ผลของการใช้เครื่องมือการสื่อสารแบบร่วมมือในการเรียนการสอนผ่านเครือข่ายที่มีต่อเมตาคอคนิชั่นและความสามารถทางการเขียนภาษาอังกฤษระหว่างนักเรียนไทยและจีนในระดับมหาวิทยาลัย

นางสุญาณี เดชทองพงษ์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาครุศาสตร์ดุษฎีบัณฑิต
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THE EFFECT OF WEB COLLABORATIVE TOOLS IN WEB-BASED INSTRUCTION UPON METACOGNITION AND ENGLISH WRITING COMPETENCY BETWEEN THAI AND CHINESE UNIVERSITY STUDENTS.

Mrs. SUYANEE DEJTHONGPONG

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Thesis Title	THE EFFECT OF WEB COLLABORATIVE TOOLS IN WEB-BASED INSTRUCTION UPON METACOGNITION AND ENGLISH WRITING COMPETENCY OF THAI AND CHINESE UNIVERSITY STUDENTS.
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บทคัดย่อวิทยานิพนธ์

สุญาณี เดชทองพงษ์ : ผลของการใช้เครื่องมือการสื่อสารแบบร่วมมือในการเรียนการสอนผ่านเครือข่ายที่มีต่อเมตาคอคนิชั่นและความสามารถทางการเขียนภาษาอังกฤษระหว่างนักเรียนไทยและจีนในระดับมหาวิทยาลัย. (THE EFFECT OF WEB COLLABORATIVE TOOLS IN WEB-BASED INSTRUCTION UPON METACOGNITION AND ENGLISH WRITING COMPETENCY BETWEEN THAI AND CHINESE UNIVERSITY STUDENTS) อ. ที่ปรึกษา : อ.ดร. เชาวเลิศ เลิศชโลฟ้าร, อ. ที่ปรึกษาร่วม : Prof. He Rui Yong, 150 หน้า. ISBN 974-17-1817-9.

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษา ผลของการใช้เครื่องมือการสื่อสารแบบร่วมมือในการเรียนการสอนผ่านเครือข่ายที่มีต่อเมตาคอคนิชั่น และความสามารถทางการเขียนระหว่างนักเรียนไทยและจีนในระดับมหาวิทยาลัย โดยศึกษาเครื่องมือการสื่อสาร 3 แบบคือ อีเมล์ เวบบอร์ด และแชต โดย ใช้แผนการทดลองแบบ pre-test and posttest design การวิจัยครั้งนี้มี การทดลอง 2 ครั้งคือ การทดลองในประเทศไทย โดยใช้กลุ่มตัวอย่าง นักเรียนไทยซึ่งเป็นนักศึกษาชั้นปีที่ 3 สถาบันเทคโนโลยีราชมงคล จำนวน 52 คน และ การทดลองในประเทศจีน โดยใช้กลุ่มตัวอย่างนักเรียนจีน ซึ่งเป็นนักศึกษาชั้นปีที่ 3 จากมหาวิทยาลัยกวางซี นอร์มอล ประเทศจีน จำนวน 40 คน สถิติที่ใช้ในการวิจัยครั้งนี้คือ การวิเคราะห์ความแปรปรวนแบบทางเดียว การเปรียบเทียบการวิเคราะห์ภายหลังด้วยเชฟเฟย์ และสัมประสิทธิ์สหสัมพันธ์แบบเพียร์สัน

ผลการวิจัยพบว่า

1. เมตาคอคนิชั่นของนักศึกษาภายหลังการเรียนด้วยการสอนผ่านเครือข่ายและใช้เครื่องมือการสื่อสารแบบร่วมมือ สูงกว่าเมตาคอคนิชั่นของนักศึกษาก่อนการเรียนด้วยการสอนผ่านเครือข่าย อย่างมีนัยสำคัญทางสถิติที่ระดับ .01
2. เมตาคอคนิชั่นของนักศึกษาไทยแตกต่างจากเมตาคอคนิชั่นของนักศึกษาจีนที่เรียนด้วยการสอนผ่านเครือข่ายและใช้เครื่องมือการสื่อสารแบบร่วมมือ อย่างมีนัยสำคัญทางสถิติที่ระดับ .01
3. ความสามารถทางการเขียนภาษาอังกฤษของนักศึกษาภายหลังการเรียนด้วยการสอนผ่านเครือข่ายและใช้เครื่องมือการสื่อสารแบบร่วมมือ มีความแตกต่างจากความสามารถทางการเขียนภาษาอังกฤษก่อนการเรียนด้วยการสอนผ่านเครือข่าย อย่างมีนัยสำคัญทางสถิติที่ระดับ .01
4. ความสามารถทางการเขียนภาษาอังกฤษของนักศึกษาภายหลังการเรียนด้วยการสอนผ่านเครือข่ายและใช้เครื่องมือสื่อสารแบบร่วมมือ ด้วย อีเมล์ และ เวบบอร์ด มีค่าเฉลี่ยสูงกว่า การสื่อสารแบบร่วมมือด้วย แชต อย่างมีนัยสำคัญทางสถิติที่ระดับ .05
5. ความสามารถทางการเขียนภาษาอังกฤษของนักศึกษาไทยและ ความสามารถทางการเขียนภาษาอังกฤษของนักศึกษาจีน ภายหลังการเรียนด้วยการสอนผ่านเครือข่าย ไม่แตกต่างกัน
6. เมตาคอคนิชั่นและความสามารถทางการเขียนภาษาอังกฤษของทั้งนักศึกษาไทยและ นักศึกษาจีนที่เรียนด้วยการสอนผ่านเครือข่ายและเครื่องมือสื่อสารแบบร่วม ไม่แสดงความสัมพันธ์กันอย่างมีนัยสำคัญทางสถิติ

ภาควิชา โสตทัศนศึกษา
สาขาวิชา เทคโนโลยีและสื่อสารการศึกษา
ปีการศึกษา 2545

ลายมือชื่อนิสิต .....
ลายมือชื่ออาจารย์ที่ปรึกษา .....
ลายมือชื่ออาจารย์ที่ปรึกษาร่วม .....

4184949727: MAJOR EDUCATIONAL COMMUNICATIONS AND TECHNOLOGY
KEY WORD: METACOGNITION / WEB-BASED INSTRUCTION / WEB COLLABORATIVE TOOLS.
SUYANEE DEJTHONGPONG: THE EFFECT OF WEB COLLABORATIVE TOOLS IN WEB-BASED INSTRUCTION UPON METACOGNITION AND ENGLISH WRITING COMPETENCY BETWEEN THAI AND CHINESE UNIVERSITY STUDENTS. THESIS ADVISOR : CHAWALERT LERTCHALOLARN, Ph.D., CO-ADVISOR : PROF. HE RUI YONG, Ph.D.,150 pp. ISBN 974-17-1817-9.

The puposes of this research were to study the effect of learning with Web Collaborative Tool (WCT) in Web-based Instruction (WBI) upon Metacognition and English writing competency of Thai and Chinese students. The 3 Web Collaborative Tools: Email, WebBoard, and Chat were approached. The subjects were 52 Thai university students and 40 Chinese university students. There were 2 phases of this experiment; the first phase lasted from 22 July 2002 until 16 August 2002 at the Faculty of Business Administration, Rajamangala Institute of Technology (RIT), Thailand. The Second phase lasted from 5 September until 4 October 2002 at the College of International and Culture, Guangxi Normal University, People's Republic of China. The experimental design used in this study was pretest-posttest design. The statistics used in this research were one-way ANOVA, T-test, Scheffe's multiple comparison and Pearson Product moment.

The result were:

1. There were significance difference upon metacognition of the students who studied from Web-based Instruction with difference 3 Web Collaborative Tools at the level of 01.
2. The metacognition of Thai university students were significance difference from the metacognition of Chinese university students who studied from Web-based Instruction with difference 3 Web Collaborative Tools at the level of 01.
3. The posttest score of English Writing Competency which students studied from Web-based Instruction with difference 3 Web Collaborative Tools were significance difference the pretest score of English Writing Competency at the level of 01.
4. The students who studied from Web-based Instruction with E-mail and WebBoard had higher English Writing Competency score than the students who studied from Web-based Instruction with Chat at the level of 05.
5. There were no significance of the English Writing Competency between Thai and Chinese who studied from Web-based Instruction with difference 3 Web Collaborative Tools.
6. The effect of difference 3 Web Collaborative Tools were not showed the correlations upon Metacognition and English Writing competency.

Department	Audio-Visual Education	Student's signature……..
Field of Study	Educational Communications and Technology	Advisor's signature……...
		Coadvisor's signature……..
Academic Year	2002	

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Chapter 1

INTRODUCTION

Statement of the problem

The rapid growth and development of information technology made the world changed and it provided new alternatives to existing communications system. Firstly, the impact on the development of the computer, information technology and communication were integrated and it's known as Information and Communications Technology or ICT. ICT has been viewed as an important component for modernization of the country growth. The important of ICT has been stressed from the opening address by Taksin Shinawatra, the Prime Minister of Thailand at the International Conference on ICT in Higher Education for the New Economy in Bangkok.

"Advances in ICT serve as the major driving force in globalization and the formation of a knowledge-based society. ICT has impacted upon every aspect of our lives, be it political, social, economic, technological, or educational. In the latter case, the ICT processes are the heart and brains of education.

*The New Economy is in essence a knowledge-based global economy with education as its basic foundation. In this system, education has to be continuous or life-long. It must also be borderless, that is, it must be available to all, regardless of sex, age, ethnic race, religion, socio-economic status or political leanings. It must furthermore be available at any time and place and in various modes. Under such a system, ICT applications can play a major part in facilitating and promoting this type of education. " (*Shinawatra,2002)

Consequently, the Thai government conformed ICT as a master plan, 2002 - 2006, which was the strategic plan proceeded the Policy Framework IT2000 and IT 2010 by the National Information Technology Committee Secretariat (NITC), National Electronics and Computer Technology Center (NECTEC), and National Science and Technology Development Agency (NSTDA). The contents of the ICT master plan focused on 5 e-strategies which e-Education was one of those. According to the ICT master plan, knowledge inquiring, local intelligence, and educational opportunity should be supported and integrated by e-education. The ICT development, therefore, would lead the Thai society to the knowledge-base learning society and increase educational opportunity for Thais in urban and rural areas for life-long education.

Also in China, information technology has long been viewed as an important component of grand scheme for modernization of China. Over the last decade, China has experienced phenomena changed in every aspect for its nation. Entering the WTO on 11 December 2001 and being the host for the Olympic Games in 2008 caused a major restructuring of information infrastructure and Information and Communication Technology in China. IT industry has become a pillar in China economic growth. The success of China's IT industry and its prospect for future growth were the highlight of the government's master plan (China Internet

Network Center, 2002). The diffusion of Internet in China has been very rapid since the China's network was linked to the internet system. The China National ICT has initiated the 'Golden Projects' in 1993 which the information infrastructure would be set up. This plan was designed to stimulate the information economy and building administrative capabilities. The goal of this plan was to build up a national information highway and to drive development of information technology as a path to modernization and economic development in China. For educational blueprint, the government initiated the China Education and Research Network (CERNET) project to improve its internet system. Although, Chinese government launched many plans for national information infrastructure development, the level scale of the internet diffusion in many areas remained low. Internet use was concentrated in large cities even though the government tried to countrywide the internet diffusion.

Secondly, the ICT impacted educational reform. Every country was alert in educational evolution and development. Due to the globalization, educational system all over the world needed to be reformed. In Thailand, the educational reform brought about the National Education Act B.E. 2542 which formulated the learning conceptual framework for the new century. This emphasized on learning concept and learner's characteristics. According to the educational reform, the learning concept involved the teachers' roles, media and the whole availability of learning context focusing on the learning characteristics of the learners and the learning process (ONEC, 1999).

With reference to the Thailand's National Educational Act B.E. 2542, together with an emphasis on the provision of education, all individuals shall have equal rights and opportunities. Learners shall have the right to develop their capabilities for utilization of educational technologies to facilitate their learning so that they shall have sufficient knowledge and skills in using these technologies for acquiring knowledge themselves on a continual lifelong basis. For the communications, the act stipulated that the state shall distribute frequencies, signal transmission devices, and other infrastructure necessary for radio broadcasting, television, telecommunication, radio, and other media of communication for the use in provision of formal, non-formal, and informal education and enhancement of religious, artistic, and culture affairs where necessary. As the result of Thailand's educational reform, education must be based on the principle that all learners are capable of learning and self development, and are regarded as being most important. Thus the teaching-learning process shall aim at enabling the learners to develop themselves at their own pace and to the best of their potentiality (Rung Kaewdang, 1999). In addition, information technology could support educational reform for equal right and opportunity of the learners so that they can learn at anytime, any place with self pacing, and with their own capability.

Thirdly, the ICT impacted on the global communication. It changes the way people communicate to each other. People all over the world can communicate through the internet system at any place, any time, and any where. Internet is brought into the educational system as a new paradigm of educational technology. It changes the way of teaching and learning; therefore, web-based instruction, e-learning, and online learning are introduced to the learners. As a result, learners are able to interact with the contents in the curriculum by internet access at anytime. Most of the

contents used in Internet network, English is considered to be the global language for international communication. English is internationally powerful language and English is the language of the dominant political-economic system of the modern world (Holly,1990 cited in Holliday 1994). English as a global language, more than one billion people worldwide are currently studying English, and the Internets offers the ideal platform for delivering effective English language instruction to everyone and everywhere Grainger (2000). Besides, Murphy (1996) said that English is considered as an international language of information delivery on the World Wide Web. Consequently, teaching English is needed as a second language for international communication. As well as Bollag (2000), stated that English was increasingly becoming the language of international businesses and communications. Grainger(2000) pointed out English was increasingly becoming a medium of instruction in higher education and science around the world. The English language is; therefore, assumed as an international language and still plays a dominant role for the world economic growth today. As a global language, billions people worldwide are currently studying English, and the Internet offers the ideal platform for delivering effective English language instruction to everyone and everywhere.

Lastly, teaching English in an international context is a method that helps the learners in improving communicative language. Apparently, interaction in English among people who speak English and those who speak other language is not only a crucial but also elusive factor in promoting mastery of the language. The need for such an interaction has not been negated by the availability of English via technological devices or the mere with people who know how to engage them in meaningful communication (Lebauer and Scarcella, 1993). Since writing is the thinking tool, the writing process should be taught for the successful writing. Learning to write also contributes to learning to read, to understand, and to speak.

In addition, writing and cognitive development are also interrelated (N.A. Cramer,1985) Writing refers to translating ideas into linguistic symbols in print, compared with reading. Less research has been conducted on writing as well as contemporary research has showed that good writing, good reading, good mathematics, and so forth, is essentially a problem-solving process that can be taught (Schunk, 1991).

Language competence, including speaking, listening, reading and writing, are needed skills in communication. Rebeca M. and Valette (1976) stated that writing skill is considered to be the most difficult and complicated one. In civilized society, written language is used to convey what a speaker has in mind. Written language represented the humans' needs and opinions. The most important aspect is that humans use written language for their history inscription. (Wongsothorn, 1993)

R.J. Owens (1970) claimed that university students had more difficulties in writing skill than others. He also pointed out that the southeast Asia students' writing competency are understandard since the writing skill is the last skill to be taught. Rivers M. (1968) also supported that good writing skill students should be efficient in graphphaphonics, spelling, syntax, and lexicon. According to Plamer's research finding (Palmer,1980), writing skill is the most difficult amoung Thai university students.

In conclusion, learning process has been effected by the development of the Internet technology and, consequently, Web-based Instruction are applying in education as educational technology in a new form for delivery materials and instruction. Web-base instruction, e-learning, and online learning are introduced to learners at anytime and anywhere. Learners are independent to get into the internet system whenever they want. Internet also provides communicative tools, such as Email, WebBoard , ICQ, Chat which accommodate collaborative learning among learners. It is supposed to believe that traditional method of teaching and teaching-learning through internet are insignificant difference since the communicative tools provide innovation which help interactions in the teaching process. On the aspect of interaction between learners and contents, the internet provides various resources which English is used as a medium for international communication and learners are inescapable to gain profits from the streamline without the knowledge of English.

For English language students in countries where English is a foreign language, that means English is not used in everyday life, the Internet resources are increasing opportunities to use and to study English using. Students can practice writing and get advice, reading materials, grammar lessons and games. Internet communication have particularly important activities which have a great deal of potential for English language students. They provide opportunities for non native English speakers to communicate in English.(Kitao,1998)

Due to the paradigm shift of behavioral psychology to cognitive psychology, the instructional method also became changed into learning theory with based on cognitive psychology. Gredler (1992) stated that the cognitive theory emphasized on mental process of student's thinking as information process. The development of cognitive psychology especially the cognitive process in learning which many research studies interested in Metacognition, novice and expert knowledge, and problem solving (Gredler, 1992). Thus, the context of cognitive process in learning activities is important. If the learners have the necessary cognitive process capacity, such as Metacognition they can use these knowledge and skills to construct more meaningful learning.

Besides, Romiszowski (1996) stated that metacognitive skill of learner is important for information analysis because Metacognition and learning are interrelated to make better understanding. Using the Web Collaborative Tools in Web-based Instruction for creating the global classroom in language learning will support English competency of students.

As Thailand and China are countries who had languages of their own and they are deep rooted in similar oriental cultures. All countries, together with Thailand and China, cannot avoid the effect of globalization. We both are non-native English speakers. Students have to study English as a second language. As mentioned earlier, writing is important since it is the most difficult and complicated skill, learner has to use high level of thinking. Due to the lack of evidence and research in teaching writing, research in teaching writing is needed, especially on the importance of how technology can facilitate and enhance students' improvement in writing skill.

