entangled situations” (p. 324).

Therefore, when this sociocognitive scenario was presented, participants seemed restrained in supporting it because they perceived complicated aspects of the activities and instruction. These may also have caused participants to rate all the sociocognitive scenarios as less relevant to their current classroom practices (see Figure 5.6). Participating teachers seemed to acknowledge that integrating technology in their writing classroom would provide students with more language practice, interaction, experiences and learning resources. However, students’ low language ability and communicative competence were perceived as the main barriers in adopting high-level web-based activities. When these teachers engaged their thinking about technology use in writing instruction, they expressed concern about several elements of the classroom such as students’ ability, time management, and facilities rather than the level of technology use itself. They implicitly showed some evidence that they did not totally turn their back on integrative or constructivist technology uses. At the same time, they were possibly evaluating the factors in the classroom settings and endeavoured to adapt hypothetical features of the scenarios to serve the current needs of their instruction and students. Perhaps high-level use of technology will eventually take place in these contexts, if constraints such as students’ low language ability, lack of time, and unsupportive curriculum are relaxed.

## 5.7 Summary of participants' perspectives on web-based EFL writing instruction scenarios

Several issues regarding teachers' thinking about technology use in the EFL writing classroom emerged from participants' views on technology-enhanced classroom scenarios. It was found that participants' underlying beliefs about a typical use of technology in EFL writing instruction were highly influenced by their perceptions about how students should learn to write in English and how technology can support the learning process. In order to summarise the findings, Table 5.2 presents key perceptions of participants towards three categories of technology uses in EFL writing instruction.

Table 5.2

*A summary of participants' perspectives on web-based EFL writing scenarios*

Scenarios	Web-based Activities	Key Perceptions
<b>Structural:</b> Siripen, Tassanee, Pipat	<ul style="list-style-type: none"> <li>- Students practise grammar exercises and do online tests</li> <li>- Students practise writing texts in threaded discussion with model structures</li> <li>- Students do recommended language exercises and use online references</li> </ul>	<ul style="list-style-type: none"> <li>- Easy for teachers to adopt in reality</li> <li>- Focused on targeted forms of language</li> <li>- Serve essential needs for extensive language practice</li> <li>- May not be suitable for promoting meaningful language learning</li> </ul>
<b>Cognitive:</b> Rattana, Wanwisa, Chanchai	<ul style="list-style-type: none"> <li>- Students revise their own drafts and exchange online feedback with peers</li> <li>- Students practise writing through asynchronous communication with other language learners</li> <li>- Students write collaboratively and practise online research</li> </ul>	<ul style="list-style-type: none"> <li>- Facilitate collaborative work and essential learning skills</li> <li>- Provide access to authentic resources</li> <li>- Provide access to comprehensible input</li> <li>- Students may not have skills to integrate online information in their writing; problems about plagiarism</li> </ul>
<b>Socio-cognitive:</b> Wuthichai, Jintana, Arunya	<ul style="list-style-type: none"> <li>- Students use chat rooms to communicate with NS or NNS key pals</li> <li>- Students join public discussion forums and search for information on websites</li> <li>- Students create multimedia web-based content and interact with global readers</li> </ul>	<ul style="list-style-type: none"> <li>- Promote student-centred language learning</li> <li>- Enhance students' learning motivation</li> <li>- Support creative writing, autonomous learning and real-life interaction</li> <li>- Time-consuming and not suitable for beginners or low-intermediate students</li> </ul>

For the structural use of technology, participating teachers revealed that these activities appeared to fit best into their contexts as they offered teachers an instructional tool to provide students with essential skill practice, feedback, models, and instruction. Since many students were perceived by the participating teachers as needing extensive practice to improve language skills, the use of structured web-based activities can serve as language resources and scaffolds for students who need them. The cognitive uses of technology were also perceived as moderately relevant to participants' teaching contexts as technology was used to provide extensive language input and authentic resources for students. Participants agreed that it was important for students at this level to learn how to use technology tools to search for information as well as to develop individual and collaborative skills in producing academic texts. However, the sociocognitive uses were perceived as the least relevant to these participants' pedagogical perspectives. Participants were less positive with this form of web-based instruction as it relied heavily on student-generated content and activities and corresponding with online readers, which appeared to be time-consuming. Many participants thought that sociocognitive web-based writing instruction required a relatively high level of students' language proficiency and computer skills. Nevertheless, they understood that social writing tasks have the potential to promote learners' motivation, interactive writing, and purposeful language uses.

Participants' perspectives on the three kinds of technology uses in EFL writing classrooms corroborated what researchers have identified in the literature. According to Egbert (2008), effective integration of technology should begin with teachers evaluating learning objectives and classroom direction. In line with this, Chapelle (2001) stresses that the potential of language learning is the most critical criterion for using a CALL activity. It is also suggested that teachers should evaluate the appropriateness of using technology such as the level of difficulty of the language tasks, the connection between the technology-mediated task and real-life tasks, and the adequacy of resources including computer facilities and technical support. From the above criteria, teachers in this study have shown their concern about all the possibilities of using technology in their writing instruction. Their thinking involved many aspects of instruction, especially student characteristics and the nature of language learning in a particular context. Their responses also reflected how they established connections between their existing facilities and what students really want to improve in their writing ability and learning

opportunities. For participating teachers, a cutting-edge or high-level technology application did not always offer the best tool to afford students appropriate language learning opportunities in their contexts. To some extent, perceptions towards technology use among these teachers were realistic. Although there was evidence of low-level use of technology among participants, the potential of high-level use was recognised by some teachers who looked forward to effective technology integration in tertiary language education. Teachers did not involve themselves in high-level technology use, not because they were not capable of such use of technology but rather because they acknowledged and confronted several unsupportive contextual aspects.

## **5.8 Summary**

Participants in this study expressed their views on writing instruction by making associations between several different classroom aspects. The findings from the questionnaire responses and semi-structured interviews reveal what Thai tertiary EFL teachers in this study think about writing instruction and the integration of technology in writing classrooms. Participating teachers' thoughts indicate that they would like to see their students improve accuracy as well as develop ideas through writing practice. Therefore, if technologies were integrated, they could be used to enhance the students' practice in sentence skills, fluency, and idea construction. Technology use in tertiary EFL writing instruction was regarded as providing unlimited authentic resources and points of reference for students. Teachers' views on web-based instruction varied greatly among individuals. They were likely to accept technology into their teaching approaches if it had proven benefits to students and fitted into classroom realities. Participating teachers also realised that technology had the potential to enhance their instruction and empower students' learning; however, they perceived a number of constraints embedded in the process of technology integration in their contexts. The next chapter will present the findings from unstructured interviews with three key informants who were teachers using technology in their language classrooms. Using a sociocultural lens, I present the data from different angles such as participant observations, research journals, participants' reflections on themselves as technology-oriented language teachers, and the role of computer and Internet technology in particular tertiary institutions.



## **CHAPTER SIX**

# **TECHNOLOGY-MEDIATED LANGUAGE INSTRUCTION IN THREE THAI TERTIARY SETTINGS**

This chapter provides findings from observations and unstructured interviews with three EFL technology-using teachers from three different universities. Participants' teaching backgrounds and experiences in using technology are presented. In order to gain insights into their subjective perspectives about technology integration in a particular context, teachers' maxims are discussed in relation to their technology use in language instruction. Drawing on sociocultural perspectives, contextual elements of technology adoption in the language instruction of each teacher are also addressed. The areas of teachers' thinking and overarching instructional principles are discussed to explain what informs their technology use in particular tertiary EFL contexts.

### **6.1 General background**

From seven semi-structured interview participants, three teachers agreed to participate in unstructured interviews to share their personal experiences and perspectives in using technology in real-life language teaching. The three lecturers, two females and one male, worked in different tertiary institutions in different parts of Thailand, lower-north, north-eastern, and central. Pseudonyms were used to protect the participants' identity. The word "Ajarn" which means "teacher or lecturer" in Thai was added in front of the pseudonyms in line with how Thais address a teacher or lecturer. Each lecturer's teaching background, educational beliefs, and reflections regarding technology-enhanced language instruction are discussed in the following sections. An overview of the three lecturers' background and technology use in EFL instruction is provided in Table 6.1.

Table 6.1

*Key teachers' background and technology uses in EFL instruction*

<b>General Background</b>	<b>Ajarn Panadda (F)</b>	<b>Ajarn Suwit (M)</b>	<b>Ajarn Anchalee (F)</b>
Teaching experience	More than 25 years	7 years	15 years
Tools	<ul style="list-style-type: none"> <li>- Desktop programs</li> <li>- Teacher website</li> <li>- Search engines</li> <li>- Web forum</li> <li>- E-mails</li> <li>- LMS (Moodle)</li> </ul>	<ul style="list-style-type: none"> <li>- Desktop programs</li> <li>- Language learning software, CD-Roms</li> <li>- Search engines</li> <li>- Web forum</li> <li>- E-mails</li> <li>- LMS (Moodle)</li> </ul>	<ul style="list-style-type: none"> <li>- Desktop programs</li> <li>- Search engines</li> <li>- Students' weblogs</li> <li>- E-mails</li> </ul>
Courses	<ul style="list-style-type: none"> <li>- Computer Literacy for language learning</li> <li>- English for Master Level Studies</li> </ul>	<ul style="list-style-type: none"> <li>- Fundamental English</li> <li>- Business English</li> </ul>	Academic Reading and Writing for English majors
Focused web-based instruction.	Moodle is used to support classroom instruction. Students use web-based applications to support language learning and to complete assigned tasks.	Students practise integrated skills and learn English from online resources and software in a language computer lab.	Students keep learning journals on their weblogs and use online resources in a project-based task.

Before I went to see each teacher, a number of e-mails were exchanged to begin to establish some rapport between myself as researcher and the teachers. Each teacher was asked to indicate a suitable time for me to visit them at their workplace and to conduct the interviews. At each institution, I spent one or two days observing the environment of the institution, the students, computer facilities, and information related to English language teaching. The three lecturers were interviewed about their teaching experiences and how they adopted technology in language teaching, and the interviews were all conducted in Thai in order to allow the teachers to express their thoughts in their own native tongue.

Basically, it was found that although their experiences and working contexts were different, the three lecturers shared some common characteristics. First, they learned to use computer and Internet technologies by themselves using guidebooks, attending workshops, and asking colleagues. Second, their classrooms were all in blended format which was a combination of web-based and face-to-face instruction. However, evident differences were found among these teachers. First, the courses that they taught ranged from fundamental English to English for academic and specific purposes. Second, each teacher received different kinds and levels of technology and administrative support. Among the three key participants, Ajarn Suwit resided in the most technology-rich environment. At his institution, there was a large information-multimedia lab specially set up for language learning with more than 80 networked computers. Ajarn Panadda was able to use a neighbouring department's computer lab for some of her language courses that required technology-assisted instruction. At Ajarn Anchalee's university, there were a limited number of networked computers for students. Thus, she asked students to work in groups when she used web-based instruction. In addition, Ajarn Anchalee was the only one who did not use an LMS in her teaching because the system was not available at her institution.

The following sections present how the three lecturers use technology in their language teaching, their rationales and understanding about their practices in web-based language instruction, and the related maxims that characterise their teaching.

## **6.2 Ajarn Panadda**

Among the three teachers, Ajarn Panadda was the most experienced with more than 25 years of teaching English at the tertiary level. Her work place is a rural public university located in the lower region of the north of Thailand with a capacity of 20,000 fulltime students. Basically, Ajarn Panadda described herself as a technology-minded person who always wanted to learn about new technologies and any educational innovation. Although at the beginning of her technology learning, opportunities for training or workshop for ICT were limited, she learned by reading, experimenting, and seeking help from resource people. Ajarn Panadda reported that her interest in and use of technology happened before the university provided personal computers for lecturers.

As new technologies have evolved and more networked computers have been made available, her language teaching has become more integrated with upcoming technologies from e-mails to LMS. Ajarn Panadda has her own website which includes links to selected EFL learning websites, her students' web pages or blogs, and her LMS pages. At the time of the data collection, the courses she was teaching were Computer Literacy for Language Learning for English major students and English for Postgraduates for non-English major students.

### **6.2.1 Technology use in language instruction**

Although she had two classes that semester, she only assigned web-based language projects to the English majors' Computer Literacy for Language Learning class. The reason she gave was that using technology tools demands sufficient language ability to understand the content and features of web-based tools. In a non-English major class, students were assigned to do language exercises on EFL learning websites while English-major students were asked to work on more integrated projects and content. In her Computer Literacy for Language Learning class, she gave lectures as well as using Moodle, a free web-based LMS, in her classroom teaching. The LMS was used in a variety of instructional tasks including: storing content materials, keeping records of students' activities, hosting the posting of messages and class activities, announcing assignment feedback and evaluation, and providing links to supplementary resources. As she taught in a computer lab, students used the class Moodle page for their virtual course materials. She suggested to her students that they regularly log into the Moodle system after the class meeting time to receive information and keep up with assignments. E-mail was used as a means of communication between her and the students and for delivering assignments.

She introduced the students to using technology by starting with basic skills such as information searching on the Internet (an example of class materials for doing this can be seen in Appendix E). She talked about those web-based activities and her rationale for having students using the tool in language learning.

For example, the first web-based task that I give them is using a search engine (Google) to find some specific answers. This is the most basic but useful online skill for language learners. These days, it is very easy to find

information or anything that we want to know from the Internet. I want my students to know about this benefit of technology. I hope they will learn from this activity and apply the skill in other subjects.

She hoped that this lesson would make students realise how technology could help them to search for all kinds of information. This activity was used at the beginning of her class to evaluate students' information-searching skills as well as to prepare students for the next web-based activities (e.g. the PowerPoint story project, see below) which required a lot of information searching and synthesising of data.

### ***6.2.1.1 The PowerPoint story project***

According to the course objectives, students are expected to learn to use technology such as search engines, desktop programs, weblogs, and e-books in their language learning. In this class, there were six English major Master's students. The classroom was a computer lab which allowed each student to use a networked computer. The observed activity was using PowerPoint for presentations embedded with photos, texts, and sound clips. The expected final product was a presentation of story slides with narration and background music. Before the class, I asked Ajarn Panadda to explain the reasons behind this web-based task, and she replied:

PowerPoint skills are very important for students at this level. Students are required to give effective oral presentations with PowerPoint for individual and group assignments in almost every subject. Although many students already know about this program, they may not have used it in English language presentation. This story project is not only fun to do but also useful to develop their academic presentation skills.

I attended her Computer Literacy for Language Learning class twice as a participating observer. Each session was a 3-hour time shot. The following observation notes give details about the classroom ambience and the teacher's and students' behaviours.

...The class today was in a computer lab. After Ajarn Panadda and the students set up the computers and the projector, she started talking about today's lesson and its objectives and asked students to share their experiences and ideas about using the Microsoft PowerPoint program. After that students logged into the

Moodle page and opened the PowerPoint program and followed her instructions. She told her students that each of them was expected to create a story slide with narration and background music for 10-12 year old children... Then she spent almost one hour demonstrating program features such as how to set the timing of each slide to match the narration clip, how to insert photos into the slides, and how to download sound clips from websites. Students were asked to use features such as changing templates and colours...There were several times when she had to stop the talk and answer troubleshooting questions, as students need to complete the tasks step by step. Since there were several steps and links to follow, students had to pay close attention to her directions or they might have fallen behind the group...

(Observation 1)

...There was one student who could not find a tool for changing the slide animation effects. He turned to a friend and asked for help. The pair got together and started talking and seeking help from other students. Ajarn Panadda noticed them and asked them to look up the tutorial. She also asked the whole class to find the solution. A few minutes later, a student found the solution and explained how to fix the problem to the class...

(Observation 2)

After the observation, Ajarn Panadda was asked to talk about this lesson and the rationale behind the activities. She explained that the presentation skills would benefit her students in using the program in language teaching and learning. For her, it was also important to explicitly raise students' awareness about the language used in a slide presentation. Students were supposed to provide content and language that were suitable for the target audiences. She also noted that teaching with technology always came with technical problems; therefore, she pointed this out to her students and said she would like them to solve basic technical problems by themselves. She hoped that students would acknowledge the advantages of the lesson and looked forward to seeing students using these skills to enhance their presentations in other language courses and in their future careers.

## **6.2.2 Maxims in technology-mediated language teaching: Ajarn**

### **Panadda**

From the observations and conversations with Ajarn Panadda, her personal beliefs emerged as she used technology and talked about her use of technology (e.g. LMS, search engines, PowerPoint). Examples of her personal views about her technology-mediated instruction are presented in the following extracts from the interview.

For me, the Internet is a great tool for my language teaching. These days, I have stopped going to the library. I've got used to preparing my teaching materials on the computer and searching for teaching and learning materials on the Internet rather than looking for them in books.

In this extract, she expressed her view that the Internet is the best form of assistance in her teaching. She thought that it was more convenient for her to go online in order to get up-to-date materials for her class. Therefore, her teaching and instructional planning is highly connected with using online materials and resources available online. In addition, she incorporated LMS in her classroom teaching as a virtual classroom organiser for presenting course materials, providing supplementary sources, and helping classroom administration and management. As she comments:

On the Moodle page, I put some useful learning resources and tools for students. The exercises are structured under specific topics according to the course outline and students' language level. I told my students that it is important for them to keep up with the class activities on the Moodle page which is used as the centre of activities and assignments.

She told her students that the class Moodle page was important for their learning as it stored everything about the class including content, activities, and assignments. In her face-to-face instruction, the Moodle page was used as virtual classroom textbook. The web-based activities were also used to motivate her students and keep them engaged in the lesson.

When my students log into the class LMS page, they will see links to references and resources related to the course content. From this page, they

can start browsing lesson materials, exercises, and reference websites. I sometimes use an online quiz at the beginning of the class to keep students alert and give them general ideas about the focused activities. Students have to be on time in my class, or they will miss the quiz.

In addition, the Moodle page was used to facilitate her teaching in both face-to-face and virtual instruction. Students were offered resources for lesson review and doing further exercises. After class time, it was used to keep a record of students' individual online learning activities and as a means of communication between the teacher and students.

Students can submit the assignment by either sending e-mails or posting on the forum. The frequency of students' online activities is recorded and reported to me, so I know how long each student spends doing online exercises and how often they visit the class page.

From the above, it is evident that one of Ajarn Panadda's key principles in using technology is to organise lessons, instructional plans, activities and assignments. This particular technology appears as the core of her instruction as it empowers her teaching and facilitates students' communication with the teacher. The maxim that she operates from can be articulated as follows:

*The Maxim of Teacher Support: Use technology to prepare resources and facilitate management of student learning*

This maxim influences her use of computer and technology applications in classroom teaching. Technology in her class is used in a way that helps the teacher in her tasks, enhances classroom instruction, and organises assignments and activities. Students also know that they are expected to use the Moodle page and related technologies as part of their learning process. Moreover, Ajarn Panadda would like her students to utilise technology in their language learning. She thought that her technology use may inspire her students to adopt technology in their future career. As she expressed it:

Many online language resources are well-designed and appropriate for EFL learners. I always encourage students to do exercises and study from online

resources in addition to classroom learning. If students know how to use technology to enhance language learning, they may transfer their experiences and knowledge to classroom teaching and professional learning, as many of them want to be teachers.