"*Research on writing has been relatively neglected in the past, but the cognitive movement has brought about new research focuses and innovative work on the application of computers to writing is reflected in the use of word processors, automated editors, dictionaries, encyclopedias and as components in communication networks*." (Saettler, 1990)

Most of researches in the past studied in teaching language and emphasized on using metacognitive strategy in reading. Some findings revealed that metacognitive strategy was important for reading effectiveness. The application of computers to reading as the instructional technology can help student in language learning. There were evidences to believe that reading and writing were interrelated.

"*Students for whom English is a second or third language (ESL) have a keen understanding of how language work. However, they have different skills and needs than native speakers of English. Because they have to deal with competing cultural expectations and competing languages, ESL students can have special difficulties seeing problems with their writing and solving them*." (Hilgers, 2000)

As mentioned previously on the impact of ICT, globalization and educational reform which lead to the new paradigm of learning and teaching approaches. The application of Internet technology for language learning and the importance of English as a dominant language of the world, hence this research attempts to study Web-based Instruction as an appropriate technology for English learning and using Web Collaborative Tools as communicative tools for language learning activities. Additionally, international context provided in the internet streamline will help both Thai and Chinese university students improve their language learning competency.

According to the aspect of Metacognition, it has been proven to show the positive result on students' learning and understanding. Metacognition is; therefore, an important issue to be investigated. This research is needed for reconceptualization on learning and studying the effect of technology factor in student's Metacognition and writing competency.

Purpose of the study

The objectives of this study are as follows:

1. To investigate the effect of learning with web collaborative tools upon Metacognition of Thai and Chinese university students.
2. To study the effect of learning with Web Collaborative Tools upon English writing competency of Thai and Chinese university students.
3. To study the correlation of Metacognition and English writing competency with Web Collaborative Tools of Thai and Chinese university students.

Delimitations

1. The subjects of this study were the third year students of Rajamangala Institute of Technology, Thailand and Guangxi Normal University, People's Republic of China in the academic year 2002.
2. All subjects participating in this study had a basic competency level of computer literacy in using Internet.
3. The contents of English writing in this study were limited in Paragraph writing level.
4. Metacognition scoped on metacognitive knowledge and metacognitive experiances.
5. Web Collaborative Tools in this study were limited in 3 tools as Email, WebBoard and Chat.

Assumptions

1. The additional learning from other classes may effect upon Metacognition and English competency which using the sampling technique and research design for control errors and biases of this to minimize the influence of the factors.
2. The advancement of information technology and communication between Thailand and China such as speed of data transfer and efficiency of Internet access do not impact on the WBI learning.

Hypotheses

The research hypotheses of objective 1 are as follows:

1. Subjects who learn from different Web Collaborative Tools will have significantly different Metacognition.
2. There are different upon Metacognition of Thai and Chinese university students from each Web Collaborative Tools.

The research hypotheses of objective 2 are as follows:

3. Subjects who have access to different Web Collaborative Tools have significant different scores on English competency tests.
4. There are different score on English Competency tests of Thai and Chinese students from each Web Collaborative Tools.

The research hypotheses of objective 3 are as follows:

5. The Metacognition and learning English competency of Thai and Chinese students from each Web Collaborative Tools are positively correlated.

Limitations

1. In the study the subjects were purposively assigned to only one web collaborative tool. This assignment may violate true nature of the users who actually use several Web Collaborative Tools.
2. During the experiment of this study, the subjects may search internet beyond assignment and also the subjects may use different Web Collaborative Tools. This subjects' practice can not be controlled by the researcher because of the common characters of WBI learning.

Definition of Terms

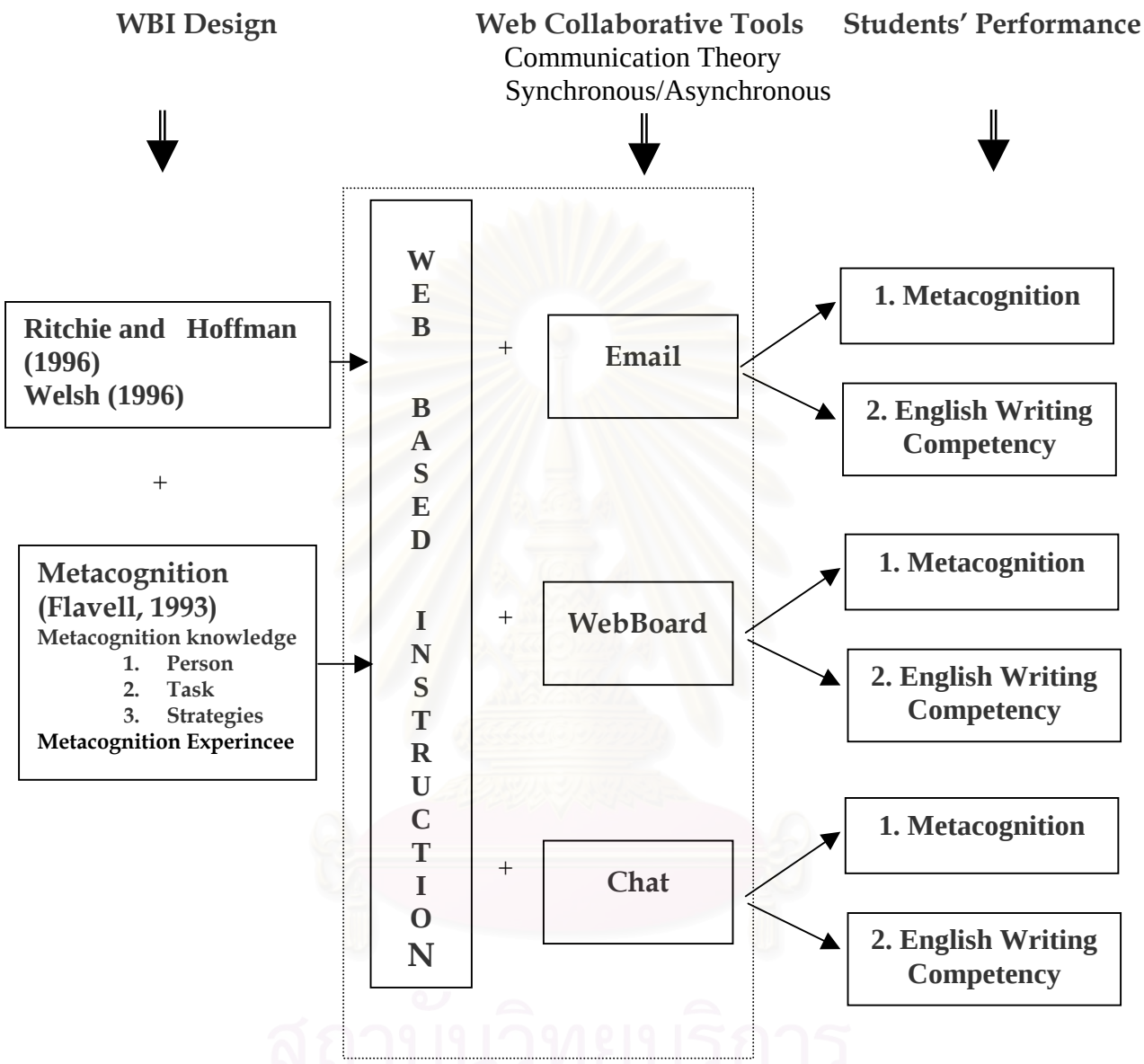
1. Web-based Instruction in this study was mean the method of instruction that use internet and computer network and use WCT
2. Web Collaborative Tools were the Internet tools that bring learners together in a collaborative learning online context environment in communication between teachers and learners or learners and learners. In this study used three types of WCT: Email, WebBoard, and Chat.
3. Metacognition is defined as the knowledge and awareness of the subjects' own cognitive process or feeling of knowing and own thinking process, and the ability to regulate, evaluate and monitor in the learning task.
4. English writing competency refered to student's ability in English writing at paragraph level which student learned and practiced by Web-based Instruction with using Web Collaborative Tools.

Research conceptual frameworks

This research study has been based upon the several theories and researches as foundations of this study. The conceptual frameworks in this research are as follows:

1. Metacognition
2. Web-based Instruction
3. Web Collaborative Tools
4. English Writing Competency

Figure 1. Research Conceptual Frameworks



1. Metacognition

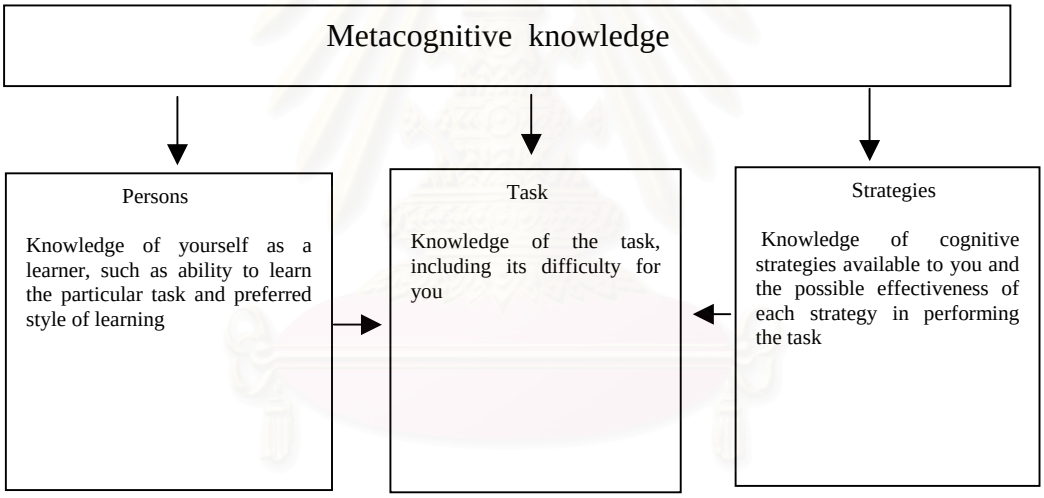
Metacognition is the process of thinking about thinking (Flavell, 1993). The description of Metacognition refers to one's knowledge concerning one's own cognitive processes. Metacognitive skills are belived to play an important role in many types of cognitive activities including oral communication of information, oral persuation, oral comprehension, reading comprehension, writing, language acquisition, perception , attention, memory, problem solving, social cognition and various form of self-instruction and self control (Flavell,1985). In 1993 Flavell described the component metacogniton that has two domains.

1. Metacognitive knowledge , metacognitive knowledge refers to an individual's knowledge and beliefs about cognitive matters, gained from experience and stored in long-term memory. Humans acquire metacognitive knowledge about people, tasks, and strategies.

2. Metacognitive experience, metacognitive experience are either cognitive or affective experiences that relate to cognitive activities. Metacognitive experiences are most likely occured when careful, concious monitoring of your cognitive efforts is required.

A person's metacognitive knowledge includes what one knows and believes about the variables that affect both the course and the outcomes of goal-directed, cognitive activities (Flavell,1979). Three categories of knowledge variables are person, task, and strategy. The metacognitive knowledge for carrying out a particular sequence of learning activities is depicted in figures 2 (Klausmeier, 1985)

Figure.2 Metacognitive Knowledge and Task Performance



2. Web-based Instruction

The Web-based Instruction in this study aimed to involve 3 points; lesson design model, teaching strategies, and student's interaction.

2.1. The lesson design in WBI used the mixed model of Ritchie and Hoffman (1996) and EOD (Event-Oriented Design) Model of Welsh (1996).

Ritchie and Hoffman (1996) provide 7 elements for the principle of instruction design in WBI as a purposeful interaction to increase learner's knowledge or skills. The 7 elements were motivating the learner, specifying what is to be learned, prompting the learner to recall and apply previous knowledge, providing new information, providing guidance and feedback, testing comprehension and supplying enrichment and remediation.

2.2. The teaching strategies in WBI of this study apply the communication tools that used in the EOD (Event-Oriented Design) Model of Welsh (1996). The EOD involved the 3 WBI's events type; full synchronous, limited synchronous and asynchronous. The model used Chat forum and video-based real time as communication tools in full synchronous WBI, while limited synchronous WBI use only Chat and asynchronous WBI use Email for communication. This study will use synchronous and asynchronous events type of WBI by using Chat as synchronous communication tool in WBI, Email and WebBoard as asynchronous communication tools in WBI.

2.3. The student's interaction of WBI. In the events of Web-based Instruction Hazari and Schnorr (1999) stated that the interaction of student in WBI can be 3 types as student interaction with the subject contents, student interaction with the teachers and student interaction with the students. The interaction can be as the discussion group, quiz question, student project by using Email, WebBoard and Chat which can provide feedback between teacher and students. Besides using web-based portfolio which the students will construct their portfolio as the assignment example of how support for reflection and Metacognition might be provided for WBI (Reeves & Reeves, 1996).

3. Web Collaborative Tools

Web Collaborative Tools in this study are concerned 2 topics;

3.1 Communication theory

3.2 Synchronous and Asynchronous Communication

3.1 Communication Theory

There are many communication models, which is important for instruction as the process of communication in process of transferring knowledge between teacher and student. By looking at the dimensions of communication, the communication process depend on type of communication, communication forms and communication contexts.

Communication can be defined simply as the process by which individuals share information, ideas and attitudes. Share in this definition means a communication process which implies that the source and the receiver are actively working together for common understanding (Wilson, 1995).

Effective communication is influenced by many human factors affecting both sender and receiver such as cultural background, experience with the subject of the message, and a personal attitude can influence the success of communication. A successful communication depends upon participation of the receiver. A person reacts by answering, questioning, or performing, mentally and physically. Then a return, or response loop from receiver to sender. It's turned feedback. The feedback happens through words, expressions, gestures, or other actions. These reverse communication advises the originator how satisfactorily

the message was received. Feedback enables the originator to correct omissions and errors in the transmitted message, or to improve the encoding and transmission process, or even to assist the recipient in decoding the message. (Kemp and Smellie, 1989)

The message in human communication involved shared experiences. That is the source can encode in terms of the experiences he or she had. So the people from different cultures try to communicate and the overlapping fields of experiences are necessity. Naturally each human being's experiences are unique. Communication will be most effective if there have been common experiences that will be success communication (Barker and Gaut ,1996).

DeVito (1996) defined human communication as follows:

Interpersonal communication defined as communication between two persons or among a small group and distinguished from public or mass communication of a personal nature and distinguished from impersonal communication; communication between or among intimates or those involved in a close relationship; often, intrapersonal, dyadic, and small group communication in general.

Intercultural communication defined as communication between persons of different cultures or who have different cultural beliefs values or ways of behaving.

Public communication define as communication in which the source is one person and the receiver is an audience of many persons.

Small group communication defined as communication among a collection of individuals, few enough I number that may interact with relative ease as both senders and receivers, whose members are related to each other by some common purpose and some degree of organization or structure.

Communication by Email is the single most common use of the internet (Bostock, 1996). Email is the most commonly used collaborative tool, particularly for private one-to-one communications. It can be a useful tool for collaborative and project-based learning activities. Email allows users to communicate with others who have access to a computer network (Dorman,Collins,1998). Email is a method of composing, editing, sending, and receiving messages electronically (Erickson and Vonk,1998). WebBoard is a tool for fostering communication among people with common interests. WebBoard makes an online brainstorming even when seperated by time and distance. Using WebBoard teachers and learners can interact as a group to share ideas. Chat is a form of interactive online communication that having a open discussion on one of many topics in Chat room. In this research Email is an Interpersonal communication, Intercultural communication and small group communication while WebBoard and Chat are public communication and small group communication.

3.2 Synchronous and Asynchronous Communication

The effect of technology on human communication such as computer become increasingly in the information age. The impact and effectiveness of computer on human communication which has been called computer mediated communication and it has been interested in the problem of computer mediated communication caused the depersonalize interactions and a loss of individualization (Barker and Gaut, 1996). From 1982 using the Internet for example Email and conferencing for computer-mediated communication in the teaching-learning environment, in order to enhance and extend the traditional classroom experience and enable students to work collaboratively (Graziadei, 1996).

Synchronous communication activities make it possible for students to "meet" in an electronic space. Synchronous communication means "live". Synchronous communication is bound by time, but not by space, which means that with the Internet access can bring groups of students from different places (from different schools even different countries) can meet with each other in a variety of virtual Internet places (Krause,1998).

Asynchronous communication means "not live." The example of communication tools include newsgroups or emailing lists, web-based mail/news forums, and listservs are asynchronous communication activities that can be used as interactive communication between teachers to teachers, teachers to students, and students to students (Krause,1998).

One type of Internet activity which has a great deal of potential for English language students is "Chatting," that is, communicating in real time by typing a message into a computer, so that it can immediately be read on other computer screens, even computer screens in another part of the world. Communication that takes place in real time is referred to as "synchronous communication," while communication that does not take place in real time, such as Email, is called "asynchronous communication." While there are many different places to Chat on the Internet, some of these are specifically intended for non-native English speakers. They provide opportunities for non- native English speakers to communicate in English (Kitao,1998).

An important element of virtual classroom: different time and different place is asynchronous activity or activity done at the students' own time, place, and pace or virtual classroom will be synchronous activity: same time but different place in which students and instructors interact while working together with a synchronous collaborative tools. The use of synchronous and asynchronous activities will be determined by the available technology (Graziadei, 1996).

The learning tools, whether used asynchronously or synchronously, must communicate knowledge or skills to students. Instructors can send students through web content and verify student progress, all over the Internet. Students can receive web contents from any computer with Internet access. The instructor can interactivity communication to the classroom by using Email and WebBoard and Chat. When using Chat for synchronous instructional events, instructor can

meet student group or individual to complete assignments, provide tutoring and feedbacks or two students can meet in Chat and discuss issues or tutor each other. For asynchronous instructional events, students download assignments and information resources from web that has been sent by instructor and also instructor can receive students's written work and provide feedback via Email (Welsh, 1996). Email and WebBoard are the "learning tools" used as asynchronously to communicate knowledge or skills to students as the tools that facilitate asynchronous learning environment while Chat used as synchronously as a tool to facilitate a synchronous learning environment.

4. English Writing Competency

Using the teaching with writing strategies' Hilgers (2000) to improve students in English Competency in writing. The strategies of how to use writing everyday because writing process is a process of high order of thinking. The student can't write and thinking as accomplished company. For creating the students' opportunity in writing by using the Low-stake writing and use Low-stake writing to bring High-stake writing.

Hilgres suggested to start the project or events that bring to Low-stakes writing such as obsevation, interviewing and summary mini theme on reading. Email is a tremendous way of Low-stake writing, applying Email for peer group or discussion with the instructor will improve writing ability. Using self assessment of writing assignment by having students attached an "author's self assessment to each writing assignment and also using peer assessment for feedback and revising.

The best High-stake writing grow organically from Low-stake writing. For formal writing is difficult it require high order of thinking and web page is a special form of formal writing that can be published. Teaching the formal writing, should provide sample of form and help students identify and analyze key characteristics. Instructor created a "form guide" that students can use to assist them in composing and offer students several opportunities to write in the form.

Significance of the study

1. As the guideline of instructional design of Web-based Instruction in using Web Collaborative Tools; Email, WebBoard and Chat.
2. As the model of Web-based Instruction environment in English teaching across culture, the study will give a valuable sample for suggestion.
3. For the non-native English speaker in using Internet as the efficiency instructional media in language learning.
4. For the instructor to aware of the role of Metacognition upon the learning achievement in web-based instruction.

5. Result of this study will be the grounded theory for further study in using Web Collaborative Tools and Web-based Instruction in others subject and course.

Chapter 2

REVIEW OF LITERATURE

The review of literature pertaining to the study of the Web Collaborative Tools' effect in Web-Based Instruction upon Metacognition and English writing competency of Thai and Chinese university students presented the related literature in 5 points as following:

1. Metacognition
2. Web-based Instruction
3. Web Collaborative Tools
4. Teaching ESL in Web-based Instruction
5. Research on Metacognition, Web Collaborative Tools, and ESL Teaching Writing.

1. Metacognition

There are 3 important points of metacognition which concern in this study: concept of metacognition, component of metacognition and metacognition in learning performance.

1.1 Concept of Metacognition.

Metacognition is based on many assumptions and answered by many research studies such as metacognition is the important issue as the role of individual strategies in learning. The concept of metacognition was begun by Flavell (1977), the first person interested in metacognition, who states that metacognition is the individual's awareness of one's own thinking process. Flavell (1985) claims that metacognition plays an important role in many types of cognitive activities including oral communication of information, oral persuation, oral comprehension, reading comprehension, writing, language acquisition, perception , attention, memory, problem solving, social cognition and various form of self-instruction and self control while Bonds (1992) defines metacognition as the knowledge and awareness of one's own cognitive processes and the ability to regulate, evaluate and monitoring one's own thinking. In 1993 Flavel state metacognition as the process of thinking about thinking and it refers to one's knowledge concerning one's own cognitive processes.

Gredler (1992) points metacognitive activities are learner's efforts strategies to monitor their own learning and understanding and to redirect or changes strategies if necessary while Bonds (1992) states metacognitive activities are the monitoring process to allows a person to have more effectively control of cognitive processes. Metacognitive activities will afford more efficient and active learning.

Penpilai (1993) defined metacognition is Apipanya which known as knowledge concerned about cognitive process or cognitive activities.

There are quite the same meaning in term of metacognition component. For example, Ormrod (1995) also states the metacognition includes 2 things. Firstly, knowledge and beliefs regards on one's own cognitive process, and Secondly, attempt to regulate one's cognitive process to maximize learning and memory. Metacognition as cognitive process activities are includes all of these things.

1. Knowing the limits of one's own learning and memory capabilities.
2. Knowing what learning tasks one can realistically accomplish within a certain amount of time.
3. Knowing which learning strategies are effective and which are not.
4. Planning an approach to a learning task that is likely to be successful.
5. Using effective learning strategies to process and learn new material.
6. Monitoring one's own knowledge and comprehension in other words, knowing when information has been successfully learned and when it has not.
7. Using effective strategies for retrieval of previously stored information. The effective study strategies are such as identifying important information, taking notes, underlining or highlighting, retrieving relevant prior knowledge, organizing, elaborating, summarizing, monitoring comprehension.

Sinkavich (1995) defines metacognition as knowledge of one's own cognitive and states the assumption of metacognition underlies the ability of persons to monitor their current levels of understanding and learning.

Ellott et all (1996) point out that metacogniton is the ability to think about thinking. The phenominon of metacogniton is the ability to examine one's own cognitive process thus the reasons why most study interested in metacogniton is how learners differ their abilities to remember. Another, Schunk (2000) refers metacognition as high order cognition.

In conclusion, the concept and definition of metacognition can be defined as the knowledge and awareness of one's own thinking in cognitive process and own thinking process, plus the ability to regulate, control, evaluate and monitor their cognitive in the learning task for afford learning efficiency. The phenominon of metacogniton is the ability to examine one's own cognitive process.

1.2 Component of Metacognition.

Flavell (1993) states the component of metacogniton that consists of two domains: metacognitive knowledge and metacognitive experience.

1.2.1 Metacognitive knowledge, metacognitive knowledge refers to an individual's knowledge and beliefs about cognitive matters, gained from experience

and stored in long-term memory. Humans acquire metacognitive knowledge about people, tasks, and strategies.

A person's metacognitive knowledge includes what one knows and believes about the variables that affect both the course and the outcomes of goal-directed, cognitive activities (Flavell,1979). Three categories of knowledge variables are person, task, and strategy. The metacognitive knowledge for carrying out a particular sequence of learning activities (Klausmeier, 1985)

1.2.2 Metacognitive experience, metacognitive experiences are either cognitive or affective experiences that relate to cognitive activities. metacognitive experiences are most likely occurred when carefully concious monitoring of cognitive efforts is required.

1.3 Metacognition in Learning Performance.

Metacognition can be seen clearly as cognitive's activities. Baker & Brown (1984) explain metacognition comprises two related sets of skills. Firstly, one's understand of what skills, strategies, and resources are needed to accomplish a task. The activities are included in finding main ideas, rehearsing information, forming associations or images, using memory techniques, organizing material, taking notes or underlining, and using test-taking techniques. Secondly, one's understanding of know how and when to use these skills and strategies to ensure the task is completed successfully. These monitoring activities include checking one's level of understand, predicting outcomes, evaluating the effectiveness of one's efforts, planning one's activities, deciding how to budget time, and revising or switching to other activities to overcome difficulties.

Metacognition and learning are related relation to make better understanding of their learner learning, remember more including thinking capabilities. The information processing theory focus on. how the learner receive knowledge and encode the knowledge as the information to be learned, relate it to knowledge in memory, store new knowledge in memory and retrieve it as needed. One aspect of the the information processing theory assumption is that human information processing is analogous to computer processing .The human system functions similar to a computer .It receives information, stores it in memory, and retrievs it as necessary (Schunk, 1991). That means the process in human cognition that seem like the same as computer process the information. The human information processing model by Atkinson and Shiffrin (1968,1971 cited in Schunk, 1991) explain the information or inputs are received through the sensory register which transfers informatin to short-term memory (STM). STM is a working memory (WM) and corresponds roughly to awareness, or what one is concious of a given moment. STM is limited in capacity. Miller proposed that STM holds only 7 plus or minus 2 units of information. STM also is limited in duration; for units to be retained in STM they must be rehearsed. Without rehearsal, information is lost after a few seconds. While information is in STM, related knowledge in long-term memory (LTM), or permanent memory, is activated and placed in STM to be integrated with the new information. The information processing theory emphasizes the development of cognitive processes.

Metacognitive skill has the important role of cognitive activities such as communication, language comprehension, reading comprehension, writing, language acquisition, perception, attention, memory, problem solving, social cognition, teaching and self control (Flavell,1993). There is a research finding that metacognitive knowledge in person, task and strategy of the learners experts in mathematical problem solving showed higher achievement score than the learner novices (Tonglaw Wong-in, 1998). Also Sinkavich (1995) results his study that the achieve high scores learners has high metacognitive knowledge than the achieve low scores learners. Romainville (1994) presented an exploratory research about first-year university learners' metacognition in particular the relationship between learners' metacognition and their academic performance. a relationship was found between performance and some learners' metacognitive knowledge characteristics. It was found that high achieving learners seem to be aware of more cognitive rules and to evoke metacognitive knowledge about cognitive processes and cognitive results more frequently than the low achieving learners.

Metacognitive processes are central to learning and to performance. Planning and monitoring activities are those involved during learning until the learning occurs. The checking activities involve the evaluation of outcomes of any actions against criteria of effectiveness and efficiency. metacognitive processes and metamemory are a central part of learning and remembering. Learners probably plan which items to return to, how much time to spend on a single item before proceeding to the next or giving up; they potentially monitor how directly an item could be answered and how many inferences have to be made. (Brown, Bransford, Ferrara, & Campione, 1983).

Metacognition has to do with the active monitoring and regulation of cognitive processes. It represents the "executive control" system. metacognition is relevant to work on cognitive styles and learning strategies in so far as the individual has some awareness of their thinking or learning processes. (Kearsley,2000). Metacognitive knowledge of tasks operates when the nature of task forces us to think about how we'll manage. If it's difficult, perhaps we decide to a lot more time, or perhaps to prepare an outline metacognitive knowledge of strategies use to monitoring one's progress toward a goal ; monitoring the effectiveness of the cognition strategies being used; monitoring one's level of understanding and for overtime, learner learned about which strategies are best suited for success on particular tasks (Ellott et all,1996)

Most research try to proof and develop Metacognition. As the Metacognition has been shown an important role in learning and understanding of students. The students who has high Metacognition will gain high score achievement. Moreover these research: Watanaporn Ra-ngubtook (1992), Romainville (1994), Sinkavich (1995), Ellott et all (1996), Tonglaw Wong-in (1998) and Taraban et all (2000) are shown that Metacognition can be trained and motivated to happen on student's cognitive process. That's mean when students use Metacognition in processing knowledge and information of what they have learned in STM and transfering it in LTM. The more knowledge and information are transferred in LTM the more they understand and remember. Since Flavel (1985) states that Metacognition means the cognitive process in various forms of self-instruction and

self control. Also Flavell (1993) confirms that metacognitive skill has the important role of cognitive activities such as communication, language comprehension, reading comprehension, writing, language acquisition, perception, attention, memory, problem solving, social cognition, teaching and self control. Romiszowski (1996) stated that Metacognition is the necessary component in information analysis as online learning. Thus, it will be expected that all those Metacognition that mention above will help student in successful learning with Web-based Instruction.

Many research over the past decade try to seek the model to incorporate with metacognitive in order to construct the meaning and understand of reading.(Underwood, 1997). Kearsley (2000) stated metacognitive processes are central to planning, problem-solving, evaluation and many aspects of language learning. (Vacca and Vacca (1994) defined metacognition in relation to reading as ability to think about and control your own learning particularly when that learning involves printed text. According to these theorists, readers must have two kinds of formative assessment capacity: The first is metacognitive knowledge; the second is regulation. metacognitive knowledge includes self-knowledge and task knowledge. Self-knowledge is the knowledge learners have about themselves as learners. Task knowledge is the knowledge they have about skills and strategies. The second. self-regulation, involves the ability to monitor and regulate comprehension. Bonds (1992) study about the relationship between reading ability and metacognition; using metacognition in developing independence in learning.The conclusion will come with metacognitive skills seem to be involved in many classroom cognitive activities: comprehension, evaluation reading writing and problem solving (Ellott et all ,1996).

Watanaporn Ra-ngubtook (1992) developed and compared the effectiveness of direct and embeded metacognitive learning strategy training models in English reading comprehension for learner grade 11 at Satrisuksa in Roied province. After training,it was found that the metacognitive learning strategy in English reading comprehension awareness and the English reading comprehension mean score were higher than the criteria. Taraban et all (2000) studied metacognition and freshman academic performance in reading comprehension including goal setting and goal monitoring, maintaining text comprehension at several levels of cognitive process. It was found in his study that the metacognitive strategy discriminated between learners in terms of GPA performance .

Brenda (1993) used a self-report measure developed to study the importance of metacognition in the acquisition and application of learning skills in inquiry. The metacognition in Multiple Contexts Inventory (MMCI), the self-report measure designed by Sternberg.

In order to help student for developing their metacognition while study with Web-based Instruction. The features and well-designed of Web-based Instruction are important. This instructional context can use three learner interaction of Hazari and Schnorr'suggestion (1999). Firstly, learners' interaction with the subject contents that means students have to read all documents and linked information in the web page. Vacca and Vacca (1994) also state metacognition in relation to reading as ability to think about and control their learning. Since the learners will use their Metacognitive

knowledge which includes self-knowledge, task knowledge and self regulation for formative comprehension assessment. Thus, the web page can be designed to use structural cues and organize the information by using technique of chunking, overview, advance organizer and map. Using color standards of the background and links in order to reflect the learner progress to show how they go far. However, learners should be taught to monitor their progress during a learning event. Blanton (1998) points that even good learners sometimes fail to monitor performance adequately thus teacher needs to teach students for cognitive process checking. Secondly, learners' interaction with the teachers, the teacher can check students' performance and their cognitive process by using web collaborative tools; E-mail, Chat or Webboard. These interactions are online activies with both teacher and student can communicate in real time as synchronous communication such as Chat. Students can ask questions directly to their teacher then teacher can communicate their students to answer student's question, solve their problems, motivate and also check their understanding. While E-mail and Webboard can use in virtual time as asynchronous communication. Students can use E-mail and Webboard in order to ask and discuss their topics to teacher and others which reduce their shyness. Using E-mail and webboard, students have opportunity and enough time in writing and thinking. They can write and rewrite, read and check their writing until they make sure then they will send message or post their topic in webbord. Hazari and Schnorr(1999) state that these environment will support the constructivist theory that the learners can develop their capacity in terms of goal setting, self planning, self monitoring which depend on their self pacing. Thirdly, Learners' interaction with the other learners, which E-mail,Chat and WebBoard are collaborative tools for increased learner contact between learner and learner. They can exchange information or questions about assignments, collaborate on group projects, and exchange information for peer review.

In conclusion, Internet technology development became an immense transition effected to education and consequently Web-based Instruction was applying in education as a new form for delivery materials and instruction. The subsequent web collaborative tools can create interactions activities among learners and teacher as synchronous and asynchronous activities. Thus, the instructional design in Web-based instruction is very important particularly using metacognition in web page design and web collaborative tools to motivate the learner in using their metacognition for controlling their learning. All the interactions are important to motivate the learners in successful learning with Web-based Instruction not for using this technology as the dissemination of the static documents.

2. Web-based Instruction

The level of development of computer-based learning learning materials has risen dramatically in recent years as a consequence of the growth of World Wide Web (WWW). Wichuda Ratanapian (1999) stated that the WWW would be one tool in instructional development as the highly potential and fast of Internet communication network of the global world. The implementation of the World Wide Web for instructional development will be an opportunity for knowledge dissemination and change the way of human learning in the information age. The WWW instructional materials can be developed which support open and learner-

centered learning and the WWW enables the development of powerful sources of information which can support learning and access strategies (Oliver,Omari and Herrington, 1998). The WWW facilitates learner–centered instructional settings, creating a motivating, and active learning environment (Becker and Dwyer,1994).

2.1 Definition of Web-based Instruction

Web-based instruction can be defined as any form of instructional delivery in which the World Wide Web is included as a tool (Relan and Gillani,1997). Jaitip Na-Songkla (1999) define web-based instruction as the integration of hypermedia attribute with the WWW net work attribute for creating the learning environment in dimension of unlimited time and distance of the learners or learning without boundary. Khan (1996) define web-based instruction as a hypermedia-based instructional program which utilizes the attributes and resources of the World Wide Web to create a meaningful learning environment where learning is fostered and supported.

2.2 Web-based Instruction Learning Environments

The features and components that associated with WBI learning environments are interactive, open system, online search, global accessible, online resource, electronic publishing, self learner contained, collaborative learning (Khan, 1996).The factors influencing the effectiveness of WWW as an instructional tool is the role of teacher, the role of learner and materials(Oliver, Omari and Herrington, 1998). Using the instruction design principles for delivery on the World Wide Web especially web page design have focused on identifying attraction and hold learner's attention to motivate the learner, keep the learner in identifying the instructional goal, reminding learners of past knowledge, requiring active involvement and providing guidance and feedback to the learner (Ritchie and Bob, 1996).

Web based Instruction (WBI) learning environment should include many resources support collaboration, implement Web-based activities as part of the learning framework (Sherry and Wilson, 1996). Khan (1996) summarized the features and components that associated with WBI learning environments .The features are interactive, open system, online search, global accessible ,online resource ,electronic publishing, self learner contained, collaborative learning .