Ajarn Panadda expressed her sense of responsibility for giving student teachers essential knowledge about technology in language teaching. Therefore, she carefully selected online materials and structured them according to the course objectives. At the beginning of each lesson, she discussed the aims and potential advantages of technology use with students. This implies that she wants her students to understand and realise the advantages of technology in language learning and teaching in the way she does. These behaviours and expressed beliefs, it is suggested, result from another of her working maxims:

*The Maxim of Relevance: Use technology in ways that facilitate current and future professional learning*

This maxim has guided Ajarn Panadda to design content and forms of instruction that allow students to observe her using technology, to use technology in their own language learning, and to learn about the potential advantages which may affect their current and future professional development. She uses technology from the view of a language teacher who foresees that her students need these technology-assisted teaching skills for their ongoing study and future career; she always pays attention to the structure of the online content and exercises as she wants to show how a good virtual classroom should be operated and what technology-mediated learning experiences can afford learners.

Moreover, her maxims also influence her role in the classroom as a language teacher and teacher educator who not only teaches the subject but also shows how to deliver it in a classroom setting. From observations and interviews, it was evident that she focused on modelling for her students choosing appropriate materials and using an LMS to organise classroom activities and assignments. She perceived herself not only as a language teacher but as a teacher mentor for using technology in language teaching and learning. This perception was reflected in her report that it was her responsibility to provide students with language learning resources and encourage them to adopt online

technology for the sake of their learning and future careers. This finding has support from White and Ding (2009) who suggest that teachers' vision about their identity and self in e-language teaching is associated with their envisioning what it means to be a language teacher in a new domain of teaching. In other words, the way this teacher perceived herself in an online teaching medium informed her technology practice and her role in facilitating students' developing expertise in blended language learning.

### **6.2.3 Sociocultural aspects of Ajarn Panadda's technology adoption**

Ajarn Panadda also talked about what supported her technology use at this institution. She reported that she received strong administrative support from the head of the school and administrators. Although there was no computer lab for language students, the school had its own server which contributed to the stability of the e-learning system and web-based courses.

The head of school and administrators have been very supportive. We all know that there is an increasing need for e-learning and web-based instruction at our institution. That is why we have our own server for e-learning which is very convenient for me and the faculty. The e-learning system [Moodle] that we use is not so complicated and does not require high-level skills of computer programming. Teachers are given full access to modify the online content at any time they want with no need of assistance from computer specialists. Anyway, whenever I encounter problems, there are always colleagues and technology people to help me out.

Two key sociocultural aspects that have emerged in this teacher's context are administrative support and the professional standing of Ajarn Panadda. She expressed her gratitude that her technology use in teaching had been well supported since the beginning. Although finding a computer lab for a language classroom was difficult, she managed to receive permission to use other schools' computer labs and there were always people to help when problems in using technology arose. Critically, Ajarn Panadda is regarded as a highly respected senior lecturer because of the extent of her experience of teaching and administrative work. Students and colleagues value her expertise and knowledge; therefore, they are very supportive of her initiatives and cooperate fully with her requests and courses of action. Such respect for seniority and

ready co-operation with more experienced staff is central to Thai culture and operates strongly in this case.

It is also true that teachers at this institution have a high level of freedom to design their own instruction. According to Ajarn Panadda, although the teachers share course descriptions and outlines, they are able to adjust and modify them to fit with their classroom conditions and students. Moreover, the teachers are granted access to e-learning systems and are able to design their own web-based instruction. The system, Moodle, is easy to operate and does not require high-level programming skills. Although web-based teaching was not mandatory, much substantial support in the form of budgetary and professional rewards were given to teachers who created a complete e-learning course. These conditions can be seen as personal affordances for teachers using technology in this particular context.

Finally, and most importantly, Ajarn Panadda's technology adoption is motivated by her own personal interest in technology. She continues integrating technology into her instruction as she realises that her use of technology may benefit students in their language learning and careers. Therefore, the integration of technology in language instruction in this case is sustained by the teacher's expertise, commitment to technology, the flexible environment, and administrative support, as well as personal rewards.

### **6.3 Ajarn Suwit**

Ajarn Suwit works at a university in north-eastern Thailand. The university offers a wide range of undergraduate and postgraduate courses in science and engineering, social science, agricultural technology, and medical science. The student enrolment is 5,000-5,500 each year. The university's academic year is divided into three terms, each lasting 13 weeks. Undergraduate students are required to complete 12 credits or four courses of English during their four year programs. The English department is responsible for providing English courses from English 1 to English 5 focusing on a range of content from general to professional or business English.

At the time of data collection, Ajarn Suwit was responsible for the higher-level English courses which focused on business English and English for professional purposes. Apart from his contact classes, Ajarn Suwit was also in charge of the English language learning lab which provided computers and multimedia materials for English and other foreign languages. He worked in the lab all afternoon after contact classes in the morning. In the lab, there were collections of language learning software, English sound-track DVDs, music CDs, and listening practice CDs for students. I visited the language lab and witnessed its atmosphere. Seeing the language lab filled with students, I was so impressed that I recorded the event in my research journal:

...The language lab was unbelievably crowded with students. At first I couldn't find Ajarn Suwit as he was surrounded by students as he was trying to explain the procedures of language lab activities. There was a sign 'Let's speak English' on the bulletin board. I actually heard students talking to each other in English. Students were sitting in groups, talking, and some were reading. Some were using computers and doing assignments. Some were watching DVDs and discussing the movie. Senior students were assisting new student users to use the programs and materials...

For me, seeing a crowd of at least 80 students in the language lab was a surprise. Ajarn Suwit reported he was always busy in the language lab helping students using materials and programs, as well as answering questions about language learning. He was not surprised by this high demand for technology use in language learning as the students at this institution were required to be able to integrate technology into all kinds of learning.

### **6.3.1 Technology use in language instruction**

I met Ajarn Suwit at the language lab and started the conversation and interviews. He explained that in addition to the class contact time, his students were required to use the language lab for practising English at least two hours a week. In his opinion, practising language online is advantageous for students' language learning for the following reasons:

Because each class has only three hours per week and the number of students is more than 30. Online activities are used to support classroom instruction as students will have more opportunities and time to practise the

language. They also have more channels to communicate in English and be exposed to the language. These are major benefits of having students attend the language lab.

Then he introduced me to the computer section of the language lab and demonstrated how to use online materials on the school's LMS page and external links. As he explained:

In our language lab, students are offered different language resources and online materials. When logged into each course page, students can access the content and materials including submitting their assignments and seeing their friends' work. They can browse the programs and materials recommended by the teachers including doing online quizzes. Each computer is installed with interactive programs which provide individual language practice such as business conversation and vocabulary learning. These are useful materials that are linked to their course content and objectives.

As he reported, the language lab was used as a learning centre which offered students more options for language learning and practice. Students can spend time in their lab looking for materials and exercises that they want to work on. Furthermore, students who need help can ask him personally, send him e-mails, or post questions on the web forum. Ajarn Suwit reported that students sometimes gave feedback about language exercises and assignments through e-mails and recommended other language resources that they found interesting. Therefore, online materials were updated each semester according to the feedback from students.

### **6.3.2 Maxims in technology-mediated language teaching: Ajarn Suwit**

For Ajarn Suwit, his rationale for technology use in language learning is linked to students' current needs and opportunities that technology has to offer. He knows that it is necessary for students to utilise technology tools in English language learning. Therefore, giving students the opportunity to practise language online promotes the idea of integrating technology into everyday language learning.

Nowadays, learning English language is becoming more convenient and effective with help from Information Technology. There are various multimedia resources such as video clips and animated content that attract students' attention. These multimedia and interactive features of technology make English language learning more enjoyable and comprehensible. Including technology in English lessons is always interesting for students.

This suggests that Ajarn Suwit sees the affective dimensions of technology which facilitate a more relaxed and non-threatening environment for language learning. In his view, students should be encouraged to use the language and have positive attitudes toward learning:

In online language tasks and text exchanges, I usually allow my students to make minor language mistakes. I want them to develop their confidence in using English in daily life with peers and teachers. Online language learning is a safe place for students to make mistakes and learn from feedback. Help is always available to them.

When students come to the language lab, they know that this is the only place for them to practise English. As we are in a provincial area, it is quite difficult to find native speakers or have authentic communicative experiences in English. The language lab provides a community of learning for students in which they can choose the materials they like and learn with peers and teachers. They can learn to improve their language at their pace, with less risk and low cost.

His accounts above indicate that he attempts to promote students' language learning by making them feel comfortable in using English and allowing them to use the language freely without worrying about making mistakes. This perspective may have facilitated students' interest in using the language online and reduced the anxiety about language learning among students. His perspectives about learning with technology can be seen to be based on this maxim:

*The Maxim of Affect: Create a non-threatening atmosphere in language learning*

In this case, the language lab is not only a library of multimedia language exercises and materials but also ‘a comfort zone’ for learning English. Ajarn Suwit saw this opportunity and used the available facilities to encourage and motivate students to learn English in a warm atmosphere. As I observed the language lab, the evidently friendly and convenient characteristics of the lab were positive situational features that could motivate the students to study, use the materials, and seek help from teachers and senior students.

In addition, Ajarn Suwit commented that providing sufficient facilities and venues is not enough to achieve effective online instruction. Although the students are encouraged to navigate their learning with technology, they still need teachers’ guidance and feedback. As he said:

In the computer lab, students always ask for help about language and technology problems. I always receive e-mails and posts from students asking for help at any hour of the day. Teachers who want to use technology in their teaching also may have to spend more time responding to students’ question, preparing web-based activities and thinking carefully about what online resources should be included in the lessons. There may be extra work for teachers at the beginning but all the resources and database that we have built so far can be used in the future.

He acknowledges that many students require close supervision and guidance from their actual language teachers, and argues technology-enhanced language learning does not undermine the teachers’ role at all. On the contrary, the presence of the teacher in online learning is very important. He also realises that teachers have to devote more time to teaching with technology. It seems that his technology use and overarching perspectives are influenced by:

*The Maxim of Scaffolding: Provide students with help in using technology in language learning*

According to Ajarn Suwit, language teachers in online learning environments have to be active in encouraging students to explore the language and develop positive experiences and attitudes towards technology-assisted language learning. Giving students cutting-edge technology does not mean that it takes the load off the teacher; teachers are required to supervise and facilitate students' online experiences and create resources which can be useful for online instructional development.

Furthermore, Ajarn Suwit reported activities and perspectives in technology-mediated teaching show that he possessed the skills required for online language teaching according to Hampel and Stickler (2005), who suggest that such teachers should have a range of abilities beyond basic computer skills, from adapting the materials, making use of multimodality of devices, encouraging learning communities and socialisation, to developing their own style of online teaching. Not only did Ajarn Suwit possess necessary skills for technology use in his particular educational setting, he also understood that teachers were necessary for technology-mediated language learning. In particular, he knew that his students needed support and guidance in using technology in their learning although they were competent in using computers and the Internet applications. Thus, he made himself available for students and adopted the role of a language learning facilitator who encouraged students to make use of the provided facilities and interactive and communicative tools to enhance their language learning.

### **6.3.3 Sociocultural aspects of Ajarn Suwit's technology adoption**

From the site observation and interview, it was evident that Ajarn Suwit and his students are in a technology-rich environment which supports the integration of technology in language courses. Moreover, he realised that it is important to make English language learning a part of students' lives. As students are already encouraged to use technology in their tertiary learning, English language instruction should be aligned to these opportunities:

Many students have their own PCs and laptops. Basically, most of the students are fascinated by the multimodality of information technology. A lot of students are active in online social activities. They are motivated to learn with tools that they already use in daily lives. It has already been a part of their lives.

He added that students at this institution were proficient in learning with technology, and it was a characteristic which enabled a student-oriented learning environment in language learning with technology. Therefore, the way technology is used in this context is consistent with students' characteristics and needs. Furthermore, all disciplines at this institution support the practice of students using technology in their study. He said that he was very lucky to work in this institution. He was not sure if he would be able to infuse technology into language teaching as much as this if he was in another situation. As he stated:

Using technology in teaching is very convenient at this institution. The people and facilities are ready for web-based language learning and teaching. The language lab receives strong institutional support and funding for material supplies and computer maintenance. It would be different, even more difficult to use technology, if I was working in a university which could not provide sufficient facilities and strong support in teaching with technology.

In this case, Ajarn Suwit understands that being in a technology oriented institution encourages his technology use in language teaching. Moreover, the English division is autonomous in providing language learning support and creating curricula for students of sciences, engineering, and technology. Ajarn Suwit reported that he and his colleagues also took part in making decisions about what language learning programs or systems should be used in the lab. This kind of teacher collaboration and participation in organising the materials and learning system in the language lab may have contributed to the design of the language lab to serve students' learning and teachers' instructional needs, as well as the curriculum goals of this institution.

Therefore, it is clear in this case that having ready access to technology and a supportive environment facilitates web-based language learning and teaching. Moreover, students at this university are already competent in computer technology and motivated to integrate the tool into any form of learning. Thus, Ajarn Suwit's technology use is maintained by the affordances of the facilities and the ability of his students. His use of technology in language instruction fits very well with the people and the institutional context.

## **6.4 Ajarn Anchalee**

Ajarn Anchalee works at a public university located in the western part of central Thailand. The number of students of this university is smaller than those of the two previous universities. Ajarn Anchalee stated that her research interest was using technology in language learning and teaching. Her PhD research topic was related to web-based language instruction. The theoretical knowledge and implications from her research have been applied in her real-life teaching. For example, before she assigned students an online writing task, she did a survey about their online behaviors and attitudes and whether they had access to networked computers outside the school. It was found that students were generally positive about computer and Internet technology. Although there were only a few networked computers for her students, Ajarn Anchalee managed to put her students to work in groups, taking turns using the computer.

### **6.4.1 Technology use in language teaching**

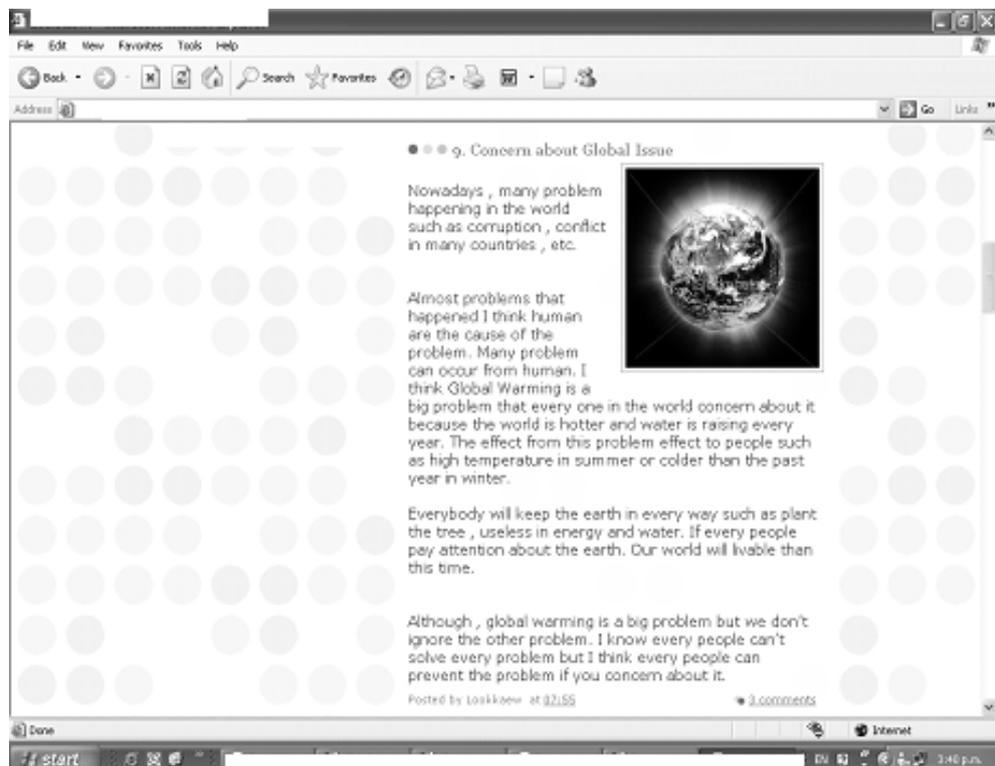
Ajarn Anchalee was responsible for an English major course which focused on academic reading and writing skills. In the class, she gave lectures and discussed the selected topic with students. She recommended ESL reading websites and exercises for students to practise after class. Along with online reading materials, she encouraged students to keep a record of what they learned and how they felt towards the instructions and activities. There were two web-based tasks, a student web journal and student online collaborative project, which she identified as useful in her academic English course.

#### ***6.4.1.1 Student learning journals on weblog***

After each class meeting, students were assigned to post reflections about the lesson on their weblogs. For example, after global warming was selected as the topic for reading and writing, students went searching online about this topic and read recommended websites. Then they wrote about this topic on their blogs with embedded photos, links, and video clips. They also wrote about how they felt about the task and their own language learning. After that, the teacher and peers gave comments on both the content and design of the blog entry. Ajarn Anchalee explained that metacognitive strategies such as reflecting about one's feeling and problems in learning were incorporated into this task:

I want my students to develop their metacognitive strategies in using technology to assist language learning, especially for the English majors. Keeping a learning log encourages them to develop awareness of their learning goals and problems as well as reasons to use information technology in language learning. These students will benefit from reflecting about their own learning, learning from their peers' posts and teacher feedback, and having the opportunity to use English online.