Ritchie and Hoffman (1996) provide 7 elements for the principle of instruction design in WBI as a purposeful interaction to increase learner's knowledge or skills. The 7 elements were motivating the learner, specifying what is to be learned, prompting the learner to recall and apply previous knowledge, providing new information, providing guidance and feedback, testing comprehension and supplying enrichment and remediation.

Welsh (1996) apply EOD (Event-Oriented Design) as the teaching strategies in WBI. The EOD, Model of Welsh, involved the 3 WBI's events type; full synchronous, limited synchronous and asynchronous. The model used chat forum and video-based real time as communication tools in full synchronous WBI, while limited synchronous WBI use only chat and asynchronous WBI use e-mail for communication. This study will use synchronous and asynchronous events type of

WBI by using chat as synchronous communication tool in WBI, e-mail and WebBoard as asynchronous communication tools in WBI.

Hazari and Schnorr (1999) stated that the interaction of student in WBI can be 3 types as student interaction with the subject contents, student interaction with the teachers and student interaction with the students. The interaction can be as the discussion group, quiz question, student project by using e-mail, WebBoard and chat which can provide feedback between teacher and students. Besides using web-based portfolio which the students will construct their portfolio as the assignment example of how support for reflection and metacognition might be provided for WBI (Reeves & Reeves, 1996).

Cornell and Martin (1996) use motivational design of Keller's model in web-based instruction course design. It can influence learner motivation that will bring the positive outcomes and learner success.

Principles of web-based learning environment design based on flexible framework of active learning, collaboration, multiplicity and knowledge building including supporting tools for individual and group learning activities (Harasim, Calvert and Groeneboer,1996).

As the study of Wu (1998), the comments from learners were valuable for teachers to create more interactive teaching and learning environments which can include features of the interaction and feedback of web. Shih (1998) analyzed the relationships between learner achievement and the variables: attitudes, motivation, learning strategies, patterns of learning, learning styles in learning with web-based course. The findings not found the significant differences in achievement by learning styles. Also different backgrounds of learner and different learning styles equally well in web- based courses. The learner enjoyed the convenience and self controlled learning pace and motivated by competition and high expectations in web-based learning. They used most learning strategies of finding important ideas and memorizing keywords of the important concepts. The research on learner interactions and learner course evaluation in 6 web-based course at Arizona State University between 1996 and 1998 (McIsaac, Blocher and Vrasidas 1999). The research purposed to examine the interactions of the learners in the online course and the advantages and disadvantages of learner interaction in the online course using computer conferencing. Using the program of FirstClass, the computer conferencing package, provided e-mail, message posting or bulletin boards and group, as well as, private chat capabilities. FirstClass track the user 's statistics as user logon and logoff times.The study revealed that the time spent by teacher on interaction as e-mail 35%, computer conferencing 44%, chat 18% and face to face 3% of all the teaching time .The learners's interactions were goal oriented that means the interaction took place when learners attempted to achieve a task or meet a need.

The effectiveness in any learning environment is based upon the types and level of cognitive and metacognitive activity engendered in the learners (Jonassen,1994).When learning with the WBI, learners use their own modes of cognitive processing to acquire, retain and retrieve information. They imply acquisition and performance depend upon how the learner manipulates subject matter

and content (Blanton,1998). In aspect of resources in the web, there are many online resources of information for the learners can available access by themselves. All the materials on the web can be downloaded and printed from any WBI course and any other web sources (Khan,1996). Another important aspect to consider is that the skills and capabilities for analysis and evaluation of information which Romiszowski (1996) stated that necessary as metacognitive skill of information analysis. Also Reeves & Reeves (1997) proposed model of effective dimensions of interactive learning on the World Wide Web.The model includes 10 dimensions which are pedagogical philosophy, learning theory, goal orientation, task orientation, source of motivation, teacher role, metacognitive support, collaborative learning, cultural sensitivity, and structural flexibility. That's mean one dimensions of the design of web-based instruction of Reeves & Reeves is thinking about metacognition. They explained the construction of web-based portfolio is an example of how support for reflection and metacognition might be provided for WBI. Another feature, Internet and World Wide Web can create the cross-cultural interaction, it provide as medium to allow learners and teachers to communicate online with sources from over the world. Not only do learners benefit from multi-perspective views of subject matter, but they also serve as representatives of their own cultures. The ability to explore and learn about distance cultures is facilitated through the Internet. Learners are not limited to individual teachers' point of view. The important for using web-based instruction is how to motivate the interaction of the learners not for using this technology as the dissemination of the statics document. The interaction of WBI can be as the discussion group, quiz question, simulation program, conference, chat and feedback form. The interaction of learner in WBI can be 3 type as

1. Learner interaction with the subject contents
2. Learner interaction with the teachers
3. Learner interaction with the learners

and by using the formative evaluation is better than the summative evaluation, the environment of WBI will support the constructivist theory so the learner can develop their capacity in aspect of goal setting, self planning, self monitoring and depend on their self pacing (Hazari and Schnorr, 1999) The scene of applying the instructional technology as WBI Bostock (1997) try to design the WBI for active learning which will help the learner to responsible their own learning and transfer their knowledge with the meaningful learning .The process of thinking which learner will use metacognitive skill and reflection of their knowledge acquisition. His study suggestion of designing the web-page as structural cues and organize the information by using technique of chunking, overview, advance organizer and map. Using color standards of the background and links. and reflect the learner progress to show how they go far . Learners should be taught to monitor their progress during a learning event. Online checking of cognitive process needs to be taught since even good learners sometimes fail to monitor performance adequately and or fail to take corrective measures when problems are spotted.(Blanton,1998)

Due to the Internet technologies as one mean in transferring knowledge, the learners also have to have a competency in English for communication and competency in computer literacy to use the Internet. One language is not enough. A second or a third language is needed so English becomes international

communication language for communication across the borderless world (Wichit Srisa-an, 2000) Learners in all level especially the University learner, must have global competence. They are 1. Ability to use international and /or regional language 2. Knowledge and understanding of others 3. Ability to use information technology and computer and 4. Knowledge and appreciation of global value.

Khan (1996) state web-based instruction is the method of instruction designed in the form of web pages includes Internet resources. All instructions and activities use web as a medium for communication in sending the subject materials, homework, assignment, self tests, messages and also feedback from the students such as questions, discussion, and their project. Internet technology provide new opportunities for delivering instruction, teachers and learners can utilize the Internet as an instructional tool. Internet technology can support collaborative learning and learning by doing, and World Wide Web gives both teachers and learners chances to access the resources of networks worldwide (Chute, Thompson and, Hancock, 1999).

Brush and Uden (2000) point that Internet provides a means for developing and implementing new forms of collaboration among groups, inquiry-based learning where learners and teacher can use network to study, and collaborate with others around the world; it also provides collaborative learning between learners within and outside of the universities, and allows learners to engage in public dialogue regarding a wide variety of topic discussion.

Chute, Thompson and, Hancock (1999) point the advantage of Web-based Instruction that can satisfy individual differences, self-paced learning activities including both synchronous and asynchronous interactions among teachers and other learners. That means why Web-based Instruction is important for the learning dynamics of the learners, those who have different learning style can choose where they want to learn. Moreover the environment of Web-based Instruction will support the constructivist theory that the learners can develop their capacity in terms of goal setting, self planning, self monitoring and they can depend on their self pacing (Hazari and Schnorr, 1999).

Many research study about the principles and effectiveness in designing World Wide Web (WWW) for instructional development. For example, Brain (1996) use the utilization of the World Wide Web to support effectively classroom-based learning in 3 types - WWW as a tool for bringing the world to classroom, WWW as a tool for supporting the classroom activities, and WWW as a tool for opening classroom to the world. Khan (1996) summarizes the features and components that associated with learning environments in Web-based Instruction. The features are interactive, open system, online search, global accessible, online resource, electronic publishing, self-learner, and collaborative learning. Vacca and Vacca (1994) also state metacognition in relation to reading as ability to think about and control your own learning particularly when that learning involves printed text. According to these theorists, readers must have two kinds of formative assessment capacity: the first is metacognitive knowledge; and the second is self regulation. Metacognitive knowledge includes self-knowledge and task knowledge. Self-knowledge is the knowledge learners have about themselves as learners. Task knowledge is the knowledge they have about skills and strategies. The second self-regulation, involves

the ability to monitor and regulate comprehension. While Hazari and Schnorr (1999) suggest that the importance for using Web-based Instruction is how to motivate the interaction of the learners. The interaction of learners in Web-based Instruction can be 3 types as follows:

1. Learners' interaction with the subject contents
2. Learners' interaction with the teachers
3. Learners' interaction with the other learners

All the interactions can be done in the discussion group, quiz question, simulation program, conference, Chat and feedback form. Using the communication tools in the internet Odasz (1999) define web collaborative tools as Internet tools that bring learners together, online, in a collaborative, inquiry-based learning context. There are several collaborative Internet tools which increasing the quantity and the quality of human communication such as E-mail, Internet Relay Chat (IRC), Bulletin Board Systems (BBSs), IPhone and Internet Radio, Videoconferencing, Web Conferencing.

3. Web Collaborative Tools

The web collaborative tools can be define as Internet tools that bring learners together, online, in a collaborative, inquiry-based learning context and several collaborative Internet tools are increasing the quantity and the quality of human communication (Odasz,1999). Odasz stated the 10 collaborative tools of the Internet were E-mail,,Internet Mailing Lists, Newsgroups, Bulletin Board Systems (BBSs), Web Conferencing, Internet Relay Chat (IRC), MUDs/MOOs, IPhone and Internet Radio, Desktop Videoconferencing and VRML Chat Systems. Web collaborative tools in this study are concerned 2 topics;

3.1 Communication theory

3.2 Synchronous and Asynchronous Communication

3.1 Communication Theory

There are many communication models, which is important for instruction as the process of communication in process of transferring knowledge between teacher and student. By looking at the dimensions of communication, the communication process depend on type of communication, communication forms and communication contexts.

Communication can be defined simply as the process by which individuals share information, ideas and attitudes. Share in this definition means a communication process which implies that the source and the receiver are actively working together for common understanding (Wilson, 1995).

Effective communication is influenced by many human factors affecting both sender and receiver such as cultural background, experience with the subject

of the message, and a personal attitude can influence the success of communication. A successful communication depends upon participation of the receiver. A person reacts by answering, questioning, or performing, mentally and physically. Then a return, or response loop from receiver to sender. It's termed feedback. The feedback happens through words, expressions, gestures, or other actions. These reverse communication advises the originator how satisfactorily the message was received. Feedback enables the originator to correct omissions and errors in the transmitted message, or to improve the encoding and transmission process, or even to assist the recipient in decoding the message. (Kemp and Smellie, 1989)

The message in human communication involved shared experiences. That is the source can encode in terms of the experiences he or she had. So the people from different cultures try to communicate and the overlapping fields of experiences are necessity. Naturally each human being's experiences are unique. Communication will be most effective if there have been common experiences that will be success communication (Barker and Gaut ,1996).

DeVito (1996) define human communication as follows:

Interpersonal communication define as communication between two persons or among a small group and distinguished from public or mass communication of a personal nature and distinguished from impersonal communication; communication between or among intimates or those involved in a close relationship; often, intrapersonal, dyadic, and small group communication in general.

Intercultural communication define as communication between persons of different cultures or who have different cultural beliefs values or ways of behaving.

Public communication define as communication in which the source is one person and the receiver is an audience of many persons.

Small group communication define as communication among a collection of individuals, few enough I number that may interact with relative ease as both senders and receivers, whose members are related to each other by some common purpose and some degree of organization or structure.

Communication by e-mail is the single most common use of the internet (Bostock, 1996). E-mail is the most commonly used collaborative tool, particularly for private one-to-one communications. It can be a useful tool for collaborative and project-based learning activities. e-mail allows users to communicate with others who have access to a computer network (Dorman,Collins,1998). e-mail is a method of composing, editing, sending, and receiving messages electronically (Erickson and Vonk,1998). WebBoard is a tool for fostering communication among people with common interests. WebBoard makes an online brainstorming even when seperated by time and distance. Using WebBoard teachers and learners can interact as a group to share ideas. Chat is a form of interactive online communication that having a open discussion on one of

many topics in chat room. In this research e-mail is an Interpersonal communication, Intercultural communication and small group communication while WebBoard and chat are public communication and small group communication.

3.2 Synchronous and Asynchronous Communication

The effect of technology on human communication such as computer become increasingly in the information age. The impact and effectiveness of computer on human communication which has been called computer mediated communication and it has been interested in the problem of computer mediated communication caused the depersonalize interactions and a loss of individualization (Barker and Gaut, 1996). From 1982 using the Internet for example e-mail and conferencing for computer-mediated communication in the teaching-learning environment, in order to enhance and extend the traditional classroom experience and enable students to work collaboratively (Graziadei, 1996).

Synchronous communication activities make it possible for students to "meet" in an electronic space. Synchronous communication means "live". Synchronous communication is bound by time, but not by space, which means that with the Internet access can bring groups of students from different places (from different schools even different countries) can meet with each other in a variety of virtual Internet places (Krause,1998).

Asynchronous communication means "not live." The example of communication tools include newsgroups or emailing lists, web-based mail/news forums, and listservs are asynchronous communication activities that can be used as interactive communication between teachers to teachers, teachers to students, and students to students (Krause,1998).

One type of Internet activity which has a great deal of potential for English language students is "chatting," that is, communicating in real time by typing a message into a computer, so that it can immediately be read on other computer screens, even computer screens in another part of the world. Communication that takes place in real time is referred to as "synchronous communication," while communication that does not take place in real time, such as e-mail, is called "asynchronous communication." While there are many different places to chat on the Internet, some of these are specifically intended for non-native English speakers. They provide opportunities for non- native English speakers to communicate in English (Kitao,1998).

An important element of virtual classroom: different time and different place is asynchronous activity or activity done at the students' own time, place, and pace or virtual classroom will be synchronous activity: same time but different place in which students and instructors interact while working together with a synchronous collaborative tools. The use of synchronous and asynchronous activities will be determined by the available technology (Graziadei, 1996).

In this reseach the instructor can interactivity communication to the classroom by using 3 WCT: e-mail and WebBoard and chat as the learning tools. These learning tools used for communicate knowledge or skills to students whether used asynchronously or synchronously. Instructors can send students through web content and verify student progress, all over the Internet. Students can receive web contents from any computer with Internet access. When using chat for synchronous instructional events, instructor can meet student group or individual to complete assignments, provide tutoring and feedbacks or two students can meet in chat and discuss issues or tutor each other. For asynchronous instructional events, students download assignments and information resources from web that has been sent by instructor and also instructor can receive students's written work and provide feedback via e-mail (Welsh, 1996). E-mail and WebBoard are the "learning tools" used as asynchronously to communicate knowledge or skills to students as the tools that facilitate asynchronous learning environment while chat used as synchronously as a tool to facilitate a synchronous learning environment.

3.2.1 Email

Email is a collaborative tool that learners can exchange information or questions about assignments, collaborate on group projects, and exchange information for peer review. (Dorman, Collins,1998). Using e-mail to extend classroom for university learners and faculty Kotlas (1995). It found that discussions and activities resulted in improved learner attitudes toward the course, the content, and the faculty member offering the e-mail activities. Perry (1994) using e-mail in the long-distance collaborative projects and the result from using e-mail help to create communities of national and international for the learners.

E-mail is the basic service of the Internet that Internet users employ to communicate with other Internet users. E-mail systems consist of two programs: user agents and mail delivery systems. The user agent referred as a means of generating, sending, and receiving mail and mail delivery system or mail server routs all mails to its intended destination. With the Internet, mail delivery system is controlled by a program called Simple Mail Transport Protocol (SMTP)(Erickson and Vonk,1998). Communication by e-mail is the single most common use of the internet, and it can be integrated with the web. Web pages can include "mailto" links and browsers can be used to read and write e-mail (Bostock,1996). E-mail is the most commonly used collaborative tool, particularly for private one-to-one communications. It can be a useful tool for collaborative and project-based learning activities. E-mail allows users to communicate with others who have access to a computer network (Dorman,Collins,1998). Electronic mail (e-mail) is a method of composing, editing, sending, and receiving messages electronically (Erickson and Vonk,1998). Dern (1994) define e-mail as "letters" that are composed on one computer terminal and sent, usually over phone lines, to another computer terminal, where they may be read on demand. This medium can be used to communicate with colleagues across vast distances, without ever meeting face-to-face and without having to rely on both parties being available at the same time. One of the most useful features of e-mail is the ability to attach files to an e-mail message (Erickson and Vonk,1998).

The definition of e-mail from netdictionary (2000) define e-mail is stand for Electronic mail, the computer-based exchange of mail and the e-mail account follow the form user-ID@domain-name or userid@host.domain. E-mail addresses have a standard three-part format:

1. Userid is the name or identifying number of the user. The @ (at) sign follows the account name.

2. The host of the e-mail account follows. A dot or period separates each part of the address.

3. The domain identifies the type of organization hosting the account. Table 1. contains the domain names common to most Internet sites.

E-mail is motivational tool for encouraging the development of reading, writing, and collaboration skills (Bernstein,1998) In addition to, e-mail improving communication skills, use of e-mail will help learners to understand other cultures, think critically, and learn skills of the future.(Dorman 1998)

E-mail can provide a source of information and communication for the class. Teachers can use e-mail to announce assignments to the class, send messages to individual learners, or provide feedback on assignments to individuals or groups.

Electronic mail or "e-mail" is one of the most popular and useful features of the Internet. There are many researchs, studies in application of using e-mail to enhance instruction as Haworth (1999), Bernstein (1998), Trenchs (1996), Elasmar(1996), Manning(1996), Baugh and Baugh (1997), Payne (1997), Everhart.(1997), Kotlas (1995), Perry (1994).The important issues of e-mail utilization for instruction summarized from the study above are as follow:

E-mail is more comfortable than personal contact and because e-mail is an asynchronous medium, users can receive and respond to mail at a time they deem convenient (Haworth,1999). It provides opportunity to interact with teachers in a way which both teacher and learner feel comfortable. In addition, e-mail provides opportunity for increased learner contact between the teacher and learner and potentially between class members. Some learners who may feel intimidated to talk with a teacher in person may choose to interact with the teacher through e-mail (Dorman, Collins,1998). Sometimes the barrier to communication is not shyness or peer pressure but time and distance constraints. E-mail can be used as a teaching tool for learners can reiterate or ask follow-up questions to the teachers without worrying that their question will be naïve (Manning, 1996).

E-mail in language teaching, Trenchs (1996) study about how beginning language learners generated e-mail in a foreign language. E-mail enabled the learners to practice their second language. sending the messages, some teachers checked learners' communications for grammatical correctness appropriate to their level. Jean used the editing process as a teaching strategy to help learners perfect their foreign language writing skills. In addition to, multicultural learning occurred when learners' exchanged information (Baugh and Baugh,1997). Wu (1998) using WBI to help learner learn introductory descriptive statistics using Internet activity as e-mail. The

comments from learners were valuable for teachers to create more interactive teaching and learning environments. Features of the web including interaction and feedback.

3.2.2 WebBoard

WebBoard is a tool for fostering communication among people with common interests, whether they are professional, civic, or social. Easy to use and manage, WebBoard can be used anywhere, at any time, through a browser, e-mail program, or newsreader. All users need is access to the Internet or an intranet. WebBoard is a resource for communication, disseminating information, and building community. WebBoard "forums" or "boards" can be used for holding virtual office hours, providing information and support to customers, or promoting discussion for a new product in development. Each board or forum can contain unlimited "conferences" (discussion topics and the messages and attachments related to them)(O'Reilly,2000) The WebBoard as community building, people with a common interest benefit from sharing ideas, discussing problems, and negotiating solutions. WebBoard serves as a central location where this can take place. Interests can range from programmers working with the Perl language. WebBoard is enrolled at educational institutions and favorite with faculty, learners and administrators. Educators are finding many diverse uses for WebBoard on campus such as virtual office hours, learner-to-learner discussions, curriculum development and distance learning. WebBoard 's ability to store information by topic and attach files makes it an excellent choice for team members collaborating on the same project. The entire thread of a project's history, related communications, discussions and decisions can be kept in a conference for all team members to access, add to, or review as Project collaboration on electronic communication. WebBoard makes an online brainstorming even when seperated by time and distance.

WebBoard is a conferencing system that you access using a web-browser such as Netscape Navigator or Microsoft's Internet Explorer. Each course using WebBoard has its own conferencing space, called a virtual board, where learners and teachers can interact as a group--share ideas, images, and other documents--privately, much like an electronic bulletin board with restricted membership. Even though each learner in the class can access their course board from any Internet connection, people not registered for the class cannot West(1997)

Braun 1999 study of use computer peripherals; publish social studies curriculum materials on the web; and use the web to draw on the principles of project-based learning, learn to use Internet search directories; use e-mail, newsgroups, listservs, WebBoard, and Cu-See-Me

Jiang 1998 study factor influence on learners' perception of online learning. Major findings of study were socio collaborative course environments are more conductive to perceive learning. Learning achievements in course strongly emphasized online discussion. A WWW discussion board can also serve as an organizational center for course information because of its universal accessibility through a web browser. (Paulisse,1999)

3.2.3 Chat

The definition of chat from netdictionary (2000) define chat, a form of interactive online communication that enables typed conversations to occur in real-time. When participating in a chat discussion, your messages are instaneously relayed to other members in the chat room while other members' message are instantaneously relayed to you.

Chat room is using of the web to go a web location and having a open discussion on one of many topics. In some cases chat room is required to have an account and password to enter a chat room. When using a chat room, there is a specific code of etiquette that user need to follow. The first rule is strick to the topic. Other chat room participants will become agitated one whom deviate from the host topic. Secondly, be polite and avoid derogatory or profane language. Lastly never send personal information because we never really know whom we are chatting, so a bit of caution is in order (Erickson and Vonk,1998).

Another point of the nature of chat is netiquette, Listen First **:**It is usually a good idea to listen to what is being discussed in the group.You should become acquainted with the culture of the group before jumping into a discussion. Respect Anonymity**:** If a user is using a nickname, recognize that this person desires anonymity. Even if you know that person quite well, use the nickname. Don't reveal a person's identity if that person wishes to remain anonymous. Don't Ask: Just as you shouldn't reveal too much information, don't : "badger" others in the chat room for personal information such as their sex, age, or location. Wait until you develop an acquaintance with another person in the chat room.

The research study in using of electronic chat rooms Woodworth (1997) increase pre-service teachers' reflective thinking. Kirk (2000) using chat in the basic writing classroom. Also Rankin (1997) suggest for using chat room in foreign languages teaching. Teachers of foreign languages and of English as a foreign language can encourage learners to use the target language regularly outside the classroom by organizing a chat room on the Internet .

4. Teaching ESL in Web-based Instruction

English is internationally powerful language and English is the language of the dominant political-economic system of the modern world. Holly (1990 cited in Holliday 1994). English as a global language, more than one billion people worldwide are currently studying English, and the Internets offers the ideal platform for delivering effective English language instruction to everyone, everywhere Grainger (2000).

Teaching English for general communication course includes conversation, reading, and writing. It aims at eventual competence in the language rather than more limited objectives. The learners are late high school learners or young adults. They are neither zero beginners nor at an advanced level but some at an intermediate level of competency. (Lebauer and Scarcella, 1993) Learning to communicate effectively in a second language requires more than the memorization of grammatical structures and vocabulary items (Tenhoff and Nakaseko,1999).

For English for communication across cultures, the course must be organized to bring the learner into contextual contact with the language in rational way. Language is more highly structured than its culture, and its rules and units are more precise than those of culture. Language for communication should be taught as language and must include its culture dimension. Communication without regard to cultural contexts and meanings is at best incomplete; miscommunication and misunderstanding (Lebauer and Scarcella, 1993). Culture is the beliefs, value systems, norms, mores, myths and structural elements of a given organization, tribe or society (Watson, Ho and Raman,1994).

Culture can be define as the patterns of beliefs, values, and practices that we both inherit and transform overtime(Cole,1998 cited in Gutierrez, 2000) Moll(2000) explains that culture is something that we cannot study directly; however, we can study how people “live culturally” as they participate in their everyday activities.

Culture affects the individual’s response to computer-related systems. Culture also has a strong influence on the acceptance of, use of, and impact of learning-related interventions. A culture involves teacher and pupil effort, discipline, respect, collective notions, family support, and moral aspects as well as tools to support communication, information handling, and group activities used within the learning context.

Lado(1988) stated the learning a second language stages. The learner advances through at least four universal learning stages in order to master the language.They are

1. Completing the communication cycle
2. Assimilating the system
3. Developing skills
4. Utilizing the language

Stage 1. Completing the communication cycle. Perceiving and understanding is the first need in learning and it will bring the learner to complete the communication cycle for reading and writing .If the communication cycle is not completed, very little learning will take place and the learner will feel frustrated and disappointed and will lose motivation.

Stage 2. Assimilating the system. Assimilation has two basic functions:

1. the recall and reuse of words, idioms, proper names, and expressions
2. the application of the function rules and patterns of grammar, pronunciation, word formation, and expressions to understand and produce well-formed new words, sentences, and utterances for communication and interaction.

Assimilation creates associations that aid recall, but it is more than mere association or over learning; it amounts to establishing the system and units of the second language as part of the symbolic thinking of the learners so that the learner can adapt them to new situations according to their interests and intentions.

Stage 3. Developing skills. Developing skill in speaking, listening, reading, and writing will reflect the language user's personal thinking.

Stage 4. Utilizing the language. It's mean that the learner has developed sufficient skill to use the language at normal speed, the language has been learned. It involves socializing, academic studies, entertaining, obtaining or giving information, and special knowledge such as that required. The fourth stage becomes more prominent as the learner reaches the more advanced levels of competency, any new material must pass through the first three stages to reach the fourth.

Apparently, interaction in English between persons who speak English and those who speak other language is a crucial but elusive factor in promoting mastery of the language. The need for such interaction has not been negated by the availability of English via technological devices or the mere with persons who know how to engage them in meaningful communication. (Lebauer and Scarcella, 1993)

Teaching English for general communication course includes conversation, reading, and writing. It aims at eventual competence in the language rather than more limited objectives.The learners are late high school learners or young adults. They are neither zero beginners nor at an advanced level but some at an intermediate level of competency. (Lebauer and Scarcella, 1993) Learning to write also contributes to learning to read, understand, and speak. (Lebauer and Scarcella, 1993) Research into the writing process of native and non-native speakers has found that writers do not have a linear writing process, but rather that the process of writing (for both native and non native writers) is nonlinear. a constant interaction between idea generation, rhetorical and lexical shaping and mechanical revision. This view of writing as an idiosyncratic process, it requires multiple revisions at both a global and local level. By supported of language teaching theory, Reading is necessary for writing improvement. Reading at an appropriate English competency level is considered to be necessary input for the acquisition of writing skills, vocabulary and grammar. Proponents of a communicative approach to language teaching emphasize that reading and writing skills should be connected and taught in a realistic context, one possible context being works of literature. (Lebauer and Scarcella, 1993) Interactive reading and writing is a fundamentally new communication medium that focuses on the written word in a dynamic form with features of oral speech yet with the editability and permanence of the written word. (Odasz 1999).

The purpose of the project was to give the university learners practical experience with high school learner writing and to offer the high school writers an audience beyond their teacher. The project was an exercise in negotiating technological, institutional, and theoretical boundaries. It revealed important and difficult questions regarding the feasibility of using computer-based resources, such as the Internet, for writing instruction and for high school-university collaborations in the teaching of writing. The project was successful despite obvious shortcomings, as it

accomplished several goals, laid the foundations for future collaborations, and highlighted valuable lessons about some of the issues surrounding the uses of computers in teaching writing. The Online relationships can be very different than face-to-face relationships. They can be more intimate and articulate because messages can be authored without time pressures. Written interaction is fundamentally more mind-to-mind than face-to-face interaction, which is typically more transient and trivial. The classroom often does not allow private communication between teacher and learner, whereas many teachers have been pleasantly surprised by the in-depth relationships they have developed with many learners through online interaction. (Odasz 1999).

Using the teaching with writing strategies' Hilgers (2000) to improve students in English Competency in writing . The strategies of how to use writing everyday because writing process is a process of high order of thinking. The student can't write and thinking as accomplished company. For creating the students' opportunity in writing by using the Low-stake writing and use Low-stake writing to bring High-stake writing.

Hilgres suggested to start the project or events that bring to Low-stakes writing such as obsevation, interviewing and summary mini theme on reading. E-mail is a tremendous way of Low-stake writing, applying e-mail for peer group or discussion with the instructor will improve writing ability. Using self assessment of writing assignment by having students attached an "author's self assessment to each writing assignment and also using peer assessment for feedback and revising.

The best High-stake writing grow organically from Low-stake writing. For formal writing is difficult it require high order of thinking and web page is a special form of formal writing that can be published. Teaching the formal writing, should provide sample of form and help students identify and analyze key characteristics. Instructor create a "form guide" that students can use to assist them in composing and offer students several opportunities to write in the form.

There are 2 methods of teaching writing as linear process and recursive process. The linear process has 3 steps prewriting, writing and rewriting. The recursive process are 4 steps:

1. Thinking gathering materials and writing to create a 'vision'.
2. Constant assessment of effects
3. Constant 're-visioning' as an author writes, thinks and rereads.

Almost all writing at first is writer centered. Revising requires an author to translate writer-centered writing into reader-centered writing.

5. Research on Metacognition, Web Collaborative Tools, and ESL Writing Teaching.

Many research study about the principles, effectively method and strategy uses on Metacognition and ESL writing teaching for instructional development. For example**,** Thitirat (2001) studied on using restructuring strategies and abilities in English language expository writing of undergraduate English majors, Naresuan University. The purposes of this study were to study 4 types of restructuring strategy used on expository writing. The sample were 73 of fourth year undergraduate English majors of Faculty of Humanities and Social science, Naresuan University selected by purposive sampling technique. The instruments used in this study were writing test of expository writing, restructuring strategies questionnaire and a structured interview. The finding found that the groups of undergraduate English majors with high and low expository writing abilities used restructuring strategies indifferently at .05 level of significance.

Suphannee (1991) compared English writing process as perceived by high and low English writing achievers in higher education institutions. The purposes of this research were to study English writing process of students in higher education institutions in Bangkok metropolis in the aspects of the metacognitive, cognitive and communication strategy use and to compare the English writing process between high and low English writing achievers. The sample of the research were 991 first year students from 7 public and private higher education institutions in Bangkok Metropolis. The sample were randomly selected through the process of multi-stage sampling. The instruments used in the research were English writing Achievement test and English writing process questionnaire. It was found that there were differences between the high and low English writing achievers in using English writing process at .05 level of significance.

Somchit (1197) study the effects of using a model of metacognitive development on Pratom Suksa Six students' metacognition and academic achivement. A randomized block design posttest only was used. The treatment group was trained by the researcher using the metacognitive development model for a period of 16 days with 45-50 minutes each day. The control group did the same exercises as the treatment group but no metacognitive training and feedback were provide. The data were collected immediately after treatment and 12 days after treatment. Self-report, interviews, think alound procedure and observation were used as data collection methods. Some points of the research findings was the positive results on metacognition in text reading and metacognition in math problem solving measuring immediately after treatment and follow up periods.

Tonglaw (1998) studied the domain specific knowledge, problem-solving process and metacognition of secondary school learner experts and novices in mathematical problem .The research finding was that metacognitive knowledge in person, task and strategy of the learners experts in mathematical problem solving showed higher achievement score than the learner novices.

Woraporn (2000) studied the course curriculum development on English writing for business Communication based on outcome-based education principles for

bachelor's degree students in Business Administration majoring in Business English. The pretest and posttest design was used and the research findings show that the experimental group's posttest scores in English writing has English language, critical thinking and self directed learning were significantly higher than the pretest scores at .05 level. The curricurum on English writng in this studied were designed on outcome-based education principles.

Somchai (1996) studied an English writing ability on modes of discourse of mattayom suksa six students with high and low English learning achievement in secondary schools. The research revealed that students with high English learning achievement had English writing ability on modes of discourse descriptive English writing ability persuasive English writing ability students with low English learning achievement.

Pawinee (2000) studied the relationships between language learning strategies and abilities in English language speaking, and writing of students at the certificate of vocational education level in Rajamangala Institute of Technology. The research found that the abilities in English language speaking were significantly related to the ability in English language writing at the 0.05 level.

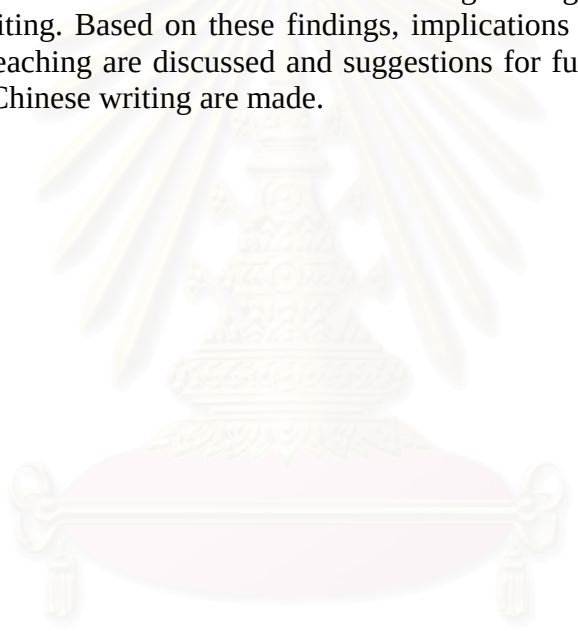
Suwanthep (2002) stated the interferences of L1 transfer in English writing instruction for Thai student. This study employed a linguistic understanding of L1 transfer as a framework to develop a pedagogical grammar for an academic writing class in a Thai university. Based on two error analyses, with a concentration on L1 direct and indirect transfer in English verb usage, this study (a) developed a framework for the utilization of L1 to facilitate L2 learning; (b) provided a "plausible" pedagogical approach to the development of an "error-based" pedagogical grammar using one possible explanation of errors—L1 transfer—in one area of writing difficulties—English verb usages—of Thai students learning English; (c) sought procedures for enhancing metacognitive learning in classroom practice. The study concluded with an exploration of next steps for further improvement of supportive resources for metacognition by means of available technology, i.e., Microsoft Word 2000 Grammar Checker. In principle, the grammar checker should provide a stimulus for students to think metacognitively but it was found to be of limited utility.

Neil J (1999) examined the role metacognition in the teaching and learning of a second language and the understanding and controlling cognitive processes which may be one of the most essential skills for helping second language learners development. This research focus students' attention rather than on learning the language, second language teachers can help students learn to think about what happens during the language learning process, which will lead to the development of stronger learning skills. The digest highlights a model of metacognition that is made up of five primary components: preparing and planning for learning, selecting and using learning strategies, monitoring strategy use, orchestrating various strategies, and evaluating strategy use and learning. Also discussed is the interaction of metacognitive skills.