She added that before the students wrote their journal, she discussed the topic with them and encouraged them to read extensively on websites and textbooks. The weblog, Blogspot, was easy for students to use. It allowed them to publish their writing, moderate comments, and add some graphics, HTML codes, and video-audio clips which enhance their writing. She thought that this task encourages English language learning engagement as students have to read extensively, write their own weblogs and give comments on their peers' work. It also encourages students to produce original texts and develop the ability to use English in an online medium. Examples of students' weblogs are provided in Figure 6.1:



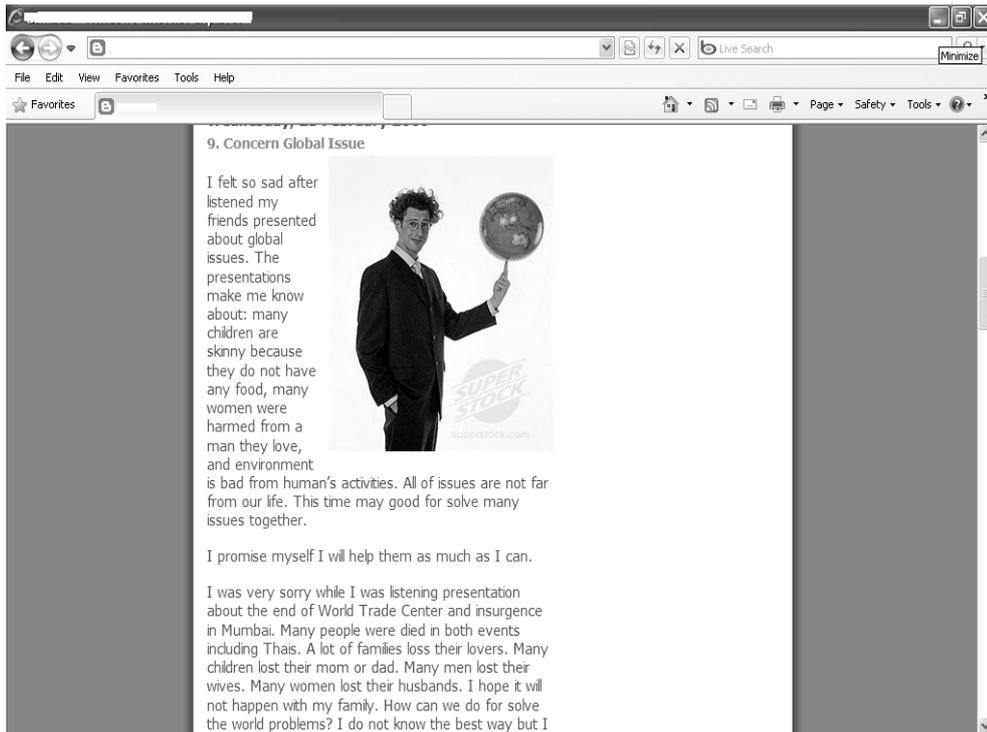


Figure 6.1 Examples of Ajarn Anchalee's students' online journal

#### **6.4.1.2 Project-based task: Overseas holiday itinerary**

Apart from the online learning journal, she assigned students to create a project-based task which was writing an itinerary for an overseas trip. Students worked in groups and each student was assigned an individual task such as finding information about making a visa application, booking flights and accommodation, and everything that a person needs to know before going overseas. Students were assigned to search for information from several sites to complete the task. Everybody in the group had to contribute information for the project. After they finished the overseas travel project, they sent invitation e-mails to friends and teachers to visit their websites. She thought this activity was useful for students as she commented:

In order to complete this task, students have to draw on multiple skills, including reading, writing, listening, inquiring, and critical thinking. They have to be responsible for their part to find specific information for the group work. When they go online, I ask them to get information from

different websites and to read carefully and evaluate the materials. I encourage them to think about the best way to present the information to their friends. This activity offers them essential practice in thinking, language use, collaboration, and online skills.

In addition, students were allowed to use creativity to write and enhance their web pages with multimedia applications such as template design, audio-video clips, and photo slides. Minor language mistakes were accepted as long as the content was original, creative, organised, and communicative. After the course ended, students told her they learned how to find information on the Internet by using search engines, and their reading skills had improved. Furthermore, they gained more confidence in using English in an electronic medium.

#### **6.4.2 Maxims in technology-mediated language teaching: Ajarn**

##### **Anchalee**

Ajarn Anchalee reported that it is essential for EFL learners to receive appropriate input and be exposed to a wide range of texts which support language learning and skills development. As she used the technique herself, she insisted on giving her students language resources and extensive practices:

To be successful language learners, students should receive extensive practice and input. I always tell my students to read a lot, practise a lot, and use English every day. Students should know what they want to learn and what they should do to achieve the [learning] goals. If they are aware of their own language needs, I believe that they would learn better. According to my research, it is suggested that the Internet is potentially a powerful resource for English language teaching and learning. In addition, I found that my students are eager to learn with technology. However, they may not know how to use technology for language learning. Teachers should provide students with comprehensive resources, instructions, and strategies that support them to use technology to achieve their language learning goals.

This shows that she realises the potential of technology to support her students' learning as she knows that students have already shown their interest in using technology. She

also emphasised that it was important for students to receive rich language input and to have opportunities to practise the language online. As seen in the two online assignments, she asked her students to do online research, read different websites, and use relevant information to complete the assignment. These activities implied that one of her principles in using technology in language instruction is to provide students with extensive practice and resources. Her personal principle guiding this activity can be articulated as:

*The Maxim of Meaningful Practice: Expose students to extensive opportunities for meaningful language use*

From her account of technology use in language teaching, it is evident that one of the main reasons she uses technology in her classroom is to expose students to comprehensive input including language models and resources. She believes that students will learn from extensive reading and extended learning experiences, especially with more competent language users in online settings. As students in EFL settings lack opportunities for real-life language communication, online language learning and practice can be used as a means of helping students develop their communicative abilities.

In addition, she acknowledged that students need to be taught and exposed to different online genres such as instant messaging and e-mails. She would like her students to be effective online language users as electronic communication has become increasingly important for academic and professional tasks. Practising electronic writing skills may benefit their future career prospects and communicative needs. In order to help students to communicate in the virtual world, she created a textbook called “English for Electronic Communication” which contained lessons and exercises for using English in different CMC modes. In this book, she gave examples of her own e-mails, electronic cards, chat texts, and other online conversational texts for students to study electronic discourses. She explained the purpose of the book as follows:

Teachers in the Information Age should be aware of the global demand of electronic literacy and online language communication. I want my students to know how to use English to communicate with people online. In this

book, there are sections about how to write e-mails and short messages. I include my own e-mails and online messages to show the students that these are real-life communication. This is the opportunity for them to practise using English in electronic communication.

She also mentioned the benefits of her web journal assignment which encourages students to use the language online and have real-life experiences in interacting with people through an electronic medium.

Having students write on weblogs and exchange feedback makes the writing task more communicative and gives them a sense of audience. Students know that there are real audiences out there not just the teacher. It is a task that replicates real-life communication nowadays when people send texts or messages to communicate with local and international people.

She thought that students would see how electronic texts were used purposefully by users of English. As she focused on real-life communication, students were asked to send her e-mails and study the language in e-mail exchange to improve their writing. Nevertheless, she also considers students' language ability as a key factor in using technology in classroom teaching. She believes that when students reach the level of language proficiency of her English major undergraduates, they have the potential to use interactive and communicative English in an online medium. The opportunities that she gave her students can be seen to have emerged from this operating maxim:

*The Maxim of Empowerment: Give students the opportunity for authentic language use online*

According to Ajarn Anchalee, incorporating technology in the language classroom helps prepare her students for real-life online language communication. She added that there were issues that should be taken into consideration when applying technology in language teaching. First, teachers and students should be aware of the characteristics of electronic discourses as well as be able to select an appropriate genre to deliver content. Web-based tasks should be tailored to fit the nature of the students. She reported that she tried not to give students tasks that were too difficult so that they could do them

without copying the whole texts from the websites in their writing. Tasks were often divided into smaller sections to allow students to think and organise pieces of information. Further, she commented that although students use computers for personal communication and entertainment, they do not always know an effective way to use technology for language learning. Teachers should provide students with instructions and examples as well as strategies to learn English with technology tools. Therefore, Ajarn Anchalee's principles in using technology involve giving students extensive learning opportunities, authentic experiences, comprehensive models, and rich resources that may enhance their ability to use English in an online medium.

Responding to her personal principles which focus on electronic literacy and online communication skills, she designed her instructional materials to enhance their language learning with technology-based tasks. Her teaching materials and tasks provided students with models and instructions on how to write different kinds of electronic texts for authentic communication. Students' collaborative activities and her course materials showed that her major role was to support students' language learning through extensive online learning, communication, and interaction with people online. Despite the limited access to networked computers, she assigned her students to use computers in groups and to learn how to communicate and produce online texts. These classroom activities reflected her role as a language teacher who deals with the constraints and possibilities of online instruction as suggested by Hampel and Stickler (2005). Moreover, she enhanced students' language learning by incorporating metacognitive strategies. This also indicated that she developed her own style of teaching which fitted into the classroom context, her personal practice, and the technology use conditions of that particular Thai tertiary context.

#### **6.4.3 Sociocultural aspects of Ajarn Anchalee's technology adoption**

Ajarn Anchalee can be seen as a teacher who manages to make good use of limited facilities in her language teaching. Despite these constraints, her personal interest in, and beliefs about the capability of technology have enabled her to integrate technology in English language teaching. She reflected on her personal values and understanding about technology integration as follows:

Using technology in language teaching is not that difficult if you are determined to enhance students' language learning and improve your instruction. Hard work is required to prepare technology-mediated lessons. Teachers should understand that technology-enhanced lessons may sometimes face technical problems. That is why the instruction needs to be flexible and open for unexpected challenges.

She reported that she wanted to persuade her colleagues to adopt web-based activities in language teaching but she had to figure out how to convince them. She commented that for teachers to use technology in language teaching depended on individual motivation and teaching beliefs. In her opinion, intrinsic motivation on the part of the teacher is the most important determining factor to keep web-based instruction going. Having administrative support and sufficient facilities were secondary factors.

In this case, it seems that the main existing affordance for Ajarn Anchalee's technology-enhanced teaching is her strong beliefs in the positive impact of technology on EFL language learning. Technology use in her teaching resonated with her strong beliefs in the value of pedagogical technology in supporting students' metacognition in language learning. Before adopting technology in classroom teaching, she considered students' learning styles, current needs, and technology skills. Going through these processes, she eventually managed to find the most practical way to have her students practise English in web-based activities with limited access to networked computers. However, Ajarn Anchalee reported that she also received moral support from her students. Each semester students wrote on their websites that they gained more confidence in reading and writing in English as well as using technology in language learning. To her this is the main ongoing proof that her technology integration in language instruction has been successfully achieved.

## 6.5 Summary

To conclude, the three teachers' perspectives about technology use were constructed within the context of their instructional settings and the role of technology in the lives of students. The teachers' accounts were highly associated with their concepts of what learning conditions can be mediated by technology and how to make technology use congruent with learners and their needs. They have been through the process of thinking, weighing up possibilities and assessing feasibility, and making use of the affordances within their situations. Thus, their technology use is purposeful and both the learning and the tools are chosen and adopted to serve students and institutional contexts. Therefore, the results of this study support the idea that technology use cannot be separated from teachers' beliefs about teaching, learning, and educational goals.

In this chapter, the findings with regard to key teachers' actual uses of technology, their maxims about technology-mediated teaching, and sociocultural perspectives on technology adoption at particular institutions were presented and discussed. Teachers' use of technology in tertiary EFL contexts varied according to the available tools and teachers' practices and situated perceptions about what technology can do to enhance their instruction. How the three teachers make use of technology is highly influenced by their sociocultural contexts including the facilities, administrative support, and the characteristics of students. Teachers' thinking and perceptions towards technology integration are situated and formed by beliefs about their students and the potential of technology in language teaching and learning. Moreover, it was found that a key role for these teachers was adjusting their technology-assisted instruction according to the perceived affordances and limitations of their teaching contexts in ways that concurred with their teaching maxims. Looking at each teacher's technology practices through a sociocultural lens suggests that technology adoption in Thai tertiary EFL contexts is shaped by teachers' views of technology, the curriculum, students' ability and future needs, and technology and administrative support in a particular setting. In the next chapter, the conclusion, discussion, implications, and recommendations of this study are presented.

## **CHAPTER SEVEN**

### **DISCUSSION, CONCLUSIONS, & IMPLICATIONS**

Recalling that its purpose is to investigate Thai tertiary EFL teacher cognition, this study aims to understand teacher beliefs, understandings, and perceptions about technology-mediated EFL instruction and more specifically web-based writing instruction in the Thai tertiary context. It also attempts to provide insights into EFL technology-using teachers' views and practices in technology adoption within their institutional contexts. A mixed-method approach was used to draw on the strengths of both quantitative and qualitative data. In this chapter, a discussion of the key findings from previous chapters is presented according to the research questions as well as the conclusion, limitations, and recommendations for practice, future research, and research methodology are provided.

#### **7.1 The nature of teacher cognition about technology integration in**

##### **Thai tertiary EFL instruction**

##### **7.1.1 Technology perceived as a tool to support teachers' existing practices**

As presented in Chapter Four, participating teachers reported that they readily agreed with technology use as a way to support teachers' sense of responsibility for language instruction, such as assigning language exercises or tasks and recommending online language learning resources for students; while they were equally concerned that technology could be used to foster student motivation, increase language input, and extend communication opportunities especially between teachers and students. These teachers' expressed beliefs and preferences about technology use in EFL instruction tended to be associated with low-level use of technology which could be interpreted as corresponding to traditional beliefs about language teaching or towards teacher-centred approaches. However, these findings could be interpreted more accurately as reflecting

their perceptions about language learning and teaching in their tertiary EFL contexts. How teachers perceived the use of technology was strongly shaped by their views of their major teaching responsibilities, goals, and students' immediate needs: if a teacher understands that the students need to improve their grammar and sentence skills, he or she is likely to encourage students to do a lot of drills and language structure exercises online; if a teacher knows that the students already have the language ability to produce their own texts, he or she may encourage them to practise the language through an online medium where creativity and interaction are both promoted. Given that Thai students' level of English proficiency is low in comparison with many countries in Asia (Wiriyachitra, 2004), and since the majority of Thai students need to develop English language proficiency, these teachers evidently acknowledged the limitations of their learners. Accordingly, their instructional goals focused on developing students' basic language essentials such as structure and vocabulary rather than online interactive communication. Thus, teachers identified with the use of technology that facilitates the achievement of those goals, corresponding with research indicating that teachers will not try a new innovation unless it has proven applicability in actual instructional settings (Davis, 1989; Zhao & Cziko, 2001). Therefore, technology, if used, must ensure the achievement of high-priority educational goals; these Thai tertiary EFL teachers adjusted their instructional use of technology to match what they perceived as their learners' immediate needs.

Although participants perceived the potential usefulness of technology more as supporting individual language practice and learning rather than collaborative learning, interaction, and establishing connection with other language users outside the institutions, they also perceived new possibilities presented by technology including enhancing classroom instruction, motivating learners, and creating more channels of communication between teachers and students; e-mail was considered particularly useful in this. Thus participating teachers tended to acknowledge the potential of technology and how best to use it in language instruction based on what they already believed about effective language teaching and learning in their everyday classroom. This finding may appear in contrast to some previous studies arguing that teachers who perceive the usefulness of technology are those who have constructivist-teaching practices and beliefs (Becker & Riel, 2000; Chen, 2008). Rather, it is in line with studies showing that teachers are inclined to use technology that they feel comfortable

with (Savery, 2002), which supports lesson preparation and instructional purposes (Cuban, 2001; O'Dwyer et al., 2004; Yang & Haung, 2007) which may or may not support constructivism, and which is perceived as adding value to curriculum goals, motivating learners, or augmenting learning (Doering, Hughes & Huffman, 2003; Ertmer et al., 1999; Russell et al., 2003). This implies that effective or meaningful technology use for these teachers does not have to support constructivism or learner-centredness. In fact, technology is likely to be accepted or implemented in the classrooms of these teachers if they identify features of technology congruent with their teaching practices and students' language learning, no matter what kind of teaching beliefs they hold.

### **7.1.2 Challenges of technology integration in Thai tertiary EFL contexts**

When asked about major barriers to technology adoption, participating teachers reported that students' low language proficiency and motivation, limited facilities, and lack of supportive contextual elements were obstacles to technology integration. They maintained that technology-mediated tasks could be used effectively with groups of students who possessed the level of language ability required for accessing information on English web pages and using technology tools and functions, as well as having the motivation necessary to take control of their own language learning. Participating teachers also mentioned a lack of access to networked computers and some curricular restrictions as major barriers to using technology in EFL instruction. Nevertheless, it was interesting that they did not perceive their own technology skills and knowledge as problems for technology integration. Rather, they claimed that contextual conditions were holding back technology use.

It might be possible that they held back from criticising their own teaching practices or technology skills. Nevertheless, this appears to be a good sign for the future of technology adoption in these contexts, as participating teachers evidently recognised the advantages of instructional technology and may be inclined to adopt technology in their teaching when external barriers are eliminated. As Ertmer et al. (1999) suggest, external barriers (e.g. a lack of access to computers, software, planning time, or systems) are not as influential as internal barriers (e.g. teachers' attitudes and beliefs towards the

instructional technology) because they can be addressed by providing more resources and administrative support.

## **7.2 The nature of teachers' cognition about using technology in EFL writing instruction**

### **7.2.1 Teachers' beliefs about EFL writing instruction**

Regarding beliefs in EFL writing instruction, participating teachers reported that they expected students to develop some essential writing skills including producing grammatically correct sentences, being able to revise their own drafts, and practising writing in different genres. In terms of their role in writing instruction, they generally focused on giving students corrective feedback and provided students with language resources and support. They understood that Thai EFL students had limited exposure and access to authentic discourses, so they wanted to give students instructional scaffolding in many ways to help them achieve writing goals. Generally, these teachers were more concerned about the students' earlier stages in writing and how to equip them with skills that they need in the tertiary context rather than preparing students to write for authentic communicative purposes.

Nevertheless, participating teachers also reported that it was necessary to help students develop different kinds of writing, and it was their responsibility to provide them with model texts and practice for text organisation. They thought that both sentence and discourse level skills are equally essential in writing instruction. Their concerns indicate what is perceived as important for EFL writing instruction in Thai tertiary contexts. These findings are close to those of Lee's (1998) study of Hong Kong teachers that although they reported strong beliefs in textual coherence, their teaching behaviors actually focused more on grammar instruction in the writing classroom because they felt this was of primary importance. Hence, teachers' perspectives about writing instruction may have been affected by perceptions about students and what they value in developing their students' ability. What was found here about Thai EFL teachers' thinking also supports Cumming's (2003) study: teachers reported that they conceptualised writing instruction according to their curriculum orientations and perceptions in relation to students' characteristics. Therefore, it was the professional

judgment of these Thai EFL lecturers that helping students to write grammatical sentences, organise ideas in writing, and practise target academic discourses were high priorities in their working contexts.

### **7.2.2 Teachers' views on technology use in EFL writing instruction**

In this study, the investigation of teachers' beliefs and understandings about technology use in writing instruction were structured according to the notions of NBLT, namely, structural, cognitive, and sociocognitive approaches. These three approaches were presented in the form of nine classroom scenarios which were used to elicit participants' perspectives on particular activities and the role of teachers. Participants reported that they preferred structural uses of technology, such as having students do recommended online exercises and practise writing e-mails, which were seen as the most relevant to their practices. Although this involves low-level use of technology and skills, the majority of teachers thought that this kind of technology use was the most applicable and accessible for their current instruction as it was not complicated to use and provided essential language practice. It also allowed teachers to monitor students' language learning processes and outcomes. These teachers' structural views of technology use also correspond with the findings about their beliefs in non-technology-based EFL writing instruction, that they were concerned about improving students' basic writing skills. This means that they apply their views from face-to-face classroom settings to technology-mediated settings. Therefore, they are inclined to agree with the structural technology approach (e.g. using technology to build students' fundamental writing skills), which is similar to what they believe in face-to-face EFL writing instruction. This is in line with earlier studies which indicated that although technology has developed and offers more choices for learning and productive tasks and activities, teachers frequently transfer tasks used in face-to-face settings to online environments without adapting them to the new setting (Hampel, 2002; Svensson, 2004).

The benefits of cognitive technology-based tasks were acknowledged by some teachers in terms of providing students with authentic language resources, online research, group work, feedback exchanges, and a balance between teachers' instructions and students' own inquiry. However, these activities were not considered as the main objectives of the writing instruction when compared to the structural activities that help develop students' basic writing skills and language practice.

Regarding the sociocognitive use of technology, many participants reported that they were not convinced of the applicability of sociocognitive activities, such as having students interact with real audiences, discuss local and global issues on web forums, or write content on a web page. They mentioned some instructional challenges in applying sociocognitive technology-enhanced activities to classroom realities. For example, teachers reported that these activities were time-consuming and demanding for both teachers' and students' technology skills. In addition, they thought that students required a higher level of language ability and critical thinking skills to participate in online communication. A high proportion of teachers in this study also found sociocognitive uses of technology challenging due to external variables such as real-life keypals and uncontrolled conversation topics which were involved and seen as complex and potentially problematic. These instructional challenges might have made participants perceive these practices as less congruent than others to their classroom practices. This finding about teachers' preference for structural approaches of learning is supported by Ravitz et al. (2000), who found that teachers, while believing that students could learn equally well from both traditional (i.e. instructive) and constructivist approaches, felt more comfortable with traditional ways of instruction and found them more viable.

### **7.3 Teachers' practices, perspectives, and roles in technology-mediated EFL instruction**

According to sociocultural theory, teachers' technology use, perspectives, and roles in technology-mediated classroom are situated within their social contexts and their interaction with the tools and people involved in technology-assisted teaching. Based on this perspective, the three focal teachers who work in different institutions made different associations between technology and instructional issues according to current affordances and barriers they perceived in their different institutions.

#### **7.3.1 Three teachers' practices in technology-mediated EFL instruction**

It was found that the three teachers' uses of technology were markedly different in terms of the selected tools, focused activities, and instructional goals. Ajarn Panadda adopted an LMS in her language classroom to assist to deliver her lessons and organise

the course materials. Ajarn Suwit assigned students to use web-based language exercises and to communicate with peers in the language lab, while Ajarn Anchalee assigned students to do online group tasks and asked them to keep an online learning journal. Although their technology tools and instructional designs were different, they were all established from each teacher's understanding about their own teaching situation, available facilities, and what students were required to achieve at their institutions. In fact, their technology-mediated teaching enhanced their existing local practices and students appeared to benefit from these different ways of integrating technology. Their technology uses were designed to fit with a specific learning context which was also situated in the larger institutional environment. For example, Ajarn Suwit understood that his students might be disadvantaged by living in a rural area in which they lack opportunities to use English in real-life situations; he encouraged students to come to the language lab and practise English with peers and teachers. In the case of Ajarn Panadda, her LMS use and the online course content and materials were based on the need of a particular group of students, EFL teacher trainees, and their academic interests as well as their future use.

It was also found that the three focal technology-using teachers used technology as it was at that moment. They made the most out of what they already had at their institutions. Therefore, this finding indicates that teachers' technology uses in Thai EFL contexts are in accordance with the principles of practicality, appropriateness, and congruence in terms of students' characteristics and curricular objectives. As Ertmer et al. (2001) suggest, teachers are successful in adopting technology into their teaching in ways that serve their situated beliefs of language learning. These Thai EFL teachers who actually integrate technology in their classrooms have established technology practices which offer students extensive language learning resources and experiences, situated within the requirements and conditions of EFL learning in Thai tertiary contexts.

### **7.3.2 Teachers' maxims in technology-mediated EFL instruction**

Technology-using teachers in this study showed that they hold personal views about what is meaningful or significant to them in using technology in their EFL teaching: their thoughts about technology-mediated teaching and what they considered important

for themselves and their students' learning can be articulated as maxims. The three focal teachers conducted their technology-enhanced instruction according to different maxims including Teacher Support, Relevance, Affect, Scaffolding, Meaningful Practice, and Empowerment. Each maxim emerged from individual teachers' rationales of their personal approaches to technology based on their perceptions about the nature of students and English language learning. For these teachers, the students were assigned to use technology because it was considered important for them to acquire that kind of language experience with technology. For example, Ajarn Panadda, operating from the maxim of Relevance, believed that her students should learn how to use PowerPoint to narrate a story because this might be a useful skill for them in teaching young students. Therefore, she carefully guided her students through the lessons and also encouraged them to solve technical problems. Acknowledging that his students, despite having computer and Internet skills, still needed help in online language learning, Ajarn Suwit would always 'be there' for students answering questions and giving them advice in both face-to face and the online medium, suggesting that he was holding on to the maxim of Scaffolding. Ajarn Anchalee asked her students to practise sending e-mails and writing electronic texts because she thought they would benefit from this activity and be able to use it in their future careers. Her principles and practice in using technology in classrooms to enhance students' learning are influenced by the maxim of Empowerment which focuses on giving students the opportunity for authentic language use online.

These examples of individual teachers' personal principles and their emphases of their instruction in technology-mediated classrooms are the result of what they believe about English language learning and teaching in their institutional contexts. These three teachers' maxims revealed that their use of technology was guided by their language teaching practices as well as their perceptions about what enhance students' technology-assisted learning. Technology-using teachers in this study perceive technology as a tool that makes their instruction more effective, offers students more interesting learning experiences, and equips them with essential skills for today's communication and their future careers.

In this study, teachers' technology principles are based on the perceptions and understanding of a particular group of Thai EFL learners and learning environment and

show considerable diversity. The maxims or personal principles they developed were also shaped by individual teaching conditions, students' needs, and classroom context. As Richards (1998) states, teachers' choices of maxims may vary depending on what is perceived as appropriate for students and classroom orientation. White et al. (2005), whose findings show similar diversity responsive to a very different setting – UK online distance language instruction – also remark that teacher maxims are the result of individual principles based on a particular group of learners and learning environment, which should not be seen as rules to apply to other online learning contexts. Therefore, teachers' maxims about teaching with technology in this study can be regarded as personal views held by teachers in different sociocultural contexts, who try to create conditions and opportunities that are appropriate for their students to apply technology in their EFL learning processes.

### **7.3.3 Teachers' skills and roles in technology-mediated EFL instruction**

It was found in this study that the most dominant skill that the focal teachers employed in their online teaching was the ability to adjust their technology use and instruction according to the perceived affordances and limitations of technology in their face-to-face teaching contexts. To some extent, these teachers' skills in the online teaching environment may be close to what is proposed by Hampel and Stickler (2005), namely, that they are teachers who possess high-level technology skills, understand the useful features and functions of particular technology tools, and have the ability to negotiate their instruction according to contextual requirements. However, their roles may appear slightly different from those of purely online language teachers described in Goodyear et al. (2000) and Hampel and Stickler in which all the classroom activities and interactions take place via web-based communication tools. These teachers' technology uses are in a blended-type of classroom in which online instruction is used to enhance their face-to-face teaching. Therefore, their technology-based roles seemed to be responding to situations based on the face-to-face classroom, as when, for example, teachers used technology to assign traditional tasks such as lesson quizzes and language practice assignments. Although students were allowed to decide what they wanted to learn or share online, most of the web-based tasks were supervised and monitored by the teachers. They stressed that it is important to provide students with appropriate

models, resources, strategies, and any necessary scaffolding in using technology in language learning.

One of the most significant findings about teachers' roles in this study context is that they perceived their physical presence and participation in students' learning processes as crucial for students' learning. They showed an understanding of their students who, despite knowing how to use the Internet for personal contacts and entertainment purposes, may not always know how to use technology for academic purposes and in their language learning. Students still needed their help in suggesting online learning resources, designing learning activities, giving feedback and language models, and answering questions about language and technical problems. These teachers' perceptions about their roles appear to be more like teacher facilitators who provide students with learning affordances and creating positive environment for effective learning with technology. As White (2007) contends, how teachers take on their roles in technology-mediated language teaching contexts plays a major role in the pedagogical design of their lessons and students' language learning experiences.

What should be noted here about teachers' roles in technology-mediated language classrooms is how they learned to use technology applications and apply them in their teaching. They have first-hand experience in using technology to enhance language learning and teaching and to empower language learners based on their own interests. Their views and experiences in technology use therefore act as cognitive and behavioural models for students' own technology use in language learning processes. The technology-using teachers' role in this study appears as a combination of traditional and online teaching, 'the best of both worlds', which mediates students' exploration in online language learning. This finding therefore suggests that teaching with technology requires more than teachers' technological competence but rather the ability to perceive themselves as facilitators who can see the potential and limitations of technology and, therefore, create conditions that facilitate students' learning and extended language experiences.

## 7.4 Sociocultural aspects of technology-mediated EFL instruction in Thai tertiary EFL contexts

Looking into teachers' beliefs and practices through a sociocultural lens, it was found that teachers' understanding of technology use involves not only their personal beliefs about language teaching but also their perceptions about external elements of the instructional context. Given that the three focal teachers were all practising in blended classroom contexts, their thoughts about the possibilities for integrating technology into students' language learning involved a wide range of factors including students' backgrounds, pedagogical concerns, and institutional affordances in teaching English language with technology at their institutions. Figure 7.1 illustrates the sociocultural domains of the teachers' cognition in technology-mediated EFL teaching.

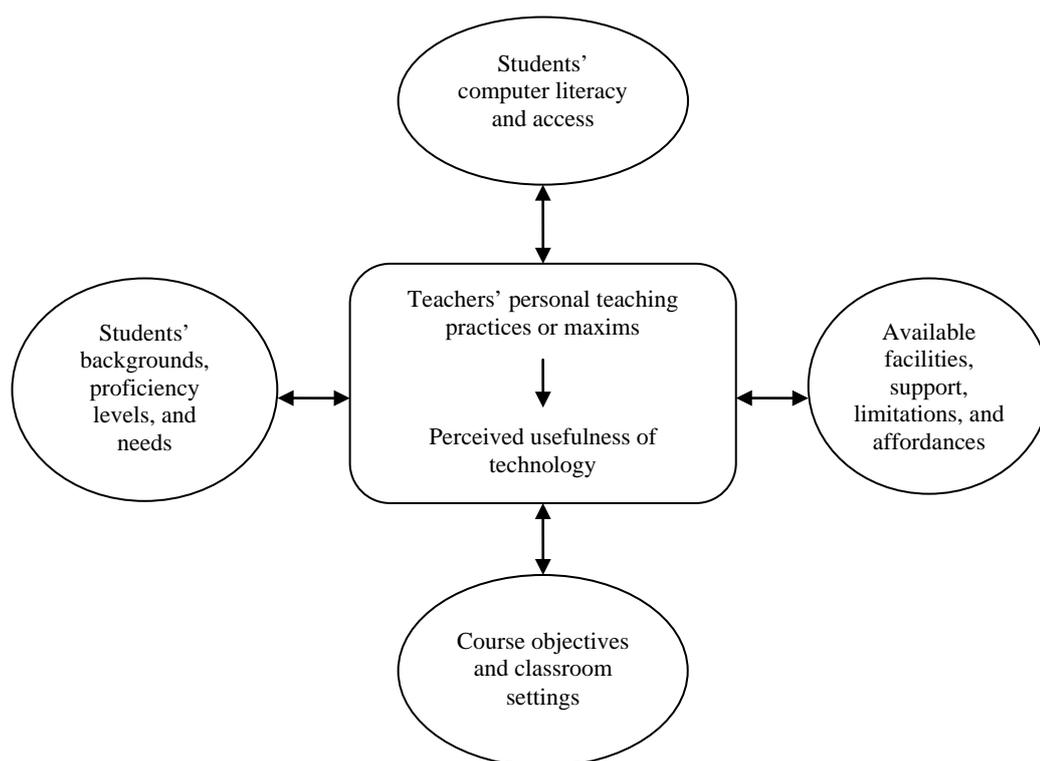


Figure 7.1 Sociocultural domains of teacher cognition about technology-mediated EFL instruction in the Thai tertiary context.

The technology-using teachers are critically aware of how their use of technology is in line with contextual issues that exist inside and outside their classrooms. When they talked about their practices and perspectives on technology-enhanced instruction, they addressed issues including their personal teaching practices or maxims which strongly influence how they perceive the usefulness of particular technology, students' backgrounds, access to computers, course objectives, and other related limitations and affordances. These teachers who adopt technology are people who have evaluated current contextual conditions and selected particular uses of technology that are most congruent with their instructional approach and students' learning needs. They knew that online language learning was only suitable for particular groups of students with particular levels of language and computer abilities. They perceived their contextual limitations and affordances and were likely to design their technology-mediated lesson according to the current classroom situations and available facilities.

In addition, it was found that the most influential domain of teachers' thoughts was the perceived benefits of technology in language instruction. As seen in Ajarn Anchalee's case, her use of technology is totally formed by her insights about students' needs, intrinsic motivation and the potential of technology, and strategic use of technology that support her technology-based teaching. Despite the challenges of being the only one in her institution who 'took risks' in web-enhanced teaching and having limited support and facilities, she continued her technology use with a strong belief in its impact on her EFL instruction and students' learning. This finding confirms those from a study by Sugar et al. (2004) who state that the strongest aspects of support in technology integration are not external ones such as technology resources or people but teachers' intention to use it in their teaching. It is also in accordance with Rogers's (1983) idea of the importance of perceived usefulness in innovation adoption; as he states "It matters little whether or not an innovation has a great degree of advantage over the idea it is replacing. What does matter is whether the individual perceives the relative advantage of the innovation" (p. 24). These teachers' positive views on the impact of technology in language learning and teaching appear to be the most influential factors for them to maintain technology-enhanced language instruction despite the limited availability of technology.

Nevertheless, teachers in this study were not only motivated to use technology because of its perceived usefulness and their professional interests, but also supporting external conditions such as effective computer facilities (as seen in Ajarn Suwit's case), supportive colleagues and administration (as seen in Ajarn Panadda's case), and freedom in designing their instruction (all three cases). They were able to choose materials, make use of technology facilities, and involve students in the integrated use of technology. They were free from exam pressures or curriculum restrictions which might otherwise have hindered them from adjusting their instruction to fit the flexible nature of learning with technology. This attribute can be seen as an important affordance for their technology-mediated teaching. Previous research has shown that there is a significant relationship between teachers' working environment and teachers' technology uses (Guha, 2003; Kumar et al., 2008). Being able to design their own curriculum and technology-assisted activities definitely strengthened their technology use in language instruction. This concurs with a large scale study in the U.S. by Becker (2000) who concluded that wherever teachers have the necessary computing skills, some freedom in the curriculum and convenient access to computers can be valuable instructional tools. It also aligns with Watson and Tinsley's (1995) finding which found that access to resources and flexibility of approaches were important factors in technology adoption despite considerable difficulties.

From this study, looking into teachers' perspectives and practices about technology use in language teaching through a sociocultural lens reveals that moves to increase technology-enhanced EFL instruction in Thai contexts need to take into consideration teachers' perceptions about the potential of technology in particular classroom settings, teachers' contextual support and teaching conditions, and the development of personal practice in teaching with technology.

## **7.5 Conclusion**

With the assumption that what teachers think has a great impact on classroom instruction and students' learning processes, this study aimed to discover what teachers perceive, believe, and think about technology in EFL teaching in the Thai tertiary context: technology in these settings refers to the use of a range of computer and

Internet programs and applications that are available at Thai Tertiary institutions from desktop programs, asynchronous and synchronous communication tools, to LMS for online learning courses. Using multiple approaches to elicit teachers' beliefs and personal perspectives about their practices revealed that technology use in EFL teaching is highly personalised and context-situated. In other words, it is not only the teachers' personal knowledge, skills, or confidence in technology that facilitate the integration, but also the recognition of sociocultural elements including affordances and limitations. At the survey stage, it was found that participating Thai tertiary EFL teachers supported the use of computer and information technology as a tool for: providing students with more learning resources, enhancing instructional activities for writing, submitting assignments, and facilitating classroom communication between teachers and students. In fact, these teachers' beliefs about technology-enhanced teaching may not appear as distinct from how English language instruction is perceived and currently enacted without the use of technology. They thought technology should be used in a way that corresponds with the existing curriculum and their beliefs about EFL instruction in particular settings and if technology is used in writing instruction, it should be used to enhance those skills that they thought important to their students. Therefore, they are inclined to accept a form of technology-mediated instruction that helps them achieve their high-prioritised teaching goals, which are influenced by their own instructional beliefs and students' needs and backgrounds.

When interviews were conducted, teachers' personal accounts revealed their beliefs and perceptions which are actually reflecting situated conceptions about EFL teaching and learning in Thai Tertiary contexts; that is, teachers are responsible to provide students with more learning resources, language models, and opportunities to practise the language skills that are necessary for their academic and future career requirements. Although it is perceived among these teachers that technology has great potential in promoting communicative and social language learning, technology use in this context may not focus on these areas since teachers know that there is something more important in the classroom that needs to be addressed. This mismatch between actual instructional technology activities and the apparent potential of technology use to enhance writing instruction was further influenced by the lack of facilities and students' low language ability. These are major barriers to technology integration which may also have hindered them from maximising the capability of ICT in EFL instruction.

When specifically looking into the practices and perspectives of three focal teachers who integrated technology in specific contexts, it was found that each one combined his or her own understanding about the usefulness of technology and local language teaching practices to form personal principles or maxims which guided the technology-enhanced language instruction. These technology-using teacher maxims are situated and unique because of each individual teacher's classroom contexts and personal perceptions of what benefits their language teaching and students' learning. Although teachers use technology in different contexts and receive different kinds of support in terms of facilities and administration, their positive views on technology and awareness of the importance of technology in language instruction appear as the strongest affordance of meaningful integration despite the shortcomings they face such as limited networked computers. Regarding their areas of thinking about their technology-mediated instruction, there are emerging key sociocultural domains including personal beliefs about language teaching and learning, perception of usefulness of technology in the local curriculum, students' skills and English language abilities, and access to administrative support and facilities. These sociocultural domains have a great impact on how they perceive technology in their EFL teaching, their roles, and their students' participation, and how they respond to affordances and challenges in everyday teaching at their institutions.

Therefore, it comes to light that technology-mediated instruction is not just a disposition or a set of strategies, but a result of insightful perceptions and critical thinking that investigates and evaluates the ongoing practice of teaching and learning within a particular environment. Looking into teachers' personal principles in relation to their practices has unfolded the complexities of technology-mediated language teaching which are beyond asking students to use a particular tool to do their language assignments. Instead, effective technology use occurs as teachers know what they do in their classrooms, what their students' problems and needs are, and what 'works' for them and their students. Then they decide to teach with technology or use it as a tool adding value to the learning processes within a specific learning environment. In this way, the unique capacities of particular tools are used to enhance what is considered good teaching. As Young and Bush (2004) state, "the power of the pedagogy must drive the technology being implemented, so that instruction, skills, content, or literacy is enhanced in some meaningful way" (p. 8).