Thombs (1999) use e-mail for enhancing the English writing skills of ESL students. The study investigated the use of e-mail as a tool to enhance the writing skills of ESL students. A curriculum unit for a high school ESL writing class, which utilized mentor feedback facilitated by e-mail communication, was developed and evaluated. Mentors were trained in e-mail communication and teaching methods specific to the ESL classroom. ESL students were trained in computer terminology and the use of e-mail. The ESL students wrote on topics assigned by their ESL teacher, submitted the writings to their mentors via e-mail, and then received feedback from the mentors in the same manner. The curriculum unit emphasized the communicative approach to language learning and process writing techniques. The subjects for this study were ESL students in a medium-sized public high school. The population included both U.S. resident language minority students and international students. Mentors were chosen from a group of secondary education majors who were enrolled in a Reading in the Content Area class at a nearby private university. Data collection included follow-up surveys administered to the ESL students, the mentors, the classroom ESL teacher, and the professor of the Reading in the Content Area class. ESL students were pre- and post-tested in writing skills using the McGraw-Hill Language Assessment Scales and in writing apprehension using the Daly-Miller Writing. The data revealed that satisfaction with the project was expressed by all participants. The ESL students, mentors, and ESL teacher all believed that the students' English writing skills had increased as a result of this project. The dependent sample t-tests indicated that significant growth in writing skills had occurred during the two months that the project was being implemented and that a significant decrease in writing apprehension was demonstrated.

Comer (1985) used quasi-experimental to study two strategies used to improve high school students' writing skills. The purpose of this study was to utilize in a training study two strategies for improving high school writing. The two strategies used were increased time for writing and using prewriting activities prior to student writing assignments. Two groups of homogeneously-grouped tenth grade students enrolled in "regular" (average ability) English classes were used in the study. One class was given sixteen writing assignments which were designed to include the Project Basic writing competencies. These writing competencies are graduation requirements for students now enrolled in the tenth grade. The other class was given the same sixteen writing assignments preceded by planned pre-writing activities. Both groups were given the same amount of time to complete the writing activities. Both groups were given feed-back about each writing and specific instruction in sentence formation, conventions of written English, writing for an appropriate audience, and content and organizational matters. The Maryland Functional Writing Test was administered following the four week study. Significant differences between the two modes of instruction on the posttest were not found. More disturbingly, correlations between the two forms of the Maryland Functional Writing Test were not found, nor was there a significant correlation between the Maryland Functional Writing Test and the California Achievement Test. There were significant sex differences on two parts of the test, the narrative writing on the pretest and the explanatory writing on the posttest. Only one analytical subscore, content, was found to be positively correlated to passing the Maryland Functional Writing Test.

Zhang (1997) reported the findings of a comparative case study of English and Chinese academic writing with respect to the use of composing strategies, the patterns of written discourse organization, and questionnaire responses regarding educational background and attitudes toward writing. The subjects were eighteen traditional senior college students--nine native speakers of English and nine native speakers of Chinese. Each subject was asked to write two essays on given topics with the think-aloud protocol method. While the protocol data showed that the composing strategies used by the American and Chinese subjects were similar, the American subjects used most of the strategies more frequently than the Chinese subjects did and there was a lack of group consistency in the use of these strategies among the subjects in the Chinese group. The written data, which were analyzed by means of Coe's (1988) discourse matrix method, showed that, contrary to prior claims, Chinese writing is not indirect in idea development in comparison to English writing. The questionnaire responses indicated that the subjects' composing performance was consonant with their instructors' methods of teaching writing and the curricula set up for teaching writing. Based on these findings, implications for contrastive research and EFL/ESL teaching are discussed and suggestions for further contrastive studies of English and Chinese writing are made.



CHAPTER 3

RESEARCH METHODOLOGY

This research attempted to investigate the effect of Web Collaborative Tools in web-based instruction upon metacognition and English writing competency of Thai and Chinese students. The subjects in this experimental research were 2 groups, Thai and Chinese university students. The Thai subjects were selected from the Faculty of Business Administration, Rajamangala Institute of Technology (RIT), Thailand. The Chinese subjects were selected from the College of International and Culture, Guangxi Normal University, Quilin, People's Republic of China. The experiment of this research were applied separately in 2 phases, the research experiment in Thailand and the research experiment in People's Republic of China.

The first phase of research experiment was conducted in the first semester, academic year 2002 at the Faculty of Business Administration, Rajamangala Institute of Technology (RIT), Pratumtani province, Thailand. The experiment lasted one month from 22 July 2002 until 16 August 2002. The second phase was conducted in the second semester, academic year 2002 at the College of International and Culture, Guangxi Normal University, Quilin, People's Republic of China. The experiment also lasted one month from 5 September until 4 October 2002.

Subjects

1. Thai subjects.

1.1 The subjects were selected from majoring in Business English Program which is one of 9 programs of Bachelor of Business Administration. The 60 subjects of third year students were purposive randomly selected from 277 students. The subjects registered the English Writing 1 as the course study in this semester. The subjects were selected under three conditions as followed

a. They had to pass the Internet usage question.
b. They had computer literacy skills.
c. They had at least one year experience in Internet usage.

1.2 The subjects were randomly assigned to three experimental conditions namely the Web Collaborative Tools (WCT): E-mail, Chat, and WebBoard. Each condition contained 20 subjects in each group as follow:

a. E-mail group. The 20 subjects study web-based instruction using E-mail as Web Collaborative Tools (WCT).

b. Webboard group. The 20 subjects study web-based instruction using Webboard as Web Collaborative Tools (WCT).

c. Chat group. The 20 subjects study web-based instruction using Chat as Web Collaborative Tools (WCT).

2. Chinese subjects.

2.1 The subjects were selected from majoring in International Foreign Study which is one programs of Bachelor degree in Business Administration. The 60 subjects of third year students were purposive random selected . The subjects registered the Business English as the course study in this semester. The subjects were selected under three conditions as followed.

a. They had to pass the Internet usage question.
b. They had computer literacy skills.
c. They had at least one year experience in Internet usage.

2.2 The subjects were randomly assigned to three experimental conditions namely the Web Collaborative Tools (WCT): E-mail, Chat, and WebBoard. Each condition contained 20 subjects in each group as follow:

a. E-mail group. The 20 subjects study web-based instruction using E-mail as Web Collaborative Tools (WCT).

b. Webboard group.The 20 subjects study web-based instruction using Webboard as Web Collaborative Tools (WCT).

c. Chat group.The 20 subjects study web-based instruction using Chat as Web Collaborative Tools (WCT).

Research Instruments

The research instruments comprised of 2 types of tools as follows:

1. Web-based Instruction with 3 types of the WCT
2. Instruments for collecting of data which comprised of 4 tools
    a. Internet usage and computer literacy questionnaire
    b. Metacognition assessment
    c. Pretest of English writing competency
    d. Posttest of English writing competency.

1. Web-Based Instruction with 3 types of the WCT.

The Web-based Instruction was used as an instructional materials to transfer knowledge and learning contents to the students. The steps for development of web-based Instruction were:

1.1 The analysis of content and instructional objectives were selected and outlined from the course contents of English Writing I for web-based lesson. The initiation of web-based lessons were approved and analyzed course contents of English Writing for web-based lesson with substantial assistance and guidance of 5 Thai and Chinese experts in English teaching. The web-based lessons were based on the course description of English Writing I with the main emphasis in paragraph writing. The components of the paragraph writing comprised 4 consecutive topics of teaching and learning elements which are paragraph components, writing steps, unity and coherence and transition signals. The 4 content units were constructed for 3 hours a week in each unit. Each unit has 4 sections. Section one is the “Objectives”. Section

two is “Warm-up” or the preparatory section. Section three is the “Writing Matter”, the main content of the unit. Section four is called “Turn to Write” which is the exercise for practicing using collaborative tools: E-mail or WebBoard or Chat. The assignments and examples were designed to support metacognition for reflection. After the approval of 5 language experts then revised and improved the lessons following the evaluation of the experts.

1.2 The web-based instruction in this study were designed to involve 4 points; lesson design model, teaching strategies, student’s interaction and metacognition..

a. The lesson design in WBI followed the mixed model of Ritchie and Hoffman (1996) and EOD (Event-Oriented Design) Model of Welsh (1996). This WBI lesson design provided elements, the principles of instruction design in WBI, such as prompting the student to recall and apply previous knowledge, such as specifying the objectives of what are to be learned, motivating the learner, providing new information, providing guidance and feedback, testing comprehension and interaction for increasing student’s knowledge and skills.

b. The teaching strategies in WBI of this study apply the communication tools that are used in the EOD (Event-Oriented Design) Model of Welsh (1996). The EOD involved the 3 WCT; synchronous, and asynchronous. The model uses Chat as communication tools in full synchronous WBI, while it uses E-mail or WebBoard for asynchronous communication.

c. The student’s interaction of WBI, the interaction of student in WBI can be 3 types as student interaction with the subject contents, student interaction with the teachers and student interaction with the students. The student interaction using E-mail, WebBoard and Chat can provide feedback between teacher and students and/or students and students.

d. Metacognition is the process of thinking about thinking (Flavell, 1993). The description of metacognition refers to one's knowledge concerning one's own cognitive processes. Metacogniton has two domain of component (Flavell, 1993). Metacognitive knowledge and Metacognitive experience. Metacognitive knowledge refers to an individual’s knowledge and beliefs about cognitive matters, gained from experience and stored in long-term memory. Humans acquire metacognitive knowledge about people, tasks, and strategies. Metacognitive experience are either cognitive or affective experiences that relate to cognitive activities. Metacognitive experiences are most likely occured when careful, concious monitoring of your cognitive efforts is required. Metacognition has been shown an important role in learning and understanding of students. The students who has high metacognition will gain high score achievement.

1.3 The web-based lessons were then designed and written a storyboard. The storyboard was the evaluated and approved by the three experts. Two of them are experts in instructional media and one of them is an expert in psychology. Then the web-based lessons were programmed using Dreamweaver, Flash and JavaScript. The samples of web-based lesson were shown below:

Figure 3. The metacognition designed in web-based lesson in the "Warm up" section.

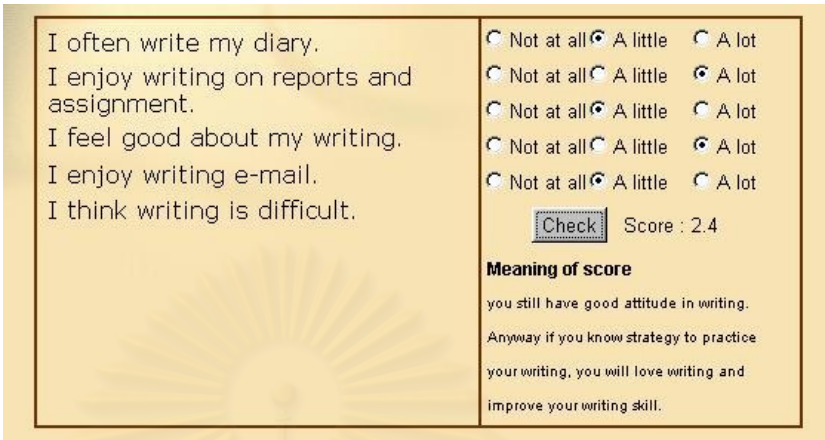


Figure 3 illustrates the "Warm up" section. The subjects ' tasks are to answer 5 questions about their attitude towards writing. The subjects respond by 3 point rating scale (Not at all / A little / A lot). Consequently Java Script will calculate the responses and send the feedback to each subject. The scores indicate the level of the student's attitude toward writing. At the same time the student can read and judge when the button was clicked as reinforcement to motivate the student's awareness to monitor their understanding and to facilitate learning.

Figure 4. The metacognition designed in web-based lesson in the "writing matter"

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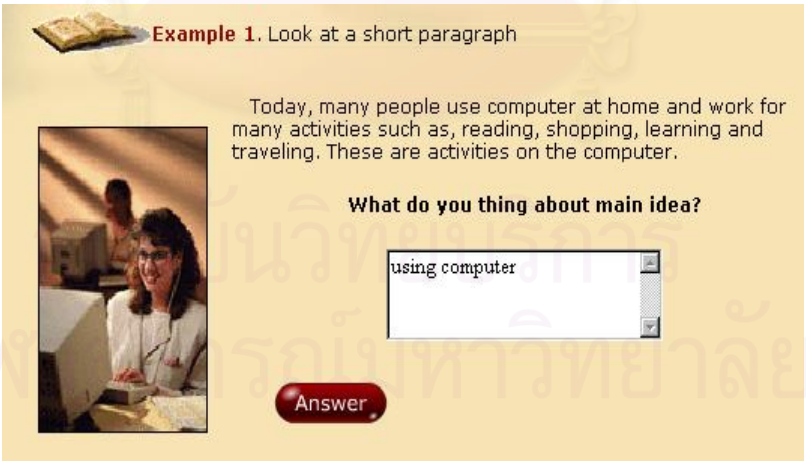
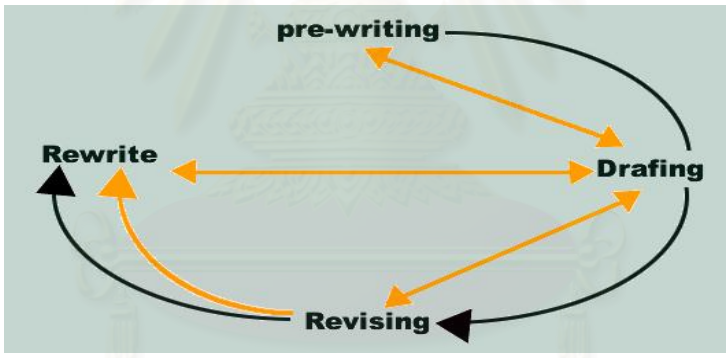


In this figure 4, the "Writing Matter" section the course content is presented with examples- writing models and exercises. The subjects practice writing skills by writing and they can check their responses by clicking the button, then the computer will give immediate feedback. When the subjects see the answer, they can use their metacognition to reconsider their answer. It can be inferred from this process that the subjects use their self assessment to judge their answer.

Figure 5. The subjects' metacognition for judging their answer.

The writing process in WBI provides 4 steps of writing; they are Prewriting, Drafting, Revising and Rewriting (see figure 4). Each step introduces techniques and strategies that will develop the students' metacognition. While the students are doing the exercise in each writing step, they have to use their metacognition in planning, monitoring, evaluating and revising their English writing. Web collaborative tools: E-mail, WebBoard and Chat are designed to help them write well. Strategies used to reinforce their metacognition include the exploration of idea of what to write, the checking of drafts or peer evaluation.

Figure 6. The 4 steps of writing process.



1.4 The web-based lessons were tried out individually and in a small group of students for two weeks under the supervision of three experts in instructional media and psychology. After being revised and improved the web-based lessons then were posted through the internet network at URL http://www.busedu.net/writing.

2. Instruments for collecting of data which comprised of 4 tools

a. Internet Usage And Computer Literacy Questionnaire

The questionnaire of 20 questions was designed and developed to investigate the students' experiences of computer and Internet usage. The contents of the questions concerned about internet and information literacy. The items were analyzed and approved by the 3 computer instructors of Computer Center at Rajamangala Institute of Technology , Bangkok Technical Campus. After approval, out of 20 questions which were tried out , 10 questions of them were selected to

form “Internet Usage And Computer Literacy Questionnaire”. The example of questionnaire shown in figure 5.

Figure 7. Example of Internet usage and computer literacy questionnaire.

Q: From the tool bar in Internet browser , what is this symbol  stand for ?

a. find b. refresh
c. stop ✓ d. links

Q: From the tool bar in Internet browser , what is this symbol  stand for ?

a. Back b. Forward
c. Home ✓ d. History

Q: Which of these is an e-mail address?

a. professor.at.learnnet b. www.learnnet.com
c. professor@learnnet.com ✓ d. professor@learnnet

b. Metacognition Assessment

The metacognition assessment comprised 30 metacognition items. The metacognition assessment was developed from the study of Pintrich and DeGroot (1990), Purura(1997) and Underwood (1997) following Flavell’s metacognition concept. The step of metacognition assessment were as follow:

3.1 Study the assessment metacognition’s concept and conducted metacognition items following the Pintrich and DeGroot (1990), Purura(1997)’s metacognition assessment to evaluate the students’s metacognition knowledge ,task and strategies. The tests comprises of 46 items which use 5 points rating scale in each item. The meaning of the 5 scales are as follow:

1 = Not at all

2 = Sometime

3 = Moderately

4 = Much

5 = Very much

Figure 8. The examples of metacognition assessment

1. I was aware of my thinking while I learn from web-based instruction.
2. I try to understand the goal of the web-based lesson.
3. I asked myself how this lesson related to what I already knew.
4. I kept tract of my progress in searching path with WBI and, if necessary, I change my techniques or strategies.

3.2 Validated contents validity by 5 psychologist of metacognition' specialists who have experiences in metacognition assessment.

Table 1. The metacognition assessment for expert evaluation form.

Objective of Metacognition Measurement	Item	Evaluation	Comment
Metacognition Knowledge (Person)	I was aware of my thinking while I learn from web-based instruction.		
Metacognition Knowledge (Task)	I thought through the task of what going to do before I began to write.		
Metacognition Strategy	I attempted to discover the main idea in the web-based lesson		
Self Evaluation	Before I send my writing with E-mail, Chat or WebBoard, I check my work.		
Planning	I tried to understand the goals of the writing task before I attempted to write it.		
Self Monitoring	I asked myself how this lesson related to what I already knew.		