Since technology use in Thai tertiary EFL instruction is mediated by teachers' beliefs about what constitutes effective language teaching and how technology and information access can enhance the role of the teacher in classrooms, at this point, providing teachers with the latest educational technology is no longer what is required to encourage technology-mediated instruction. Rather, teachers should be encouraged to think about the unique capacities of each tool and how using that tool in the classroom could facilitate students' learning and achievement of current learning goals. Equally important, they need to think about sociocultural elements of using technology in EFL instruction at their institutions. It is now crucial to urge EFL teachers to critically evaluate the potential of instructional technology, and the value it would bring, and then design instructional methods and tasks that enhance language learning for students of the digital age.

## **7.6 Implications**

### **7.6.1 Theoretical implications**

The two theoretical frameworks, teacher cognition and sociocultural perspectives, that this study draws on have unfolded the complexities of teachers' personal principles and different practices of technology-mediated language teaching in Thai tertiary EFL contexts. Using these two frameworks, it is argued, has the potential to capture both internal and external perspectives of teachers' professional principles. On the one hand, teacher cognition mainly focuses on teachers' previous experiences, and personal principles, and what they believe about the impact of technology and how they embrace it in their language teaching. It also highlights the importance of teachers' awareness of their roles and personal practices in technology-mediated EFL teaching. On the other hand a sociocultural framework has shed light on how teachers perceive technology in their social contexts and teaching realities, and how teachers make use of available facilities to support students' learning and cope with constraints in using technology. These two frameworks have complemented each other; that is, several domains of teachers' thoughts, practices, and their perceptions of such social aspects as curriculum, students, colleagues, and institutional environment are taken into account to understand what teachers have in mind when they use technology in EFL instruction. All of these domains can also be presented in the form of maxims which connote not only teachers'

personal beliefs but also how they deal with surrounding constraints and affordances in relation to using technology in teaching English at their institutions. Therefore, it is recommended that research of teacher cognition needs to consider the integration of sociocultural frameworks which address the importance of social dimensions of human's thinking for better understanding of teachers' technology use and beliefs about technology integration in particular institutional settings.

### **7.6.2 Implications for practice**

The ultimate aim of this teacher cognition study is to offer a practical understanding of teaching with technology in the Thai tertiary EFL contexts. Considering how teachers' educational beliefs influence their use and acceptance of a particular technology, it is suggested that teachers' understanding about technology should be addressed as a key component in the process of technology adoption. Purposeful technology integration must be stressed rather than merely technical operation. In other words, it might be useful to encourage teachers to look into their educational beliefs, and their understandings about learning and teaching EFL in their contexts and the capabilities of technology to empower language learning. As Swenson et al. (2005) comment, teachers and educators must be knowledgeable about sociocultural influences upon the learning and teaching connected with technology integration. When planning instruction and assignments, teachers must be mindful of students' expertise, background and technology opportunities.

In-service teachers require meaningful professional development schemes which are crucial for them to align educational practices with technology uses. Providing examples of how computers and Internet technology work in classrooms has the potential to support teachers to reflect on their own role in the technology-enhanced learning process. One way of doing this is providing teachers with maxims of successful technology-using teachers to encourage the conceptualisation of their practice. The maxims in this study bring together all the interrelated constructs of teacher cognition including thinking, beliefs, and knowledge to a unified form of personal principles or benchmark in their teaching practice. Moreover, they reflect not only teachers' personal perspectives but also situated practices in technology-mediated teaching in different contexts. This kind of cognitive model may encourage both pre-service and in-service

teachers who are interested in using technology to think critically about their own language teaching goals and instructional conditions.

In the same way, it is also useful for prospective and in-service teachers to practise thinking about technology by reflecting on scenarios such as those developed in this study. This can help to prepare language teachers to develop their cognitive constructs or imagined practice based on their understanding of English language teaching and the perceived usefulness of technology. Ultimately, they may apply these cognitive strategies in their technology-mediated teaching. Nevertheless, teachers should be informed about some challenges of sustained technology use such as possible technological problems, students' skills and access, and the complexities of infusing technology into different local curricula.

In addition, technology use in this study context is highly relevant to participating teachers' personal beliefs about teaching and how they perceive their roles in the classroom. While adopting technology is an individual choice for tertiary language teachers in Thailand, it is recommended that Thai EFL teachers at every level should receive the opportunities to learn about technology-mediated language teaching, so that they can conceptualise the relevance of technology in their teaching contexts. At this point, the use of technology in educational contexts is no longer to prove the effectiveness of technology; as Kern (2006) suggests, "It is important to ask what it means to use computers for learning and using a language, that is, to reflect critically on the social, cognitive, cultural, as well as educational implications" (p. 189). Critically, this study has shown the powerful force of teachers' perspectives and beliefs about their institution and technology, and that these must be considered as fundamental in any technology integration plan and policy. Due to the fact that all technologies commonly used today will be replaced by something new, it is no longer a matter of looking into what tools teachers use or how they use them in classrooms but the underlying reasons behind their use. So, language teacher professional development related to technology in Thailand must address this question -- that is, the meaning computers and Internet technology have in learning and using English, and how their use relates to other language practices -- in the classroom, the institution, and the national context.

### **7.6.3 Implications for research methodology**

In the past, studies of teachers' technology use mainly focused on the level of use and the effectiveness of adoption with data taken from pre-defined inventories or behavioral checklists; such instruments yielded decontextualised accounts of teachers' technology use and perspectives because the personal and sociocultural perspectives of individual teachers were neglected. However, this study draws on two complementary theoretical frameworks and the utilisation of a contextual or mixed-methodology approach to draw on the strengths of different types of data. Acknowledging that teacher cognition, especially teacher beliefs, are implicit in nature and difficult to access and assess, the research methodology of this study was designed to be as flexible and strategic as possible to encourage teachers to reveal their real personal theories, not the ideal ones. In this study, the understanding of teacher cognition is not limited to results from the survey questionnaire but the amalgam of semi-structured interviews, unstructured interviews, scenarios, observations, and a research journal which together provided in-depth and contextualised views of the cognition of teachers in different tertiary institutions. In addition, the online research journal in this study was used as an avenue for the teacher researcher to develop a professional network for sharing thoughts about research and teaching strategies as well as reflection on research challenges. Keeping an online research journal has the potential to expand teachers' knowledge about teaching and researching in the field of technology-mediated EFL teaching which is still in its early stages in Thai contexts. Therefore, it is recommended that teacher beliefs inventory instruments should be combined with personal interviews, scenarios, and, ideally, observations relating to classroom contexts and participating people in educational settings. Indirect enquiry, customised questions, and teaching prompts are suitable for encouraging teachers to uncover their views about how language teaching and technology should be incorporated in a particular context.

Furthermore, the research tools in this study were developed with regard to the ecology of the research setting and participants. For example, common Thai names were used in each scenario to encourage participants to feel close to the scenarios. All interviews were conducted at participants' workplaces or in their 'comfort zone' to ensure that they felt comfortable and unthreatened so that they were open to share their personal views. It is also necessary for researchers of teacher cognition to put themselves in the field

and keep contact with participating teachers as interested peers and learning teachers. Using a questionnaire or telephone interviews without meeting the participants in person may not give a holistic view of their classroom teaching, personal philosophies, and contextual influences.

A further methodological implication of this research is that questions about teachers' knowledge and practices should be asked with caution since the content is highly related to teachers' self-perception and professional identity. Researchers should be sensitive to participating teachers' personal and sociocultural values and non-judgmental approaches should be applied. Refraining from giving personal comments about participants' teaching approaches or comparing their practices to others' during the interviews would be critical in such an approach. A final related point is that while teacher researchers have numerous advantages as insiders in the enquiry, they also need to be aware of their own role in the research process, and how this may influence what they do or do not find. For example, it is necessary that the researcher explains to participating teachers the research purposes and procedures to ensure that the data collection is used for understanding the nature of technology-mediated language teaching in Thai tertiary contexts, not for critiquing or evaluating their teaching performances or knowledge, so that they feel free to talk about their technology use and underlying beliefs.

### **7.7 Limitations of the study**

There are several limitations to this study. First, because of the small sample size and the diversity of participant teaching contexts, these findings cannot be generalised to overall technology use in the Thai tertiary EFL teaching population. The majority of participants in this study were from provincial public universities which may not represent the great diversity of participants' teaching contexts. If more EFL teachers from urban and private universities participated, there would have been more possibilities to discuss the impact of different teaching contexts on teachers' perspectives in relation to technology-mediated teaching.

Second, this investigation is based on a survey and interviews with limited classroom observations due to time and travel limitations. If further observation methods were used and more time given to extensive in-depth interviews, the results would yield richer information about the relevance of teachers' personal principles for their actual practice in technology-mediated teaching and the effects of instruction on students' language learning throughout the language curriculum. Third, the collection of data from interviews was confined to the teachers who contacted the researcher and voluntarily became participants because of their interest in technology integration in Thai tertiary EFL contexts. If more teachers from different institutions had been available to share classroom experiences in using web-based technology in EFL teaching, more comprehensive results would have emerged to capture more fully technology integration in Thai tertiary EFL contexts. However, since my interest was to investigate teachers who had an interest in and experience of teaching with technology, it may be supposed that this group is well represented among those with the motivation to volunteer. As the research design and instruments were customised to fit the Thai tertiary EFL context in order to elicit in-depth data about personal and contextualised beliefs and practices in technology, they are not automatically transferable to other contexts.

## **7.8 Recommendation for future research**

Given the limitations of a small sample size, it would now be valuable to conduct similar research with a larger number of participants. It would also be worthwhile to conduct longitudinal studies and case studies to extend the investigation into teachers' development and changes in technology beliefs and practices in particular settings. As this study has emphasised the significance of personal and contextual elements in teaching with technology, it is also important to understand the background and personal beliefs of teachers and how they interact with the environmental influences of their teaching context. Researchers may like to conduct a study with different groups of teachers, primary, secondary, and tertiary, in different educational settings. It would also be interesting to emphasise students' perceptions towards technology-mediated language instruction as well as the value teachers place on knowing their students' needs in online language learning environments. Other factors, such as teachers'

confidence and competence in using technology also play a role in technology integration and these could be explored in relation to teacher cognition.

## **7.9 Final Remarks**

Finally, an important aim of this research was to address the importance of understanding the lives of in-service teachers who know best about what is good for them and their students. Although including technology in language teaching is not mandatory in most Thai tertiary institutions, EFL teachers cannot escape the need to teach with technology in the near future given the increasing presence and demands of online communication and electronic literacy. This can be seen from the growing number of e-learning programs and online language courses already provided by tertiary institutions in all parts of Thailand, both rural and urban. To ensure successful technology integration, it is highly important to tap teachers' cognition and perceptions about technology and their personal beliefs about language learning and teaching in particular contexts. As teachers play a major role in any kind of education reform and innovation, their perspectives, understandings, and beliefs should not be left unexplored. Both pre-service and in-service teachers should be encouraged to explore and understand the interconnectedness of their own teaching principles and sociocultural influences on their classroom practices and processes; that is crucial for them to develop their technology-mediated language teaching practices. Once these are made clear, teachers will have a more informed basis for the integration of technology into their daily classrooms. It is important that in-service teachers should seek both knowledge and models of good teaching to improve their teaching expertise, whether from their own experience, colleagues, professional development opportunities, or the web. And finally, teachers themselves should represent models of 'good learning' for students and colleagues and never stop learning, following on from His Majesty King Bhumibol Adulyadej of Thailand's fundamental beliefs about learning stated in a royal address in 1961:

*“Learning is a never-ending process. Those who wish to advance in their work must constantly seek more knowledge”*

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## APPENDIX A

### Approval Request Letter

April 1, 2008

President

Naresuan University

Office of the president, Naresuan University

99 Tambon Tapho, Muang, Phitsanulok

Thailand

**Subject: Request for Approval to Conduct Research**

**Dear President,**

My name is Miss Thitirat Suwannasom. I am a PhD student in the School of Language Studies, Massey University, New Zealand. My dissertation topic is “Teacher Cognition about IT integration in EFL writing instruction in the Thai tertiary context”. I would like to ask for approval to conduct the data collection at your institution from May 15, 2008 to September 2008. My data collection process includes giving the questionnaire to English language lecturers, interviewing some instructors, and attending classrooms for observations I have attached the research information for your consideration.

Sincerely Yours,

**Miss Thitirat Suwannasom**

PhD Student

School of Language Studies

Massey University, Palmerston North

New Zealand



## APPENDIX B

### Questionnaire

#### IT integration in EFL instruction and EFL Writing Instruction in the Thai Tertiary Context

แบบสำรวจการใช้เทคโนโลยีสารสนเทศในการเรียนการสอนภาษาอังกฤษและการเรียนการสอนการเขียนภาษาอังกฤษในระดับมหาวิทยาลัย

This survey aims to elicit how Thai tertiary teachers *think and believe about using* IT (Information technology) in tertiary EFL instruction. There are two sections of the survey.

**Section 1 (page 1-9):** Asking about participants' personal information, beliefs, and perceptions about IT in EFL instruction and EFL writing instruction

**Section 2 (page 10-12):** Asking about participants' beliefs and experiences in integrating IT in EFL writing instruction.

#### SECTION 1: IT integration in EFL instruction and EFL writing instruction

##### PART A: Personal Information and the use of IT in EFL instruction

**DIRECTIONS:** Please put a check ✓ to describe yourself

- A1. Gender  Male  Female
- A2. Highest Degree  BA/ BSc/BEd  MA/ MEd/ MSc  
 PhD/ EdD  Other: \_\_\_\_\_
- A3. Academic Position  Lecturer  Assistant  
Professor  Associate Professor  Professor
- A4. Teaching Experience  1-5 years  6-10 years  
 11-15 years  15-20 years  
 More than 20 years

**A5. Please put a check ✓ to select technology uses that describe your most frequent EFL instructional behaviours. (You can select as many as you like)**

- Use e-mail or web discussion to communicate with students
- Use chat to communicate with students
- Use computer programs (e.g. Microsoft Word, PowerPoint) to prepare teaching materials.
- Use or download online materials as learning and teaching resources.
- Use a course management program (e.g. WebCT/ Moodle) to organise classroom interaction or class activities.
- Create a weblog or website for EFL learners
- Have students create weblogs or web pages to post assignments.
- Have students word process their assignments
- Have students exchange their electronic writing with peers for comments.
- Have students do language exercises or tests on recommended websites.
- Have students work collaboratively on an online project
- Other (Please specify:  
\_\_\_\_\_)

**A6. How much is the use of IT in English language instruction *supported or encouraged* at your institution?**

- Not really supported/ encouraged
- Somewhat supported/ encouraged
- Supported/ encouraged
- Strongly supported/ encouraged

**A7. Please complete this sentence (กรุณาเติมประโยคต่อไปนี้ให้สมบูรณ์ )**

**“In my opinion, the advantages of integrating IT in tertiary EFL instructions are...**

“ตามความเห็นของข้าพเจ้า ประโยชน์ของการนำเทคโนโลยีสารสนเทศมาใช้ในการเรียนการสอนภาษาอังกฤษในระดับอุดมศึกษาในประเทศไทยคือ

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**A8. Please complete this sentence (กรุณาเติมประโยคต่อไปนี้ให้สมบูรณ์)**

**“In my opinion, the barriers of integrating IT in tertiary EFL instructions are...**

“ตามความเห็นของข้าพเจ้าอุปสรรคของการนำเทคโนโลยีสารสนเทศมาใช้ในการเรียนการสอนภาษาอังกฤษระดับอุดมศึกษาในประเทศไทยคือ

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.....

## PART B: Beliefs about IT integration in the Thai Tertiary EFL classroom

**DIRECTIONS:** 1) READ the following statements about IT integrations; 2) Put a check ✓ to **CHOOSE UP TO 7 ITEMS** that you want to integrate in your EFL instruction; 3) **UNDERLINE only ONE statement** of your most preferred instruction.

Statements of Beliefs	Select
1. Students word process their written assignments or essays <i>to reduce spelling and mechanical mistakes.</i>	<input type="radio"/>
2. E-mails, chat, and web discussion are used to provide students with <i>greater opportunities to practise English language.</i>	<input type="radio"/>
3. Students use online references such as dictionaries or translation tools <i>to improve their written texts.</i>	<input type="radio"/>
4. Students are encouraged to join social network sites or online groups such as Facebook, hi5, Yahoo, or Google group <i>to exchange ideas with other people in English.</i>	<input type="radio"/>
5. Students <u>do language exercises</u> (e.g. pronunciation practices, choosing the correct verb forms, and error detections) in the CD-ROMs or recommended websites <i>according to their proficiency levels.</i>	<input type="radio"/>
6. Computers are used to deliver multimedia lessons (e.g. shopping, using health services, and using public transportation) in order <i>to promote learners' motivation.</i>	<input type="radio"/>
7. Students go online <i>to get corrective feedback on their language</i> from more competent English language speakers.	<input type="radio"/>
8. Students practise online authentic communication such as sending e-mails and web conferencing <i>as an apprenticeship for their professional skills.</i>	<input type="radio"/>
9. Students work on online tasks using websites <i>to develop critical thinking</i> (e.g. evaluating sources, identifying facts from opinions, and finding possible solutions).	<input type="radio"/>
10. Students study native speakers' language in academic English websites as <i>a model of academic genres</i> such as essays, reports, and summaries.	<input type="radio"/>
11. E-mails and chat rooms are used <i>to promote knowledge construction</i> through inquiring, exchanging ideas, and discussion.	<input type="radio"/>
12. Students use chat and e-mails <i>to establish intercultural competence</i> (i.e. understanding one's culture and others' cultures) with international keypals.	<input type="radio"/>
13. Online authentic English sources such as television or newspaper websites (e.g. BBC, VOA, and Bangkok Post) are used <i>to stimulate students' verbal or written communication.</i>	<input type="radio"/>
14. Students publish their academic or personal web pages <i>to connect themselves to a broader community.</i>	<input type="radio"/>
15. Students individually or collaboratively create an English web site <i>to promote their communities or to serve local organizations</i> (e.g. tourist information sites, schools, and OTOP shops),	<input type="radio"/>

## PART C: Beliefs about EFL writing Instruction

**C1. DIRECTIONS:** Please read the following statements about student behaviours and put a check ✓ to **CHOOSE 5 ITEMS** which you think are the most important features for Thai Tertiary EFL writing instruction.