3.3 Revised the metacognition test follow the specialists' comment.Then 30 items were selected to use as the metacognition test in which 15 items represent metacognitive knowledge and other 15 items represent metacognition experience. The 3 components of metacognitive knowledge were knowledge of person, (item no. 1,9,12,16,22), task (item no. 3,11,15,19,23) and strategy (item no. 2, 8, 20, 21, 29) The 3 components of metacognitive experience were self evaluation (item no. 18,25,26,27) , planning (item no. 6,7,17,24,28) and self monitoring(itemno.4,5,10,13, 14, 30).

3.4 The metacognition test was tried out with 79 students,of third year accounting program in the Faculty of Business Administration, Rajamangala Institute of Technology, Bangkok Technical Campus.

3.5 The reliability of the questionnaire was calculated using Cronbach's alpha coefficient. The reliability of the test is .84.

c. The Pretest of English Writing Competency

The English writing competency tests were administered as a pretest and posttest for Thai and Chinese students. The tests were designed in parallel form. Both tests had 4 sections in each. Time allotment of both tests were one and a half hour and the total score of the test was 100. (See appendix p.94)The steps of development of English writing competency test were as follows:

4.1 Analyzed the English Paragraph writing contents of both Thailand and China for web-based lesson. And conducted the domain of contents table of each unit. Then specified type of the test for measure an student's individual competency in English writing and constructed the test items.

4.2 Verified the content validity of the test items by 5 English teaching experts of both Thailand and China.

4.3 Revised the test. Improved the correctness of the language and test items.

4.4 Brought the test to specialists of both Thailand and China for secondly approve. The test composed of 4 sections 5 pages. The total score was 100. The test times is 1:30 hours.

Section 1: the test required the students to find the main idea, supporting sentences and the concluding sentence. Time allotment was 30 minutes and take 30 scores.

Section 2: the test required the students to read the sentences and decide which sentences was irrelevant. Time allotment was 10 minutes and take 20 scores.

Section 3: the test required the students to write a paragraph by using the information provided list. Time allotment was 20 minutes and take 20 scores.

Section 4: the test required the students to write a paragraph on the topic of "Advantages of learning a foreign language." Time spent were allowed 30 minutes and take 30 scores.

The example of Pretest of English Writing Competency were as follows:

Figure 10. The example of Pretest of English Writing Competency

Sec 1. Read these four paragraphs and answer the following questions.
30 scores 30 minutes

Paragraph 1

There are many species of birds. Each species build its own special kind of nest. The most common materials used for nests are grasses, twigs, and feathers. A bird must weave these materials into a nest. Some birds build a nest that looks like a basket. The nest is shaped like a pear with a hole in the middle. The hole is the door of the nest. Some others make a nest that is very solid. The nest is made of mud. Like a sculptor, the bird molds the mud into the shape of an oven and then lets it dry in the sun. The sun bakes the mud, making it very hard.

1. What is the main idea of this paragraph?

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2. What can you conclude from this paragraph?

Sec 2. Read the topics and the sentences below. Decide which sentence does not support (irrelevant) to the topic.
20 scores 10 minutes

Topic: There is a lot to do in Singapore.

a. There are many interesting parks to visit.
b. It is the cultural center of S.E. Asia.
c. It is clean and green.
d. The restaurant is good.

Sec 3. Write a paragraph based on the topic **"Advantage of Knowing a Foreign Language."** Use this information provided for supporting your writing.
20 scores 20 minutes

a. enables direct communication with a foreigner
b. makes it easier to live/work in another country
c. helps if you want to study in another country
d. enables you to make closer contact with other nationalities
e. makes it easier and cheaper to conduct business with another country.

Sec 4. Write a paragraph on the topic of **"Advantages of learning a foreign language."** 30 scores 30 minutes

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d. The Posttest of English Writing Competency

The posttest was constructed parallel to the pretest. The steps of development of English writing competency test were as follows:

5.1 Analyzed the English Paragraph writing contents of both Thailand and China for web-based lesson. And conducted the domain of contents table of each unit. Then specified type of the test for measure an student's individual competency in English writing and constructed the test items.

5.2 Verified the content validity of the test items by 5 English teaching experts of both Thailand and China.

5.3 Revised the test. Improved the correctness of the language and test items.

5.4 Brought the test to specialists of both Thailand and China for secondly approve. The test composed 4 sections 5 pages. The total score was 100. The test times is 1:30 hours.

Section 1: the test required the students to find the main idea, supporting sentences and the concluding sentence. Time allotment was 30 minutes and take 30 scores.

Section 2: the test required the students to read the sentences and decide which sentences were irrelevant. Time allotment was allowed 10 minutes and take 20 scores.

Section 3: the test required the students to write a paragraph by using the information is provided list Time allotment was 20 minutes and take 20 scores.

Section 4: the test required the students to write a paragraph on the topic of "Advantages of studying abroad." Time allotment was 30 minutes and take 30 scores.

Example of the Posttest of English Writing Competency were as follows:

Figure 11. The example of Pretest of English Writing Competency

Sec 1. Read these four paragraphs and answer the following questions.
30 scores 30 minutes

Paragraph 1

There are many ways to learn a new language. One way is to spend a lot of time watching TV and listening to the radio. Another way is to take classes at a language school or university. But the best way to learn language is to talk to native speakers.

1. What is the main idea of this paragraph?

---

2. What can you conclude from this paragraph?

Sec 2. Read the topics and the sentences below. Decide which sentence does not support (irrelevant) to the topic.
20 scores 10 minutes

Topic: It is interesting to visit foreign countries.

a. You can meet new people.
b. You can eat different kinds of food.
c. You can buy expensive things.
d. You can see the way other people live.

Sec 3. Write a paragraph based on the topic "**Good Points of Using Dictionary**." Use this information provided for supporting your writing.
20 scores 20 minutes

a. to find meanings and synonyms
b. to check spellings for word pronunciation and stress
c. to see the differences between confused words
d. for information about grammar
e. to check idioms, phrases, proverbs

Sec 4. Write a paragraph on the topic of "**Advantages of Studying Abroad**"
30 scores 30 minutes

After being revised both, pretest and posttest of English writing competency, the test were firstly tried out with 5 third year students of Rajamangala Institute of Technology, Bangkok Technical Campus. The second trial was carried out with 37 students, third year accounting students, Faculty of Business Administration Rajamangala Institute of Technology, Bangkok Technical campus. The students took pretest and posttest simultaneously. Both tests were analyzed to find the reliability by means of Pearson product moment which is accounted for internal consistency. The reliability of the test is .85.

Procedure and collecting data

The experiment has 2 stages. The first stage conducted at the Faculty of Business Administration, Rajamangala Institute of Technology (RIT), Pratumtani province Thailand. The experiment lasted one month during 22 July 2002 until 16 August 2002. The criteria of the Internet Usage and Computer Literacy Questionnaire was the students would gained 70 % of the Internet usage and computer literacy skill survey questionnaire.

The Thai subjects were pretested before the treatment (The WBI lessons) and spent 3 periods per week for studying the lesson. The Thai students studied the WBI course in the computer lab or IT lab without teaching from their teacher. The 60 Thai subjects were divided into 3 groups which each group was random sampling for WCT: E-mail, WebBoard and Chat. There were 20 subjects in each and received 4 units of WBI lessons, it last for 4 weeks. The students used WCT for doing homework and assignment for improving writing skill. After the treatment, the subjects were taken posttest again for the English writing competency and metacognition. The second stage conducted at Guangxi Normal University, Quilin, People's Republic of China. The experiment was longed 1 month during 5 September until 4 October 2002. The Chinese subjects were pretested before the treatment (The WBI lessons) and spent 3 periods per week for studying the lesson. Chinese students studied the WBI course in the computer lab without teaching from their teacher. The 60 Chinese subjects were divided into 3 groups which each group was random sampling for WCT: E-mail, WebBoard and Chat. There were 20 subjects in each and received 4 units of WBI lessons, it last for 4 weeks. The students used WCT for doing homework and assignment for improving writing skill. After the treatment, the subjects were taken posttest again for the competency and metacognition.

The data both Thai and Chinese students were collected from metacognition assessment, English writing competency pretest and posttest. The score of the English writing competency test and the score of metacognition test were measured in interval scale. The method of scoring were 2 types.

1. Scoring metacognition test
2. Scoring pretest and posttest English writing competency

Scoring procedures for metacognition test

The metacognition test which composed of 30 items were designed in ordinal scale which use 5 points scales in each item. The meaning of 5 scales were

1 = Not at all

2 = Sometime

3 = Moderately

4 = Much

5 = Very much

The total scores of each subject were calculated in interval scale.

Scoring procedures of the pretest and posttest English writing competency

The English writing competency pretest and posttest tests were graded by 3 language experts. Since the tests comprised of four types of test items, short answer, multiple choice, complete type,and free writing, the experts constructed the key for marking multiple choice and short answer. For the writing section, extended answer, there are 2 sections, Section 3 and section 4. The section 3 was 20 marks while the section 4 was 30 marks. The criterion of section 3 and section 4 used point-score method by three language experts as follows:

Scores meaning section 3

Section 3: The total marks were 20 . The scores were divided according to different elements of writing as

2 points for relevance

4 points for comprehension

4 points for vocabulary

4 points for grammar

4 points for content

2 points for coherence and style.

Relevance (2 points) means that the student's writing were closely connected with the subject you are discussing or situation you are thinking about.

1 = Less

2 = Passed

Comprehension (4 points) means the reader ‘s comprehension could understand of what the students want to tell in their writing.

1 = Complete below 50%
2 = Complete 50-74%
3 = Complete 75-89%
4 = Absolutly Complete 90-100%

Vocabulary (4 points) means that the student use words in appropriate context and correct spelling distract 1 score for each point that student show their error in vocabulary usage. The paragraph will has more than 60 words. If not the score will be half cut.

Grammar (4 points) check Tense and distract ½ score for each point that student show their error in tense usage. The paragraph will has more than 60 words. If not the score will be half cut.

Content (4 points) In sec 3 the contents of their student writing from the information and guideline provided. The score devided two parts: Layout and Content

Layout (2 points)
1 = No Layout
2 = Has Layout

Content (2 points)
1 = Unuse Content provided
2 = Use Content provided

Coherance (2 points) Check their writing ability of how students link their sentences in writing and continuous thinking
1 = No coherance or has some coherance but still poor
2 = Has good coherance

Scores meaning section 4

Section 4: The total scores were 30 which scored by 3 points for relevance, 7 points for comprehension, 5 points for vocabulary , 6 points for grammar and 6 points for content, and 3 points for coherence and style.

Relevance (3 points) means the student’s writing were closely connected with the subject you are discussing or situation you are thinking about. Check their writing ability of how students link their sentences in writing and continuous thinking .
0 = Irrelevance
1 = Less
2 = Passed
3 = Good

Comprehension (7 points) means reader ‘s comprehension could understand of what the students want to tell in their writing.
1 = Complete below 20%
2 = Complete 30-39%
3 = Complete 40-49%

4 = Complete 50-70%
5 = Complete 70-79%
6 = Complete 80-89%
7 = Absolutly Complete 90-100%

Vocabulary (5 points) means Use words in appropriate context and correct spelling distract 1 point for each point that student show their error in vocabulary usage. The paragraph will has more than 60 words. If not the score will be half cut.

Grammar (6 points) check Tense and distract ½ point for each point that student show their error in tense usage. The paragraph will has more than 60 words. If not the score will be half cut.

Content (6 points) In sec 3 the contents of their student writing from the information and guideline provided. The score devided two parts: Layout and Content

Layout (3 points)

1 = No layout
2 = Uncompletely lay out
3 = Complete layout

Content (3 points)

1 = Less content
2 = Moderate content
3 = Much content

Coherance (3 points) Check their writing ability of how students link their sentences in writing and continuous thinking.

1 = No coherence or has some coherence but still poor
2 = Fair coherence
3 = Good coherence

After 3 experts scoring pretest and posttest English writing competency. All scores of the three experts were sum and divided by 3 for mean so that the mean score was the representive of English writing competency score.

Analysis of the data

The mean and standard deviation were used to describe the general characteristics of Thai and Chinese university students variables. For investigation of the effect of Web Collaborative tools, the metacognition of Thai and Chinese university students were analyzed by mean of one-way ANOVA and Tukey's pairwise comparison. Also, the investigation of the effect of Web Collaborative tools upon the English writing competency of Thai and Chinese university students were analyzed by mean of one-way ANOVA and Tukey's pairwise comparison. The correlation between metacognition and English writing competency score between Thai and Chinese students were analyzed by mean of Pearson's product moment correlation.

Chapter 4

ANALYSIS OF THE DATA

The data analysis of this study presented in 6 parts following the purposes. The first part was to present the general characteristics of the metacognition and English Writing Competency effect from Web Collaborative Tools (WCT) in web-based instruction. The other parts presented following the research hypotheses.

Part 1. General characteristics of the metacognition and English Writing Competency effect from Web Collaborative Tools (WCT) in Web-based Instruction of Thai and Chinese university students using mean and standard deviation.

Part 2. Comparison of the effect of Web Collaborative Tools upon Metacognition. In this part, the data analyses were presented following the research hypotheses 1: Subjects who studied from different Web Collaborative Tools had significantly different Metacognition. The analyses used by using One Way Analysis of Variance and t-test.

Part 3. Comparison of Metacognition of Thai and Chinese university students. In this part, the data analyses were presented following the research hypotheses 2: There were different upon Metacognition of Thai and Chinese university students from each Web Collaborative Tools.

Part 4 Comparison of the effect of Web Collaborative Tools upon English Writing Competency. In this part, the data analyses were presented following the research hypotheses 3: Subjects who had access to different Web Collaborative Tools had significant different scores on English competency tests.

Part 5 Comparison of English Writing Competency of Thai and Chinese university students. In this part, the data analyses were presented following the research hypotheses 4: There were different score on English Competency tests of Thai and Chinese students from each Web Collaborative Tools.

Part 6 Correlations between Metacognition and English Writing Competency. In this part, the data analyses were presented following the research hypotheses 5: There were correlations between Metacognition and learning English competency of Thai and Chinese students from each Web Collaborative Tools.

Part 1 General Characteristics of Thai and Chinese students.

In the first phase of the experiment was conducted in Thailand. The Thai students' Metacognition scores and English Writing Competency scores were collected both before the experiment and after the experiment. The second phase of

the experiment was conducted in People's Republic of China, the Chinese students' Metacognition scores and English Writing Competency scores were collected both before the experiment and after the experiment. The total results of mean and standard deviation of Metacognition both Thai and Chinese university students were shown in table 1-2 while table 7-8 showed the total results of mean and standard deviation of English Writing Competency both Thai and Chinese university students. In table 3 shown Metacognition's mean and standard deviation of Thai subjects. Table 4 shown Metacognition's mean and standard deviation of Chinese subjects. The results of mean and standard deviation of Thai subjects shown in table 9 while table 10 showed the results of Chinese subjects. The comparison of mean and standard deviation between Thai and Chinese students were shown in table 5-6 and 11-12.

Table 1. Mean and standard deviation on Metacognition scores both Thai and Chinese university students.

Type of Score (n=92)	Before Treatments		After Treatments	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Metacognition	101.14	12.92	105.54	12.58

The student's Metacognition mean and S.D. scores were shown. It was showned that before the treatments the mean score of Metacognition was 101.14 and after the treatments were 105.54.

Table 2 Mean and standard deviation on Metacognition scores categorized by WCT.

Type of Score	Before Treatments		After Treatments	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Email (n=33)	101.52	12.97	106.96	11.98
WebBoard (n=27)	102.93	11.88	102.44	12.47
Chat (n=32)	99.25	13.82	106.69	13.19

When the subjects were randomly assign to 3 groups of WCTs. The student's Metacognition mean and S.D. scores before the treatment were 101.52 by studying with E-mail, 102.93 by studying with WebBoard and 99.25 by studying with Chat. After the treatments, the student's Metacognition mean and S.D. scores were 106.96 by studying with E-mail,102.44 by studying with WebBoard and 106.69 by studying with Chat.

Table 3. Mean and standard deviation on pre and post Metacognition scores of Thai university students categorized by 3 WCT.

Type of WCT	Before Treatments		After Treatments	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Email (n=19)	97.95	12.29	102.84	11.43
WebBoard (n= 14)	102.57	13.48	99.00	10.33
Chat (n=19)	97.21	15.12	104.42	14.22
Total (n=52)	98.92	13.62	102.38	12.22

Thai students' Metacognition mean and S.D.scores were shown. It is observed that before treatments the Metacognition assessment of Thai students' mean score by Email and Chat were 97.95 and 97.21 and post-Metacognition scores were increased to 102.84 and 104.42. The mean of pre-Metacognition scores by WebBoard was 102.57 and post-Metacognition scores were decreased to 99.0. The S.D. of pre-Metacognition scores by Email, WebBoard and Chat were 12.29, 13.48 and 15.12 simultaneously while after the treatentf the Metacognition scores's S.D.were 11.43, 10.33 and 14.22.

Table 4. Mean and standard deviation on pre and post Metacognition scores of Chinese university students categorized by 3 WCT.