ข้อใดที่ท่านคิดว่าสำคัญสำหรับนักเรียนของท่านในการเรียนการสอนการเขียนภาษาอังกฤษ

1. Students are able to write grammatically correct sentences.	<input type="radio"/>
2. Students learn how to revise their own drafts as well as to give feedback on the others'.	<input type="radio"/>
3. Students have opportunities to exchange ideas about their writing.	<input type="radio"/>
4. Students are aware of the readers' expectation when they write.	<input type="radio"/>
5. Students develop relationship with others through written texts.	<input type="radio"/>
6. Students usually work independently to complete their drafts.	<input type="radio"/>
7. Students usually work collaboratively to complete their drafts.	<input type="radio"/>
8. Students develop different kinds of writing (e.g. letters, reports, and essays).	<input type="radio"/>
9. Students study focused structures in model texts before they write their own.	<input type="radio"/>

**C2. DIRECTIONS:** Please read the following statements about teacher behaviours in writing instruction and put a check ✓ to **CHOOSE 5 ITEMS** which you think are the most important for Thai Tertiary EFL instruction

ข้อใดที่ท่านคิดว่าสำคัญสำหรับอาจารย์ผู้สอนการเขียนภาษาอังกฤษ

10. Teachers help students to develop the content and ideas of the writing.	<input type="radio"/>
11. Teachers encourage students to write for a student or local newspaper.	<input type="radio"/>
12. Teachers provide writing exercises for students according to their proficiency.	<input type="radio"/>
13. Teachers facilitate group collaborative writing tasks.	<input type="radio"/>
14. Teachers give corrective feedback about the students' language in their drafts.	<input type="radio"/>
15. Teachers provide students different types of texts as models of good writing.	<input type="radio"/>
16. Teachers create a positive environment for students to do a lot of writing.	<input type="radio"/>
17. Teachers encourage students to exchange their writing with penpals or keypals.	<input type="radio"/>
18. Teachers encourage students to write in response to questions or feedbacks	<input type="radio"/>

## PART D: Beliefs about Using IT in EFL Writing Instruction

### DIRECTIONS:

1) READ the following statements about writing instruction;

2) Put a check ✓ to **CHOOSE UP TO 7 ITEMS** that are the most relevant to your beliefs in teaching writing with technology

3) **UNDERLINE only ONE statement** of your most dominant belief about web-based writing.

Statements of Beliefs	Select
1. Students are more <i>motivated to write</i> in a web-based writing activity.	<input type="radio"/>
2. Practicing <i>writing e-mails</i> or <i>posting on web</i> discussions improves students' <i>writing quality</i> .	<input type="radio"/>
3. Practicing <i>writing in a chat or instant massaging</i> improves students' <i>writing quality</i> .	<input type="radio"/>
4. Writing for <i>real online audiences</i> improves students' <i>writing quality</i> .	<input type="radio"/>
5. Practicing writing online increases students' <i>writing fluency</i> .	<input type="radio"/>
6. <i>Teacher involvement</i> is important for students' web-based writing development.	<input type="radio"/>
7. <i>Peer involvement</i> is important for students' web-based writing development.	<input type="radio"/>
8. Students <i>develop higher-level thinking skills</i> such as critical thinking from web-based writing.	<input type="radio"/>
9. Students <i>gain confidence in writing</i> in web-based tasks (e.g. sending e-mails).	<input type="radio"/>
10. Web-based writing supports <i>equal participation</i> among students.	<input type="radio"/>
11. Web-based writing encourages students to <i>develop autonomous language learning</i> .	<input type="radio"/>
12. Writing electronic correspondence prepares students for their <i>professional skills</i> .	<input type="radio"/>
13. Web-based writing instruction meets the <i>students' needs for academic skills</i> .	<input type="radio"/>
14. CMC* tools offer students <i>more interactions</i> among peers and teachers.	<input type="radio"/>
15. Students <i>develop language as well as subject knowledge</i> from web-based writing tasks.	<input type="radio"/>

\* CMC stands for computer mediated communication (e.g. e-mail, chat, web discussion, web conference).

## PART E: Web-based writing instruction in the Thai tertiary context

**DIRECTIONS:** Please read the descriptions of classroom scenarios and put a check

✓ in the box to identify....

How well would these web-based teaching examples *fit into the Thai tertiary context?*

ท่านคิดว่าข้อความบรรยายภาพจำลองการเรียนการสอนโดยใช้เครือข่ายต่อไปนี้เหมาะสมแค่ไหนสำหรับชั้นเรียนภาษาอังกฤษระดับอุดมศึกษาของประเทศไทย

Classroom Scenarios	Definitely not fit	Probably not fit	Probably fit	Definitely fit
<i>Siripen</i> has her students study online grammar tutorials and spend at least one hour a week studying in non-class time. She sends the students an online quiz via e-mail once a week. The online exercises are error detections and editing sentences. The online quizzes are compulsory and count 15% of the whole assessment apart from in-class quizzes and an essay test.				
<i>Rattana</i> has her students write essays and e-mail them to their classmates for feedback. The students learn how to give online feedback on each other's writing. They revise the essays according to peer feedback before e-mailing the final drafts to her. She gives each student written feedback and asks them to revise and resubmit the essay.				
<i>Wuthichai</i> encourages his students to use English as much as possible with keypals to practise their language at least one hour a week in the computer lab. The keypals can be native speakers or non-native speakers of English who may or may not provide language feedback to students. He gives students help on their language and recommends them to use online dictionaries.				
<i>Wanwisa</i> requires her students to find a keypal in other Thai universities. The pair e-mails each other in English at least once a week sharing experience of studying at the tertiary level, problems of learning English, and writing academic papers. The topics of the e-mail can be expanded to personal or course-related matters depending on the pair's interests.				
There is no course book for <i>Jintana</i> 's writing class. Fortnightly, she meets her students and has them vote for the most interesting local and global issues. Then they go to the computer lab to search information and discuss online in a public forum with classmates and global users. Each student has to e-mail the teacher about what they have contributed to the web forum.				

Classroom Scenarios	Definitely not fit	Probably not fit	Probably fit	Definitely fit
<p>Students in <i>Chanchai</i>'s writing class do a lot of online research. They are assigned to work in groups to write two discipline-related essays which are going to be published in the class website. They exchange essays among groups, give comments, and submit them to the teacher. At the end of the course, each student has to write an academic essay and e-mail it to the teacher.</p>				
<p><i>Tassanee</i> introduces her students to web tools such as Moodle or Blackboard for classroom communication. She usually gives prompts or initiates an issue in the web board and asks students to join the forum and follow her model posts. Students will be given additional scores for the frequency of posting and the correctness of the language.</p>				
<p><i>Pipat</i> usually downloads materials from EFL websites and online writing labs to use in the classroom. Students' written drafts have to be word-processed and e-mailed to him. He recommends EFL writing websites to students so they can study after class. Students are welcome to e-mail him asking about course assignments and general questions about their study.</p>				
<p>In <i>Arunya</i>'s class, each student is required to have a web page to post weekly written journals, essays, or other class assignments. Students can design their web page layout including videos, images, and external links. At the end of the course, students evaluate their own web writing performance and have their classmates, the teacher, and real-life web readers' assessments as well.</p>				

**E10.1: PLEASE SELECT A TEACHER** from the above scenarios that are *the most relevant to your teaching orientation*. Please write an explanation for your choices.

ให้ท่านเลือก 1 ข้อ จากข้อความบรรยายภาพจำลองการสอนข้างต้น (F1-F9)

ที่ท่านคิดว่า สอดคล้องกับแนวคิดเกี่ยวกับการสอนของท่านมากที่สุด

พร้อมทั้งกรุณาเขียนบรรยายเหตุผลของท่านในช่องว่าง

“I choose the classroom scenario of \_\_\_\_\_ (the teacher’s name)”

My reasons: (ท่านสามารถเขียนตอบเป็นภาษาไทยหรือภาษาอังกฤษได้ตามความสะดวก)

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**E10.2: PLEASE SELECT A TEACHER** from the above scenarios *that you do not see yourself doing* in your tertiary EFL class. Please write an explanation for your choices.

ให้ท่านเลือก 1 ข้อ จากข้อความบรรยายภาพจำลองการสอนข้างต้น (F1-F9)

ที่ท่านคิดว่า ไม่สอดคล้องกับแนวคิดเกี่ยวกับการสอนของท่านมากที่สุด

พร้อมทั้งกรุณาเขียนบรรยายเหตุผลของท่านในช่องว่าง

“I don’t see myself teaching like \_\_\_\_\_ (the teacher’s name)”

My reasons: (ท่านสามารถเขียนตอบเป็นภาษาไทยหรือภาษาอังกฤษได้ตามความสะดวก)

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**SECTION 2: Integration of web-based activities in tertiary writing instruction.**

**PART F: Web-based writing instruction in the tertiary EFL classroom**

**F1: Please read the statements and put a check ✓ in the box to answer this question. “How often do your students do these web-based writing activities?”**

นักเรียนของท่านทำกิจกรรมการเขียนบนเครือข่ายดังต่อไปนี้บ่อยแค่ไหน

Students' web-based writing activities	Never	Rarely	Often	Very Often
Students write e-mails to communicate with their classmates or the teacher in English				
Students join web discussions exchanging ideas in English				
Students chat online with their classmates or the teacher in English				
Students submit writing assignments by sending e-mails or e-mail attachments				
Students submit their writing by posting them on the class webpage or web board				
Students go online searching before writing paragraphs, reports, or essays				
Students write e-mails to other people or organizations for further information				
Students receive teacher feedback on their writing by e-mail or post message				
Students give feedback on each other's electronic drafts				
Students chat online or exchange e-mails with native speakers or non-native speakers of English				
Students use web-based references (e.g. dictionaries) to improve their writing				
Each student creates a webpage or blog to post their writing				
Students create a webpage or blog to post their written work in pair or group				
Students communicate with readers visiting their web pages				
Students improve their web-based writing according to the readers' feedback				

Students engage in web-based writing according to their own interests or communicative purposes.				
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**F2: Please read the statements and put a check ✓ in the box to answer this question**

**“How often do you do these web-based activities in your EFL teaching?”**

ท่านทำกิจกรรมที่เกี่ยวข้องกับการสอนการเขียนโดยผ่านเครือข่ายบ่อยแค่ไหน

Teachers' web-based activities	Never	Rarely	Often	Very Often
Read EFL writing websites or journals about web-based writing instruction				
Download online teaching materials to use in the classroom				
Have students e-mail or submit assignments online				
Upload classroom materials on a webpage or virtual classroom				
Keep an e-journal or web-based writing log about your teaching				
Chat online with students based on classroom sessions or general issues				
Exchange e-mails with students based on classroom sessions or general issues				
Participate in a web discussion with students				
Exchange ideas about web-based teaching with other ESL/ EFL teachers online				
Create or have a website or blog created for classroom communication				

**F3. What do you think is *the most effective way* to integrate web-based activity in your current EFL class?**

(ท่านสามารถเขียนตอบเป็นภาษาไทยหรือภาษาอังกฤษได้ตามความสะดวก)

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**F4: EFL Instructors' Reflective Accounts**

**DIRECTIONS:** *Please write to answer*

**Please write *anything that you want to share* about your opinion related to IT application in EFL teaching in the Thai tertiary context**

*(ท่านสามารถเขียนตอบเป็นภาษาไทยหรือภาษาอังกฤษได้ตามความสะดวก)*

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**😊 *Thank you very much for your cooperation* 😊**

Please feel free to contact me at [tessie\\_th@hotmail.com](mailto:tessie_th@hotmail.com)

or **Tel: 083 763 6147** if you have enquiries, comments, or additional information that you would like to share.

## APPENDIX C

### Interview guide

#### **Background and Beliefs**

*“How would you describe yourself as an EFL learner/ teacher?”*

- EFL learning and teaching styles
- Education and professional training
- Working experiences
- Academic Interests/ research/ publications – books, articles, blogs, websites
- Beliefs about teaching and learning English

#### **Use of IT in teaching and learning**

*“To what extent do you have integrated technology in your instruction and communication?”*

- Most common applications at work
- Most common applications at home
- Knowledge/ Skills acquired
- IT potential in language learning
- Nature of the courses
- Student background
- Frequency of IT use
- Types of activities related to technology
- Objectives of activities/ assignments
- Students’ involvement in lessons
- Teacher involvement in lesson
- Roles of feedback
- Instruction materials and artifacts
- Assessment and evaluation
- Supports/ problems found in each classroom context

### **Teachers' Writing Instruction Approaches**

*“What are the natures of technology-enhanced writing tasks in your classes?”*

- Types of Writing Assignment/ Genre
- Course Objectives
- Individual/ Pair / Group
- Classroom artifacts
- Interaction among students
- Interaction with teachers
- Audience & Feedback
- Assessment/ Evaluation

### **Perceptions about working context**

*“How do feel being an IT English teacher at this institution?”*

- Supports from your colleagues/ department/ institution
- EFL instruction in the Thai tertiary context
- Students feedback
- Future plan/ development

### **External Factors**

- ICT facilities
- Internet connection
- Service Availability
- Computer labs for students
- Computer labs for language learning
- Self-access centres and libraries
- Library databases and access

### **Teachers' Instructional Thought**

Please tell me about what you have planned so far for this course? (For yourself as a teacher and for the class)

- Are there any new lessons or activities that you look forward to use in the class?
  
- What teaching techniques from the previous classes that you are *not going to use them again* this semester?
  
- Do you think there would be any challenges for your job this semester? What would you do with the challenges?
  
- Please describe an 'ideal student' that you want to have in your class?

### **Other questions**

1. What is your educational and technology background?
2. What do you think about using technology in EFL instruction?
3. What are applications that you use in your teaching?
4. What inspire you to integrate technology in EFL teaching?
5. What do your students say about using technology in language classrooms?
6. What do your colleagues say about using technology in language teaching?
7. What are the affordances and barriers to technology adoption at your workplace?
8. What are your recommendations for technology integration in Thai tertiary contexts?



## APPENDIX D

### Examples of classroom activity

#### Example 1

##### Ajarn Panadda's Search Engine Exercise

**Direction: Use Google to search information about the following keywords and fill in the blanks.**

Make a new Word document to show your answers;

1. **Khalil Gibran** was born in the year.....

2. One of his famous works is "Sand and ....."

3. His pictures is here (please paste the picture here)

5. "**Ebay**" is a famous website for people to ..... things.

6. "**Asus Eee**" is amodel of.....

7. "**King of Clay**" is the nickname for ....., a tennis player in French Open Tournament this year.

8. Please complete the song lyric;

Don't know much about your life. Don't know much about your world, but  
don't want to be alone tonight, on ..... earth.

9. The singer of this song is .....

10. "....." in Spanish means " I love you."

*Save this page with your name and upload it onto Online Assignment 2 before 13.00 today.*

## Example 2

### Ajarn Suwit's Language Lab Exercise

<b>205203 English III: Listening Activities 3</b>	
Go to the following websites and listen to the conversation. Write down useful expressions that you hear in the space provided.	
<b>Websites</b>	<b>Topic &amp;</b>
<a href="http://www.real-english.com/new-lessons.asp">http://www.real-english.com/new-lessons.asp</a>	<b>Greeting</b> An introduction to introducing people.
<a href="http://www.real-english.com/reo/12/unit12.html">http://www.real-english.com/reo/12/unit12.html</a>	What's the weather like?
<a href="http://www.real-english.com/reo/20/unit20.html">http://www.real-english.com/reo/20/unit20.html</a>	Going to places
<a href="http://www.real-english.com/reo/9/unit9.html">http://www.real-english.com/reo/9/unit9.html</a>	Telling the time in the USA and the UK

## Appendix E

### Research Journal Extracts

#### Extract 1

**Friday, 13 June 2008**

**Into the Jungle** 

Interviews data is piling up on my desk and I really have no idea what I should do with them. I told two lecturers at my uni that I would ask them to give me two interviews but it's impossible to do so right now as I know that I need several interviews in order to get deeper information. Although we have known each other for a long time, two interviews with them didn't give me enough data of their cognition. I should ask them in the way that they will be able to reflect about their thinking and beliefs towards using technology. Yesterday I asked a lecturer to draw me mind mapping about her thinking while she is using technology in her instruction. I told her that I have never asked people to do mind mapping for me. Though she seemed understanding what I want from her. I know that I am entangling my data collection. Hope I have done what I should have done... Conducting case studies is something new for me. I have never known that it would be complicated like this. Sometimes I feel awkward to ask people about their beliefs and opinion. It's like I am trying to uncover their inner selves. I would spend more time until I know how to ask questions, respond to their opinion, intrigue their reaction, and looking into their pedagogical beliefs. I should be very careful with the data as I'm dealing with people's beliefs, tapping their personal values.

Posted by Tessie at [11:57](#)

#### **2 comments:**

**Anonymous said...**

I'm not an expert in your field of study.  
But, after reading your blog, I would say that you should try to collect the main points in the data.

There should be some common points. In each points, you should make a discussion in different possible ways. Then, go to the libraries and dig up all the relevant documents to support your ideas of discussion.

[20 June 2008 02:41](#) 

**Tessie said...**

Thank you very much for your comment! It really works! After I read your comment, I went for another interview and asked the participant only key questions and we had a really good time exploring teachers' cognition about using IT in EFL teaching. I really appreciate the development of my data

gathering. Your suggestion is invaluable. Cheers!

[28 June 2008 01:41](#) 

## Extract 2

Saturday, July 12, 2008

### Activity Theory Revisited: Teachers' Technology Use

Months ago I tried very hard to understand Activity Theory. After I attended Prof. Thorne's presentation, I read a sociocultural book and took note from the chapters. At that time, I feel that it will be useful for my research, but it's not clear at the beginning stage. This is the link to the previous post about activity theory <http://tsreadinglog.blogspot.com/2007/11/activity-theory-on-contradictions-in.html>

Today I had a look at it again and found more research relevances. I want to study this sociocultural model again as well as read research articles which present this model as the framework. Activity theory is used as a framework to identify, examine and describe how the socio-cultural factors support technology integration. Previous studies mentioned the advantages of using Activity Theory as a theoretical framework to analyse effective IT integration in classroom environment. Researchers have agreed that Activity Theory has a potential to describe sociocultural factors affecting teachers' integration of technology. As a matter of fact, the centre of classroom learning and teaching is the teacher. Learning is not from textbooks, materials, activities, or technology; otherwise, learning occurs when teachers engage their students in making sense out of ideas, contents, and related tools including IT.

My research focus is on teacher cognition about their technology use in EFL classroom. Teachers interact with the tool (computers) and they perceive the tool within its relevant environmental context. Therefore, teachers' thinking and how they interact with technology and its context should be analysed in the particular setting in which the activity is taking place.

Posted by Tessie at [4:57 AM](#)

Labels: [Activity Theory Revisited: Teachers' Technology Use](#)

3 comments:

#### **Anonymous said...**

Activity theory can be useful in analyzing educational practices. Have you read Yrjo Engestrom's work in this area? He points out that teachers and students are not involved in the same activity because they have different objects, and thus they are not part of the same community. (Expansive) learning occurs, according to Engestrom, when the object of one activity becomes a tool in another activity.

[July 15, 2008 2:04 AM](#) 

#### **Tessie said...**

Thank you very much for you comment and suggestion.

[July 15, 2008 7:00 PM](#) 

#### **Anonymous said...**

I am currently busy with a case study and i would like to use activity theory as a framework to show how the whiteboard can be utilized in the

classroom to enhance learning. Currently i am struggling to understand Activity theory.

[April 23, 2009 1:14 AM](#)

### Extract 3

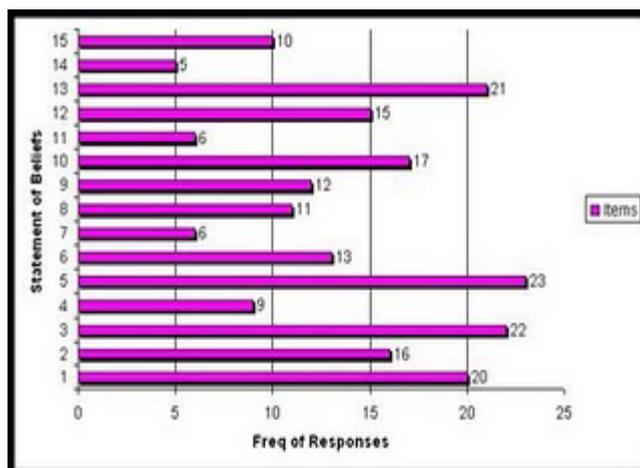
**Friday, 12 September 2008**

[Tessie's Preliminary Research Findings](#) 

Dear Colleagues,

I finally got some preliminary findings from the survey. The questionnaire about using technology (computers and the Internet) in EFL tertiary teaching was administered to 42 lecturers from 7 Thai public universities. It was found that among 15 statements of beliefs about technology-enhanced language instruction, the majority of the respondents reported that they hold beliefs represented in statements number 5, 3, and 13 respectively. More than 70 percent of the respondents agreed on the statement of beliefs number 5, that student do online language exercises according to their proficiency levels. In the same way, statement of beliefs number 3 mentioning students using online references such as dictionaries or translation tools to improve their written texts was also selected. There was as well a high response rate on Item 13 which represents the role of technology as a tool for student to access authentic language input such as television, radio, and news websites in order to stimulate students' language output.

On the other hand, only 16.6 percent of the respondents had chosen statement number 14 which focuses on students creating web pages to connect themselves to a broader community. In addition, only 20 percent of the respondents had agreed on number 11 (using the tool to promote knowledge construction) and number 7 (students go online to **get corrective feedback**) as their most relevant beliefs about technology in their teaching.



**From the above results, I would like to open a discussion here.**

- Why do Thai university teachers perceive technology integration in that way?
- What would be underlying reasons of their stated beliefs?

All comments, suggestions and ideas from language teachers and students are very much welcome!

NOTE: Please scroll down and you will see a 'post a comment' where you can type your comment.

Thank you. Your interest is very much appreciated. :-)

Posted by Tessie at [16:25](#)

Labels: [Tessie's Preliminary Research Findings](#)

## 2 comments:

Anonymous said...

First of all, it's better to know all 17 statements of beliefs (as a EFL teacher, I can select mine) and some background of the 42 informants (it would help in case if we want to refer to their background of knowledge, computer skill or frequency of their Internet access) before discussing here. However, according to the original post, I think the respondents might concern more about students' autonomous learning and self-practice that they can learn the language when they want to learn and when they are ready to practise it. Doing so on their own, they can make sure that the exercise they are doing is appropriate to their English proficiency level (individual differences in learners are taken account here). If they choose to do an easy one, they can get high scores. This will motivate them to try the more difficult one and see how well they can demonstrate their English (I think i+1 theory of Krashen can explain this). Moreover, the respondents might realize that the students should have an opportunity to get familiar with the native accent (as we know, Thai students rarely have a chance to communicate in English and with the native speaker, so they might think it's easier to access to the online authentic language input to enhance their English knowledge). The principle on extensive L2 input is also concerned in this case.

On the other hand, students' computer and Internet skills might be taken into account that some respondents agree that most Thai students cannot create their own web pages and their communicative English is not good enough to make connection to a broader community. Also, they might realize that online corrective feedback is not as enough as the learners want and maybe not a clear explanation for them.

As a learner and EFL teacher, I don't think that online corrective feedback can provide with all what we want. Maybe, we still question what we've got from the feedback itself. It helps but to a certain degree. That's why the role of teachers is still important, and technology and CALL cannot completely replace it.

[13 September 2008 02:01](#) 

[Tessie](#) said...

Thank you so much for being the first contributor to this discussion. You've mention teachers' concerns on students' language proficiency which become the barrier for establishing interaction with international keypals. This is one of the most dominant reasons why Thai university teachers perceive technology as a tool for individual practice.

I would like to hear more from our fellow teachers. Is it true, in the Thai EFL context, that we will never reach the interactive features of information technology?

Cheers!

[13 September 2008 02:24](#) 

## APPENDIX F

### Ethical Approval Letter

4 March 2008

Ms Thitirat Suwannasom  
School of Language Studies  
PN231

Dear Thitirat

**Re: Teacher Cognition about IT Integration in ERL Writing Instruction in the Thai Tertiary Context**

Thank you for your Low Risk Notification which was received on 4 March 2008.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

**A reminder to include the following statement on all public documents:**

*“This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.*

*If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Research Ethics), telephone 06 350 5249, e-mail [humanethics@massey.ac.nz](mailto:humanethics@massey.ac.nz)”.*

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

Sylvia V Rumball (Professor)  
**Chair, Human Ethics Chairs' Committee and  
Assistant to the Vice-Chancellor (Research Ethics)**



## APPENDIX G

### Survey Participants' Information Sheet

#### Information Sheet

#### Teacher cognition about IT integration in EFL writing instruction in the Thai Tertiary Context

(Target Respondents: University EFL Lecturers)

#### Researcher and Contact Details

Thitirat Suwannasom

Brief Profile: Ms Suwannasom is a lecturer in the Department of Western Languages, Naresuan University, Thailand. She is currently pursuing her doctoral degree at the School of Language Studies, Massey University, New Zealand.

#### **Correspondence:**

School of Language Studies  
Massey University (Turitea Campus)  
Private Bag 11 222  
Palmerston North, New Zealand  
Tel: 00 64 6 3569099 Extn. 2414  
E-mail: [tessie\\_th@yahoo.com](mailto:tessie_th@yahoo.com)

#### Supervisors and Contact Details

Professor Cynthia White

E-mail: [c.j.white@massey.ac.nz](mailto:c.j.white@massey.ac.nz)

Dr. Ute Walker

E-mail: [U.Walker@massey.ac.nz](mailto:U.Walker@massey.ac.nz)

#### **Purpose**

The purpose of this study is to investigate the following concerns:

- 1) What is the nature of Thai tertiary teachers' cognition about IT integration in EFL instruction?
- 2) What is the nature of Thai tertiary teachers' cognition about EFL writing instruction?
- 3) What is the nature of Thai tertiary teachers' cognition about IT integration in EFL writing instruction?

4) To what extent do Thai tertiary teachers integrate IT in their EFL writing instruction?

5) What are the complexities relating to IT integration in the Thai EFL tertiary context?

### **Project Procedure**

You have been invited to fill in this questionnaire. Your identity will not be disclosed. The collected data will be used solely for the purpose of this research study.

The questionnaire will take about 20 minutes to complete. This data will be kept in secured cabinets and is only accessible to the researcher. After 5 years, all the data will be destroyed and disposed of by the supervisor.

A summary of the project findings will be made available if requested.

**\* Please fill the consent form before you answer the questionnaire.\***

### **Participants Involvement**

Participants will be asked to respond to questions about beliefs and current practice in using IT in EFL instruction, writing instruction, and integrating IT in EFL writing instruction.

### **Participant's Right**

You have the right to

- decline participation
- decline to answer any particular question
- withdraw from the study (at any stage)
- ask any questions about the study at anytime during the participation
- provide information on the understanding that your name will not be used unless you given the permission to the researcher
- be given access to a summary of the project findings when it is concluded

### **Project Contacts**

If you have any questions or comments regarding this research, please feel free to call or e-mail the researcher and/or the supervisors.

### **Committee Approval Statement**

**This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.**

**If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor**

**Sylvia Rumball, Assistant to the Vice-Chancellor (Research Ethics),  
telephone 06 350 5249, e-mail humanethics@massey.ac.nz.**

**Teacher cognition about IT integration in EFL writing instruction in the Thai  
Tertiary Context**

**Consent Form (Survey)**

I have read the Information Sheet and have had the details explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I understand I have the right to withdraw from the study at any time and to decline to answer any particular questions.

I agree/ to provide information to the researcher on the understanding that my name will not be used without my permission.  
(The information will be used only for this research and publications arising from this research project).

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: .....

Name: .....

Date: .....



## APPENDIX H

### Interview Participants' Information Sheet

#### Information Sheet

#### Teacher cognition about IT integration in EFL writing instruction in the Thai Tertiary Context

(Target Respondents: University EFL Lecturers)

#### Researcher and Contact Details

Thitirat Suwannasom

Brief Profile: Ms Suwannasom is a lecturer in Department of Western Languages, Naresuan University, Thailand. She is currently pursuing her doctoral degree at the School of Language Studies, Massey University, New Zealand.

#### Correspondence:

School of Language Studies  
Massey University (Turitea Campus)  
Private Bag 11 222  
Palmerston North, New Zealand  
Tel: 00 64 6 3569099 Extn. 2414  
E-mail: [tessie\\_th@hotmail.com](mailto:tessie_th@hotmail.com)

#### Supervisors and Contact Details

Professor Cynthia White

E-mail: [c.j.white@massey.ac.nz](mailto:c.j.white@massey.ac.nz)

Dr. Ute Walker

E-mail: [U.Walker@massey.ac.nz](mailto:U.Walker@massey.ac.nz)

#### Purpose

The purpose of this study is to investigate the following concerns:

- 1) What is the nature of Thai tertiary teachers' cognition about IT integration in EFL instruction?
- 2) What is the nature of Thai tertiary teachers' cognition about EFL writing instruction?
- 3) What is the nature of Thai tertiary teachers' cognition about IT integration in EFL writing instruction?

4) To what extent do Thai tertiary teachers integrate IT in their EFL writing instruction?

5) What are the complexities relating to IT integration in the Thai EFL tertiary context?

### **Project Procedure**

You have been invited to participate in the interviews and class observations. Your identity will not be disclosed. The collected data will be used solely for the purpose of this research study.

The interviews will be held two times, before and after a class observation. Each will take approximately 45 minutes. Class observations will be arranged according to your convenience of time, and the length of each class observation will be determined by the participant.

The researcher will ask for your permission every time before audio/video recording each interview and observation. This data will be kept in secured cabinets and is only accessible to the researcher. After the completion of the project, all the data will be destroyed and disposed of by the supervisor.

A summary of the project findings will be made available if requested.

**\* Please fill the consent form before you participate in the interviews and class observations.\***

In the interview phase, you will be asked to:

1. Elicit your answers in the survey questionnaire
2. Answer interview questions base on scenarios of IT integration in EFL classroom
3. Provide personal information about educational background and other professional experiences.
4. Provide some classroom artifacts or related course materials
5. Join a web forum or a roundtable session to exchange ideas about using technology in EFL teaching

In the observation phrase, you will be asked to:

1. Allow the researcher to observe your classroom teaching at arranged time
2. Allow the researcher to take notes or audio/video tape your teaching
3. Reflect on your teaching scenarios orally or in a written form after the observation

### **Participants Involvement**

To get an insight into tertiary teacher cognition and how teachers use IT in EFL classrooms especially in writing instruction, the participants will be asked to provide in-depth information about themselves as EFL lecturers, their teaching approaches, their experience in using technology, and their understanding of the institutional and social

context in the interview sessions. In the observation phrase, the participants will be asked to allow the researcher to observe the class at arranged time as well as have access to some teaching materials.

### **Participant's Right**

You have the right to

- decline participation
- decline to answer any particular question
- withdraw from the study (at any stage)
- ask any questions about the study at anytime during the participation
- provide information on the understanding that your name will not be used unless you given the permission to the researcher
- be given access to a summary of the project findings when it is concluded
- ask for the audio/video tape to be turned off at any time during the interview and observation

### **Project Contacts**

If you have any questions or comments regarding this research, please feel free to call or e-mail the researcher and/or the supervisors.

### **Committee Approval Statement**

**This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.**

**If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Research Ethics), telephone 06 350 5249, e-mail [humanethics@massey.ac.nz](mailto:humanethics@massey.ac.nz).**

**Teacher cognition about IT integration in EFL writing instruction in the Thai  
Tertiary Context**

**Consent Form (Interview and Observation)**

I have read the Information Sheet and have had the details explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I understand I have the right to withdraw from the study at any time and to decline to answer any particular questions.

I agree/ do not agree to the interview being audio taped.

I agree/ do not agree to the interview being video taped.

I agree/ do not agree to be observed in my classes.

I agree/ do not agree to the class observation being had-recorded.

I agree/ do not agree to the class observation being audio taped.

I agree/ do not agree to the class observation being audio taped.

I also understand that I have the right to ask for the audio/video tape to be turned off at any time during the interview or the class observation.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: .....

Name: .....

Date: .....

## APPENDIX I

### Participants' Responses to the Questionnaire

Table I.1

*Participants' responses to frequent technology uses in EFL instruction*

<b>Frequent technology uses in EFL instruction</b>	<b>Score</b>
Use e-mail or web discussion to communicate with students	26
Use chat to communicate with students	9
Use computer programs (e.g. Microsoft Word, PowerPoint) to prepare teaching materials.	41
Use or download online materials as learning and teaching resources.	40
Use a course management program (e.g. WebCT/ Moodle) to organise classroom interaction or class activities.	10
Create a weblog or website for EFL learners	7
Have students create weblogs or web pages to post assignments.	4
Have students word process their assignments	27
Have students exchange their electronic writing with peers for comments.	7
Have students do language exercises or tests on recommended websites.	22
Have students work collaboratively using the Internet and presentation programs.	5

Table I.2

*Participants' responses to statements of beliefs about technology integration in EFL instruction*

<b>Statement of beliefs</b>	<b>Score</b>	<b>Percentage</b>
Students use word processing to reduce spelling and mechanical mistakes.	31	65.95
Computers are used to deliver multimedia lessons in order to promote learners' motivation.	26	55.31
E-mails and chat promote knowledge construction through inquiring, exchanging ideas, and discussion.	15	31.91
E-mails, chat, and web discussion provide students with greater opportunities to practise English language.	27	57.44
Online authentic English sources are used to stimulate students' verbal or written communication.	34	72.34
Students are encouraged to join social network sites or online groups to exchange ideas with other people in English.	17	36.17
Students do language exercises in the CD-ROMs or recommended websites according to their proficiency levels.	34	72.34
Students get corrective feedback from more competent English language speakers.	11	23.40
Students individually or collaboratively create an English web site to promote their communities.	15	31.91
Students practise online authentic communication such as sending e-mails and web conferencing as an apprenticeship for their professional skills.	21	44.68
Students publish web pages to connect themselves to a broader community.	11	23.40
Students study native speakers' language in academic English websites as a model of academic genres such as essays, reports, and summaries.	24	51.06
Students use chat and e-mails to establish intercultural competence with international keypals.	23	48.93
Students use online references such as dictionaries or translation tools to improve their written texts.	32	68.08
Students work on online tasks using websites to develop critical thinking.	22	46.80

Table I.3

<b>Students' Behaviours</b>	<b>Selected</b>	<b>Percentage</b>
Students write grammatically correct sentences	36	76.6
Students revise their own drafts as well as to give feedback on the others'	33	72.3
Students exchange ideas about their writing with peers	28	59.6
Students are aware of the readers' expectation	24	51.1
Students develop relationship with others through written texts	21	21.3
Students work independently to complete their drafts	18	40.4
Students work collaboratively to complete their drafts	21	44.7
Students practice different kinds of writing (e.g. letters, reports, and essays)	33	72.3
Students study model texts before they write their own	26	57.4

*Participant  
s' Beliefs  
about  
students'  
behaviour  
in EFL  
writing  
instruction*

Table I.4

*Participants' Beliefs about teachers' behaviour in EFL writing instruction*

<b>Teachers' Behaviours'</b>	<b>Score</b>	<b>Percentage</b>
Teachers help students to develop the content and ideas of the writing.	39	83
Teachers encourage students to write for a student or local newspaper.	5	10.6
Teachers provide writing exercises for students according to their proficiency.	31	66
Teachers facilitate group collaborative writing tasks.	21	44.7
Teachers give corrective feedback about the students' language in their drafts.	36	76.6
Teachers provide students different types of texts as models of good writing.	36	76.6
Teachers create a positive environment for students to do a lot of writing.	32	70.2
Teachers encourage students to exchange their writing with penpals or keypals.	14	29.8
Teachers encourage students to write in response to questions or feedbacks	18	40.4

Statement of Beliefs	Score	Percentage
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Table I.5

*Participants' responses to statements about using IT in EFL writing instruction*

Table I.6  
*Participants' responses to web-based EFL writing instruction scenarios*

Students are more motivated to write in a web-based writing activity.	23	48.94
Writing emails / web discussions improves writing quality	23	48.94
Writing to chat or instant message improves students' writing quality.	11	23.40
Writing for real online audiences improves students' writing quality.	14	29.79
Practicing writing online increases students' writing fluency.	34	72.34
Teacher involvement is important for students' web-based writing	27	57.45
Peer involvement is important for students' web-based writing	25	53.19
Students develop higher-level thinking skills such as critical thinking from web-based writing.	19	40.43
Students gain confidence in writing in web-based tasks	23	48.94
Web-based writing supports equal participation among students.	11	23.40
Web-based writing encourages students to develop autonomous language learning.	25	53.19
Writing electronic correspondence prepares students for their professional skills.	13	27.66
Web-based writing instruction meets the students' needs for academic skills	5	10.64
CMC offers students more interactions among peers and teachers.	26	55.32
Students develop language as well as subject knowledge from web-based writing tasks.	26	55.32

<b>Classroom Scenarios</b>	<b>Definitely not fit</b>	<b>Probably not fit</b>	<b>Probably fit</b>	<b>Definitely fit</b>
F1. <i>Siripen</i> has her students study online grammar tutorials and spend at least one hour a week studying in non-class time. She sends the students an online quiz via e-mail once a week. The online exercises are error detections and editing sentences. The online quizzes are compulsory and count 15% of the whole assessment apart from in-class quizzes and an essay test.	3	9	27	7
F2. <i>Rattana</i> has her students write essays and e-mail them to their classmates for feedback. The students learn how to give online feedback on each other's writing. They revise the essays according to peer feedback before e-mailing the final drafts to her. She gives each student written feedback and asks them to revise and resubmit the essay.	2	10	26	9

Table I.6  
(cont  
inue)

F3. <i>Wuthichai</i> encourages his students to use English as much as possible with keypals to practise their language at least one hour a week in the computer lab. The keypals can be native speakers or non-native speakers of English who may or may not provide language feedback to students. He gives students help on their language and recommends them to use online dictionaries.	3	9	24	10
F4. <i>Wanwisa</i> requires her students to find a keypal in other Thai universities. The pair e-mails each other in English at least once a week sharing experience of studying at the tertiary level, problems of learning English, and writing academic papers. The topics of the e-mail can be expanded to personal or course-related matters depending on the pair's interests.	2	10	21	13
F5. There is no course book for <i>Jintana</i> 's writing class. Fortnightly, she meets her students and has them vote for the most interesting local and global issues. Then they go to the computer lab to search information and discuss online in a public forum with classmates and global users. Each student has to e-mail the teacher about what they have contributed to the web forum.	7	15	18	7

Classroom Scenarios	Definitely not fit	Probably not fit	Probably fit	Definitely fit
F6. Students in <i>Chanchai</i> 's writing class do a lot of online research. They are assigned to work in groups to write two discipline-related essays which are going to be published in the class website. They exchange essays among groups, give comments, and submit them to the teacher. At the end of the course, each student has to write an academic essay and e-mail it to the teacher.	2	10	20	14
F7. <i>Tassanee</i> introduces her students to web tools such as Moodle or Blackboard for classroom communication. She usually gives prompts or initiates an issue in the web board and asks students to join the forum and follow her model posts. Students will be given additional scores for the frequency of posting and the correctness of the language.	3	10	21	13

F8. <i>Pipat</i> usually downloads materials from EFL websites and online writing labs to use in the classroom. Students' written drafts have to be word-processed and e-mailed to him. He recommends EFL writing websites to students so they can study after class. Students are welcome to e-mail him asking about course assignments and general questions about their study.	3	3	19	20
F9. In <i>Arunya</i> 's class, each student is required to have a web page to post weekly written journals, essays, or other class assignments. Students can design their web page layout including videos, images, and external links. At the end of the course, students evaluate their own web writing performance and have their classmates, the teacher, and real-life web readers' assessments as well.	3	11	20	12

Table I.7

*Mean scores of participants' responses to web-based EFL writing instruction scenarios*

Scenario/Frequency	DNF	PNF	PF	DF	Mean	S.D.
F1: Siripen (behaviourist)	3	9	27	7	2.82	0.76
F2: Rattana (behaviourist)	2	10	26	9	2.89	0.75
F3: Wuthichai (sociocognitive)	3	9	24	10	2.89	0.82
F4: Wanwisa (cognitive)	2	10	21	13	2.97	0.82
F5: Jintana (sociocognitive)	7	15	18	7	2.53	0.92
F6: Chanchai (cognitive)	2	10	20	14	3	0.84
F7: Tassanee (cognitive)	3	10	21	13	2.93	0.86
F8: Pipat (behaviourist)	3	3	19	20	3.32	0.85
F9: Arunya (sociocognitive)	3	11	20	12	2.89	0.87

Table I.8

*Participants' responses to students' behaviours in web-based writing instruction*

<b>Students' Behaviours</b>	<b>Never</b>	<b>Rarely</b>	<b>Often</b>	<b>Very Often</b>
Students write e-mails to communicate with their classmates or the teacher in English	9	24	7	3
Students join web discussions exchanging ideas in English	21	15	6	1
Students chat online with their classmates or the teacher in English	17	14	9	2
Students submit writing assignments by sending e-mails or e-mail attachments	8	19	10	5
Students submit their writing by posting them on the class webpage or web board	31	7	3	2
Students go online searching before writing paragraphs, reports, or essays	4	14	12	10
Students write e-mails to other people or organizations for further information	17	20	4	1

Students receive teacher feedback on their writing by e-mail or post message	15	17	10	1
Students give feedback on each other's electronic drafts	31	10	1	1
Students chat online or exchange e-mails with native speakers or non-native speakers of English	10	23	5	4
Students use web-based references (e.g. dictionaries) to improve their writing	3	19	13	5
Each student creates a webpage or blog to post their writing	27	12	1	2
Students create a webpage or blog to post their written work in pair or group	31	9	2	0
Students communicate with readers visiting their web pages	20	12	3	1
Students improve their web-based writing according to the readers' feedback	26	11	4	1
Students engage in web-based writing according to their own interests or communicative purposes.	18	13	5	5

Table I.9

*Participants' responses to teachers' behaviours in web-based writing instruction*

<b>Teachers' behaviours</b>	<b>Never</b>	<b>Rarely</b>	<b>Often</b>	<b>Very Often</b>
Read EFL writing websites or journals about web-based writing instruction	7	18	13	8
Download online teaching materials to use in the classroom	1	9	21	15
Have students e-mail or submit assignments online	22	27	13	4
Upload classroom materials on a webpage or virtual classroom	18	15	9	3
Keep an e-journal or web-based writing log about your teaching	27	19	5	0
Chat online with students based on classroom sessions or general issues	26	24	4	2
Exchange e-mails with students based on classroom sessions or general issues	14	15	7	9

Participate in a web discussion with students	22	15	6	3
Exchange ideas about web-based teaching with other ESL/ EFL teachers online	22	18	6	0
Create or have a website or blog created for classroom communication	28	12	1	6

## **APPENDIX J**

Interview summary examples

Example 1

**Interview with Ajarn Jay (pseudonym)**

July 18, 2008 (2.00-4.00 pm)

**Q1: What's going on in his class?**

Jay normally used asynchronous communication mode with students such as e-mails and web discussion. He used an LMS program called Max Learn which was provided for teachers and students at this institution. The program recorded all the activities students did. It was convenient for both students and teacher to follow the lessons. Students could see teachers' feedback on their friends' writing. He often asked student

to submit their written works online using e-mail attachment, but he would print them out for marking. Some students needed a lot of encouragement to participate online. In addition, some students did not have personal access to the networked computers. He wished the institution would have provided more computer labs for students, so they would have more time to learn from online lessons.

In his class, he showed students how to use CD-Rom dictionary, hoping they would learn from the electronic reference. When he gave feedback, he used correcting symbols. He reported that students should be responsible to correct their sentences then they would learn from their mistakes. The kind of writing feedback that he gave students was indirect feedback. He thought that students' multiple revisions would benefit students' writing skills. Therefore, he asked students to exchange their writing with peers. For him, audience is important for writing development as readers may see some weak points in the writing and then give feedback. However, pair works and individual works should have different tasks goals. Individual tasks should evaluate each student's writing ability. Idea is the most important part for producing a good writing. Before students wrote their essays, he suggested them how to organise their ideas and how to develop paragraphs. He said that an effective way was to give models to students after they finished their first drafts. This allowed students' to develop their own ideas for writing before shaping the language and styles. Although Thai students need models of writing but they also need to develop their own ideas for writing.

Writing on computer and writing on paper have the same process of idea organisation. What is good about web-based writing is that students also learn from interacting with each other and talk about their writing after class hours. However, students need incentives or motivation to do computer tasks.

For using chat in writing instruction, he thought that using English on chat modes may not help improving students' written language because it is more like colloquial conversational language.

## **Q2: What's going on in his school?**

He wanted to have the English language exercise program installed in campus computers so that students could log on and do the exercises according to their proficiency level. However, this needed a lot of administrative and financial support from by the institution. The university constantly provided financial supports for purchasing English online lessons and exercises. However, computer labs were mainly for computer skills teaching. The language school computer labs were under constructions. Therefore, the purchased program was not being used according to the hardware shortage. He was waiting for the labs installation then he could install the English software into the new PCs.

He was looking forward to set up a systematic online lesson which would give students opportunities to practise the language with the program. The university also plan to set up the e-learning environments. If there was a good e-learning program, it would serve EFL learning and teaching objectives very well because it might facilitate a virtual

community for students to interact, but a very efficient network system was needed as he reported:

*Right now, the number of computer is not enough for students, so it's not practical to assign too many language tasks involving computer applications. There are many opportunities for teachers to develop their computer skills and e-learning software training. I used to go to a university where computer labs were available for students 24 hours a day. I felt that the environment encouraged me to use computers in his study. I would like to see the same affordance for my students in this institution.*

**Q3: What does he think about the scenarios? (Semi-structured or scenario based interview)**

**-Siripen**

Giving extra marks is suitable for Thai EFL students. They really need something in return from the activity. The aims of the online tasks are very common in Thai classrooms.

**- Rattana**

Teachers need to take an active role in online learning. Teaching online writing involves giving role models for students. Exchanging writing among peers is what he was doing in his class. Rubrics should be given to students before they look at their friends' works. Group essays can be swapped. Student receive comments from peers. Student need to evaluate peer comments before they revise the drafts. Students would have opportunities to think about their work and how their peers react to the essays.

**- Wuthichai**

It's a good opportunity for students to practise their language with real-life keypals. The conversation with keypals may not help them improve the accuracy. Chatting with native speakers will be more useful for the students.

**- Wanwisa**

Having students exchange e-mails with each others may not be interesting for students, compared to number 3. It's unlikely to force students to talk about a controlled topic.

**- Jintana**

Students may not know how to contribute on the forum. It seems like teachers do not provide any support for the class. This activity can improve fluency in free writing style. However, it is not suitable for academic writing instruction. Students need formal instruction and practices before the tasks. Models should be provided. Despite the paragraph provided, not every student can learn from instance text messages. He selected this one as the least favourable practice.

**- Chanchai**

A major concern is plagiarism when they search online information. They are likely to do copy and paste thing to complete the writing task. Any task that requires too much outside information and autonomous process might lead to plagiarism.

**- Tassanee**

Normally Thai students do not want to share ideas in public. However, if there are some score given to students, more activities will take place on the forum depending on teachers' encouragement or demand.

**- Pipat**

It's very common for Thai teachers to use online materials for teaching. Not all materials are suitable for Thai students. Teachers need to review the materials which will suit their students. Students haven't had much freedom to choose materials. Why don't we let students to find materials that they want to learn? There should be more options for students to explore the information online. Teachers' screening may not suitable or tertiary level, students at this level should be able to evaluate online information.

**- Arunya**

Students' works are uploaded on their web pages. He used the word 'e-portfolio'. Students nowadays can create their own blogs and provide multimedia contents. He agrees on the ideas to let students perform their template design skills. He selected this scenario as his most favourite. Students will be interested in these activities. The delivery method just fit to the current trend of social network site phenomenon.

**Q4: What is his perspective on technology-mediated EFL instruction and Thai students' EFL learning?**

He said, *"Technology can not replace teachers, but teachers who are not using technology can be replaced"*.

Then he explained that language functions should be focused in Thai EFL contexts. Teacher still play an important role in language classroom. Technology is merely a tool in teachers' hands. Tertiary teachers who are using technology will bring them to professional stages. Normally teachers will know each others from conferences or national seminars. He has his own websites and introduces students to his classroom page. However, students' access to the internet is limited and it's not convenient to work with computers all the time because of limited time in the communal labs.

Technology will gain more importance in language classrooms. A computer training program "e-teacher" is already equipped for all teachers. However, it's not compulsory for everybody. The university wants to shift all the document circulation to e-university system. It is one of the plans for the institution development. It is gradually taking place among the faculty to adopt technology in teaching and administration.

### **Q5: What should the characteristics of a good online EFL learning program?**

He thought that the objectives of the web-based activities should be explicit. Thai students would benefit from online learning that are well-structured and allow them to learn according to their own interests and availability of the connection. However, it requires teachers' technology knowledge and skills. This is also demanding for teachers who have never taught with computers. Teachers may need to adjust their teaching method when they bring technology into classroom.

It is also important to equip students with some learning strategies to help them study online. He thought that students also need to adjust their learning style in online environments. For example, they have to take control of their learning including developing researching skills and problem-solving skills. Listening to lectures, note-taking, and reading are not enough to make them achieve goals in online language learning. Technology can provide many channels and learning preferences. However, learners' attitudes and action impact their web-based learning performance. He speculated that learners would have to take for responsibility in web-based learning in which learners receive language and visual clues as well as more opportunities to participate with peers and teachers.

## **Example 2**

### **Interview with Ajarn Nawarat (pseudonym)**

23 July 2008 (1.30 – 3.30 pm)

After a small talk, she told me about what she encountered when she assigned students to do project works in her English class. Although she asked them to state some rationales and web page evaluation to show their critical thinking skills, the students disappointed her by doing copy and paste the information they found on travel guide websites. She expressed concerns about plagiarism when students' works have something to do with the Internet.

*They always think that everything coming up on the Google search result page is all trustworthy and accurate. For some students, a search engine (we're referring to Google) is now an omniscient that can provide answer to all doubts and questions. When they discover some information on the screen, they just think that it's the right and the best answer. Just some clicks and it is already there. They do not have to make any change or add more information.*

She was doubtful about assigning online searching tasks whether students write any passage of their own thinking. There seems to be no solution for this problem at the moment. Plagiarism is found in both undergraduate and postgraduate levels. Thai students never try to paraphrase information. They have problems with plagiarisms.

She showed me her students' learning log report from English for Teachers class. She expects students to know their learning needs and navigate the language learning by themselves. To guide them to autonomous learning, students did their language learning need analysis and planned what to do to serve their need. Materials, links, exercise pages, and all evidence of learning activities should be presented to the teacher. There are few students that worked well on the project although they had a little time (one month). More than half of the students submitted low-quality work. Those works didn't have any evidence of their own reflections on autonomous learning. The activities they did and materials that they chose were low-level tasks. Some had gone through easy grammar tutorials which was not comply with their language levels. They like to do easy tasks. Something that can be done effortlessly, they can go for anything to get the job done. One of the constraints is having a limited time to complete the learning log task. As the course is an intensive course for summer semester, students had only four weeks to complete all the requirements for their weekend classes. Most of them are full-time worker during weekdays. Having time constraint is one of major factors to develop autonomous learning. However, she added

*I think they would have done better if the semester was three-month long and they were not full-time workers. Anyway, there were some good learners that can manage their time and did the assignment quite well. Maybe the underlying key thing for success is not the time constraints but the learners' commitment and degree of responsibility for their own language learning."*

She told me she will show me some examples of impressive learning logs in the next meeting.

For her, using technology is an efficient tool for autonomous language learning. If students realize the potential of technology, they can maximize their language learning ability. Nevertheless, a lot of Thai students perceive technology as an entertaining tool. It is not a clear that students nowadays have explicit learning from using technology. They know that they can search for information more quickly by hitting keywords in a search engine than checking library shelves. They know how to use computer tools and use software in academic tasks very well, but when its' time to integrate the skills and their learning need, students are still lacking of experiences. Teachers play an important role in the class as students need instructions, monitoring, feedback, and guidance. Bringing computers into classroom sometimes can be a distraction. Some students just go online chat when they have laptops in class. Leaving students with technology may not yield a purposeful outcome of learning experience. In the Thai context, using technology in language learning should embedded in explicit learning goals and how to make students aware of what they are looking for, how to use the

sources, how to make connections between their needs and their learning experiences, and most importantly to avoid plagiarism.

### **Her thoughts about students' writing in response to questions or feedbacks**

When she read students' entries in their learning log, she always asked them questions and expected them to give rationales for their learning activities. However, some students couldn't give a good answer to the question or find references to back up their thoughts. Writing for feedbacks or comments is an interactive activity that students can practise meaning making and negotiation. Peer feedback and teacher feedback are different in developing students' language. Teacher can give more accurate feedback on students' language while peers can give constructive comments and creative ideas.

### **Suggesting multiple assessments for online project**

Since she expressed concerns about plagiarism of online tasks, she has tried many methods of evaluation to balance the assessment on web-based tasks. Students didn't get overall scores from online activities but they have to give oral presentation about their projects. She makes sure that this is a cross-testing method for the whole learning products. As she explained:

*We will never know whether they did the tasks by themselves or they asked somebody else to do it for them. Because online activities are usually taking places outside the classroom, it's very difficult to keep track on each students' learning process.*

Using multiple assessments is one way to make sure that student learned and produced the tasks by themselves.

### **Remarks on students' proficiency levels and online project tasks**

All the scenarios are possible for tertiary level classroom but it depends on students' level of language proficiency and degrees of autonomy. Teachers have to plan the lesson carefully according to the course objectives and class time.

### **Answers to Scenario-based Interview**

#### **- Siripen**

She expressed concerns about the scores given for online quizzes. Students are likely to cheat to get better score. There should be a control over the quiz time and students' log in time and identification to make sure that they do the quiz by themselves. Moreover, the activity used here is old-fashioned. There should be more interaction when students go online.

#### **-Rattana**

Feedback from peers can help students to develop their writing. However, students may not get accurate feedback from friends and they may not believe in everything that the peer said. Finally, teacher still have to give the final feedback. They can learn to use corrective symbols or give comments of their own styles. Teacher feedback should be place at the end of the writing process, so students have time to develop their own writing with peer feedback.

#### **-Wuthichai**

It's a good way to develop fluency especially if students can find keypals who are able to help them improve their English communicative skills. Teachers also provide helps when students need. This is a good way to motivate students to use the language and at the same time teachers can guide them to learn from the activities.

#### **-Wanwisa**

Finding a keypal who share the same experiences may help them to think about their own context and themselves. Asynchronous mode give students more time to polish their language before sending it. Using emails are one of the most common business and personal communication. Students will gain positive experiences as well as developing relationship with students from other universities.

#### **-Jintana**

She is reluctant to rate this items because she was thinking about the students' writing abilities. If they are beginners, it's very difficult to ask them to write argumentative posts on the web forum. Beginner students need a lot of explicit instructions and models for writing. It's necessary that teachers teach them how to write good paragraphs before letting them to write on the forum. In case students have learned how to write paragraph and are competent enough to contribute on the forum. This is a good activities focusing on learners' interests (learner-centre approaches of language learning).

#### **-Chanchai**

This is like what she had expressed concerns about plagiarism. Students are likely to copy web pages and post in their own work without quoting the reference. Although teachers use other evaluation method to encourage students' own language products, most of the products will be taken from websites. The two group tasks are not enough for the whole semester and students may end up with plagiarism when they have to do the individual task.

#### **-Tassanee**

Using a classroom management tool is quite convenient for students and teachers communication. Although she doesn't use it in her instruction, she thinks that it will provide more channels of classroom activities after contact class time. Teachers initiating post on the web forum can encourage students' participation. Additional scores are given for good language use and frequency in the forum. This is not like doing online project. Students have to contribute from their point of view. At the same time, teachers can monitor their activities and scope of the discussed topic.

#### **-Pipat**

This is a good example of technology use that teachers provides selected materials for the class and asks students to go online for their language learning. They also use the tools as the mean of communication after class.

**-Arunya**

This is an ideal use of technology for advance students who know what to do about web sites. Making a web page requires many computer skills. Students may ask other people to do it for them. This is an issue about plagiarism that teachers have to think about additional ways to evaluate the tasks. There are problems about how to evaluate writing tasks on a web blog or website, especially for EFL students. However, she found the activities interesting.