Type of WCT	Before Treatments		After Treatments	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Email (n=14)	106.36	12.68	112.57	10.66
WebBoard (n= 13)	103.31	10.43	106.15	13.88
Chat (n=13)	102.23	11.61	110.00	11.22
Total (n=40)	104.03	11.47	109.70	11.96

The Chinese students' mean and standard deviation on Metacognition scores were shown. It was observed that before treatments, the Metacognition assessment of Chinese students' mean score by Email, WebBoard and Chat were 106.36,103.31 and 102.23 and after the treatments the Metacognition scores were increased to 112.57, 106.15 and 110.0. The standard deviation of Metacognition scores were 12.68, 10.43 and 11.61 before treatments while after the treatments the standard deviation of Metacognition scores were 10.66, 13.88 and 11.22 simultaneously. The total score of pretest was 104.03 with standard deviation 11.47 and total score of posttest was 109.70 with standard deviation 11.96.

Table 5. Mean and standard deviation on pre-Metacognition scores between Thai and Chinese university students categorized by 3 WCT.

Type of WCT	Thai students' Before Treatments		Chinese students' Before Treatments	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Email	97.95	12.30	106.36	12.68
WebBoard	102.57	13.48	103.31	10.43
Chat	97.21	15.12	102.23	11.61
Total	98.92	13.62	104.03	11.48

The Chinese students' Metacognition mean scores before the experiment by WCT: Email, WebBoard and Chat were 106.36,103.31 and 102.23 while mean of Thai students' Metacognition scores were 97.95,102.57 and 97.21.

Table 6 Mean and standard deviation on post-Metacognition scores between Thai and Chinese Students categorized by 3 WCT.

Type of WCT	Thai students' After Treatments		Chinese students' After Treatments	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Email	102.84	11.43	112.57	10.66
WebBoard	99.00	10.33	106.15	13.88
Chat	104.42	14.22	110.00	11.22
Total	102.38	12.22	109.65	11.96

This Chinese students'post- Metacognition mean scores before the experiment by WCT: Email, WebBoard and Chat were 112.57,106.15 and 110.00 while mean of Thai students'post-Metacognition scores were 102.84,99.00 and 104.42. The total mean score of Chinese students'post- Metacognition was109.65 while Thai students'post- Metacognition was 102.38

Table 7. Mean and standard deviation on English Writing Competency both Thai and Chinese university students.

Type of Score (n=92)	Before Treatments		After Treatments	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
English Writing Competency	45.27	14.12	58.39	17.45

The student's English Writing Competency mean and S.D. scores were shown. It was showed that before the treatments the mean score of English Writing Competency was 45.27 and after the treatments were 58.39.

Table 8 Mean and standard deviation on English Writing Competency both Thai and Chinese university students categorized by WCT.

Type of Score	Before Treatments		After Treatments	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Email (n=33)	48.08	11.77	65.28	11.19
WebBoard (n=27)	47.48	9.20	60.51	12.32
Chat (n=32)	40.49	18.30	49.49	22.37

When the subjects were randomly assign to 3 groups of WCTs. The student's English Writing Competency mean and S.D. scores before the treatment were 48.08 by studying with E-mail, 47.48 by studying with WebBoard and 40.49 by studying with Chat. After the treatments, the student's Metacognition mean and S.D. scores were 65.28 by studying with E-mail,60.51 by studying with WebBoard and 49.49 by studying with Chat.

Table 9. Mean and standard deviation on pretest and posttest of English Writing Competency of Thai university students categorized by 3 WCT.

Type of WCT	Pre- English Writing Competency		Post- English Writing Competency	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Email (=19)	51.56	10.55	67.01	11.24
WebBoard (n= 14)	50.35	9.33	63.70	10.60
Chat (n=19)	44.62	12.73	53.30	18.74
Total (n=52)	48.69	11.34	61.11	15.32

Thai students' mean and standard deviation on pretest and posttest of English Writing Competency were shown .It is observed that pretest score by WCT: Email, WebBoard and Chat were 51.56, 50.35 and 44.62 and increased to 67.01, 63.70 and 53.30 in posttest. The standard deviation of pretest by WCT: Email, WebBoard and Chat were 10.55, 9.33 and 12.73 while the standard deviation of posttest were 11.24, 10.60 and 18.74 simultaneously. The total score of pretest was 48.69 with standard deviation 11.34 and total score of posttest was 61.11 with standard deviation 15.32.

Table 10. Mean and standard deviation on pretest and posttest of English Writing Competency of Chinese students categorized by 3 WCT.

Type of WCT	Pretest- English Writing Competency		Posttest- English Writing Competency	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Email (n=14)	43.36	12.06	62.93	11.11
WebBoard (n= 13)	44.38	8.31	57.08	13.50
Chat (n=13)	34.46	23.57	43.92	26.64
Total (n=40)	40.80	16.14	54.85	19.50

The Chinese students' mean and standard deviation on pretest and posttest of English Writing Competency were shown. It is observed that pretest score by WCT: Email, WebBoard and Chat were 43.36, 44.38 and 34.46 and increased to 62.93, 57.08 and 43.92 in posttest of English Writing Competency. The standard deviation of pretest by WCT: Email, WebBoard and Chat were 12.06, 8.31 and 23.57 while the standard deviation of posttest were 11.11, 13.50 and 26.64 simultaneously. The total score of pretest was 40.80 with standard deviation 16.14 and total score of posttest was 54.85 with standard deviation 19.50.

Table 11 Mean and standard deviation on pretest of English Writing Competency between Thai and Chinese students categorized by 3 WCT.

Type of WCT	Thai students' Pretest		Chinese students' Pretest	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Email	51.56	10.55	43.36	12.06
WebBoard	50.35	9.33	44.38	8.31
Chat	44.62	12.73	34.46	23.57
Total	48.69	11.34	40.80	16.14

The mean score's pretest of English Writing Competency between Thai and Chinese students were compared in this table. It was shown that the mean score's pretest of Thai students by WCT: Email, WebBoard and Chat were 51.56,50.35 and 44.62 while the mean score's pretest of Chinese students were 43.36, 44.38 and 34.46. The total pretest mean score of Thai students was 48.69 while the total pretest mean score of Chinese students was 40.80.

Table 12. Mean and standard deviation on posttest of English Writing Competency between Thai and Chinese university students categorized by 3 WCT.

Type of WCT	Thai students' Posttest		Chinese students' Posttest	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Email	67.01	11.24	62.93	11.11
WebBoard	63.70	10.60	57.08	13.50
Chat	53.30	18.74	43.92	26.64
Total	61.11	15.32	54.85	19.51

The mean score's posttest of English Writing Competency between Thai and Chinese students were compared in this table. It was shown that the mean score's posttest of Thai students by WCT: Email, WebBoard and Chat were 67.01, 63.70 and 53.30 while the mean score's pretest of Chinese students were 62.93, 57.08 and 43.92. The total posttest mean score of Thai students was 61.11 while the total pretest mean score of Chinese students was 54.85.

Part2. Comparison of the effect of Web Collaborative Tools upon Metacognition.

In this part, the data analyses were presented following the research hypotheses 1: Subjects who studied from different Web Collaborative Tools had significantly different Metacognition.

Table 13. The pre-Metacognition from the subjects who studied from different Web Collaborative Tools analyzed by One Way Analysis of Variance.

	Sum of Square	df	Mean Square	F
Pre-Metacognition				
Between Groups	205.07	2	102.53	0.61
Within Groups	14980.09	89	168.32	
Total	15185.16	91		

There were no significance difference found on pre-Metacognition from the subjects who studied from different Web Collaborative Tools.

Table 14. The pre-Metacognition analyzed by using t-test.

Subjects	N	Mean	S.D.	t-test
Pre-Metacognition				
Thai students	52	98.92	13.62	-1.91
Chinese students	40	104.03	11.48	

The mean differences of pre-Metacognition of students were analyzed by means of t-test and the t value was –1.91. There was no significance difference found on pre-Metacognition from the Thai and Chinese university students who studied from different Web Collaborative Tools.

Table 15. The mean differences of post-Metacognition from the subjects who studied from different Web Collaborative Tools analyzed by One Way Analysis of Variance.

	Sum of Square	df	Mean Square	F
Post-Metacognition				
Between Groups	368.32	2	184.16	1.17
Within Groups	14024.51	89	157.58	
Total	14392.83	91		

There was no significance difference found on post-Metacognition between Thai and Chinese university students who studied from different Web Collaborative Tools.

Table 16. The post-Metacognition of both Thai and Chinese students analyzed by t-test.

Subjects	N	Mean	S.D.	t-test
Post-Metacognition				
Thai students	52	102.38	12.22	-2.85**
Chinese students	40	109.65	11.96	

** $p < .01$

The mean differences of post-Metacognition of students were analyzed by means of t-test and the t value was –2.85. There was significance difference found on post-Metacognition from the Thai and Chinese university students who studied from different Web Collaborative Tools.

Part3. Comparision of the effect of Web Collaborative Tools upon Metacognition of Thai and Chinese university students by using One Way Analysis of Variance.

Table 17 Test of Homogenity of Variance between pre-Metacognition's and Post – Metacognition Thai students.

Metacognition	Levene Statistic	df1	df1	Sig
Pre-Metacognition	1.466	2	49	.241
Post-Metacognition	.693	2	49	.505

There is no evidence to reject homogenity of variance so that this condition is corresponding to the basic assumption of ANOVA.

Table 18 Test of Homogenity of Variance between pre-Metacognition's and Post – Metacognition Chinese university students.

	Levene Statistic	df1	df1
Pre-Metacognition	.814	2	37
Post-Metacognition	1.315	2	37

There is no evidence to reject homogenity of variance so that this condition is corresponding to the basic assumption of ANOVA.

Table 19. The mean differences of pre-Metacognition from the subjects who studied from different Web Collaborative Tools analyzed by One Way Analysis of Variance.

	Sum of Square	df	Mean Square	F
Pre-Metacognition				
Between Groups	588.49	1	588.49	3.63
Within Groups	14596.67	90	162.19	
Total	15185.16	91		

There was no significance difference found on pre-Metacognition from between Thai and Chinese university students.

Table 20. The mean differences of post-Metacognition from the subjects who studied from different Web Collaborative Tools analyzed One Way Analysis of Variance.

	Sum of Square	df	Mean Square	F
Post-Metacognition				
Between groups	1193.42	1	1193.42	8.14**
Within groups	13199.41	90	146.66	
Total	14392.83	91		

** $p < .01$

There was significance difference found on post-Metacognition between Thai and Chinese university students.

Table 21. The mean differences of post-Metacognition from the Thai subjects who studied from different Web Collaborative Tools analyzed by One Way Analysis of Variance.

	Sum of Square	df	Mean Square	F
Post-Metacognition				
Between groups	243.15	2	121.58	0.81
Within groups	7377.16	49	150.55	
Total	7620.31	51		

There was no significance difference found on post-Metacognition from the Thai university students who studied from different Web Collaborative Tools.

Table 22. The mean differences of post-Metacognition from the Chinese subjects who studied from different Web Collaborative Tools analyzed by One Way Analysis of Variance.

	Sum of Square	df	Mean Square	F
Post-Metacognition				
Between groups	279.979	2	139.99	0.98
Within groups	5299.121	37	143.22	
Total	5579.1	39		

There was no significance difference found on post-Metacognition from the Chinese university students who studied from different Web Collaborative Tools.

Part 4. Comparision of the effect of Web Collaborative Tools upon English Writing Competency.

In this part, the data were analyzed to show the effect of different Web Collaborative Tools upon English Writing Competency and to follow the research hypotheses 3: Subjects who had access to had significant different scores on English competency tests.

Table 23. The pretest English Writing Competency of both Thai and Chinese students analyzed by t-test.

Subjects	N	Mean	S.D.	t-test
Pretest- English Writing Competency				
Thai students	52	48.69	11.34	2.76**
Chinese students	40	40.80	16.14	

** p <.01

The mean differences of pretest English Writing Competency were significance difference at alpha level .01 by means of t-test , t statistics was 2.76

Table 24. The posttest English Writing Competency of both Thai and Chinese students analyzed by t-test.

Subjects	N	Mean	S.D.	t-test
Posttest- English Writing Competency				
Thai students	52	61.11	15.32	1.72
Chinese students	40	54.85	19.50	

The mean differences of posttest English Writing Competency were analyzed by means of t-test and the t value was 1.72. There was significance difference found on post-Metacognition from the Thai and Chinese university students who studied from different Web Collaborative Tools.

Table 25 The result of One Way ANOVA of Pretest English Writing Competency divided by Web Collaborative Tools.

Pretest English Writing Competency	Sum of Square	df	Mean Square	F
Between Groups	1410.53	1	1410.53	7.59**
Within Groups	16726.48	90	185.85	
Total	18137.00	91		

** p<.01

There were significance difference found on pretest English Writing Competency between Thai and Chinese university students at level .01, F-value was 7.59.

Table 26 The result of One Way ANOVA of Posttest English Writing Competency divided by Web Collaborative Tools.

Pretest English Writing Competency	Sum of Square	df	Mean Square	F
Between Groups	885.65	1	885.65	2.97
Within Groups	26811.97	90	297.91	
Total	27697.63	91		

There were no significance difference found on posttest English Writing Competency between Thai and Chinese university students.

Table 27 The effect of Web Collaborative Tools upon Posttest English Writing Competency by mean of One Way ANOVA.

Posttest English Writing Competency	Sum of Square	df	Mean Square	F
Between Groups	4221.98	2	2110.99	8.01**
Within Groups	23475.65	89	263.77	
Total	27697.62	91		

**p <.01

There were significance difference found on posttest English Writing Competency between Thai and Chinese university students who studied with different Web Collaborative Tools at level .01, F value was 8.01.

Table 28 Multiple comparisons of means difference of posttest score of by Scheffe's post hoc analysis.

	Mean Difference		
WCT	Email	WebBoard	Chat
Email	-	4.77	15.79*
WebBoard	4.77	-	-11.02*
Chat	15.79*	-11.02	-

*p <.05

There were significant difference on posttest English Writing Competency of subjects who studied with Email and Chat and also there were significant difference on posttest English Writing Competency of subjects who studied with WebBoard and Chat at level .05.

Part 5 Comparision of the effect of Web Collaborative Tools upon English Writing Competency of Thai and Chinese university students by using One Way Analysis of Variance.

Table 29 Test of Homogenity of Variance between pretest and Posttest English Writing Competency of Thai university students.

	Levene Statistic	df1	df2
Pre- English Writing Competency	0.77	2	49
Post- English Writing Competency	3.87*	2	49

* p <.05

There is no significant different for homogenity of variance on Pre- English Writing Competency, the test is robust for Type I error to the basic assumption of ANOVA. However, there is significant different for homogenity of variance on Posttest English Writing Competency at level .05.

Table 30 Test of Homogenity of Variance between pretest and Posttest English Writing Competency of Chinese university students.

	Levene Statistic	df1	df2
Pre- English Writing Competency	14.79**	2	37
Post- English Writing Competency	7.09**	2	37

** p <.01

Even though there is significant different at p <.01 to reject homogenity of variance, the test is robust for Type I error to the basic assumption of ANOVA.

Table 31 The result of One Way ANOVA of Pre- English Writing Competency divided by Web Collaborative Tools of Thai university students.

Pre- English Writing Competency	Sum of Square	df	Mean Square	F
Between Groups	509.18	2	254.59	2.06
Within Groups	6052.90	49	123.53	
Total	6562.08	51		

There were no significance difference found on pretest English Writing Competency of the Thai university students' who studied Web-Based Instruction. with different WCT.

Table 32 The result of One Way ANOVA of Posttest- English Writing Competency divided by Web Collaborative Tools of Thai university students.

Post- English Writing Competency	Sum of Square	df	Mean Square	F
Between Groups	1914.50	2	957.25	4.66**
Within Groups	10058.37	49	205.27	
Total	11972.87	51		

**p <.01

There were significance difference found on Posttest English Writing Competency of the Thai students who studied Web-based Instruction with different WCT at .01 level. From the table 30, $F(2,49) = 4.66$, $p < .01$.

Table 33 Multiple comparisons of means difference of posttest score of by Scheffe's post hoc analysis.

WCT	Mean Difference		
	Email	WebBoard	Chat
Email	-	3.31	13.71**
WebBoard	3.31	-	10.40
Chat	13.71**	10.40	-

*p <.01

There were significant difference of Thai university students on posttest English Writing Competency between 3 WCT as follows:

There were significance difference found between Email and Chat with Web-based Instruction at .01.

Table 34 The result of One Way ANOVA of Pretest English Writing Competency divided by Web Collaborative Tools of Chinese university students.

Pre- English Writing Competency	Sum of Square	df	Mean Square	F
Between Groups	780.88	2	390.44	1.54
Within Groups	9383.52	37	123.53	
Total	10164.40	39		

There were no significance difference found on pretest English Writing Competency of the Chinese university students who studied Web-Based Instruction.with 3 WCT .

Table 35 The result of One Way ANOVA of Posttest English Writing Competency divided by Web Collaborative Tools of Chinese university students.

Post- English Writing Competency	Sum of Square	df	Mean Square	F
Between groups (Combined)	2530.33	2	957.25	3.81*
Within groups	12308.78	37	205.27	
Total	14839.10	39		

* $p < .05$

There were significance difference found on Posttest English Writing Competency of the Chinese university students who studied Web-based Instruction with 3 different WCT at .05 level. From the table 35, $F(2,37) = 3.81$, $p < .05$.

Table 36 Multiple comparisons of means difference on posttest score of Chinese Students by Tukey's post hoc analysis.

	Mean Difference		
WCT	Email	WebBoard	Chat
Email	-	5.85	19.01*
WebBoard	5.85	-	13.15
Chat	19.01*	13.15	-

$p < .05^*$

The significant difference on posttest English Writing Competency of Chinese university students who studied Web-based Instruction with 3 different WCT at .05 level. The significance difference were found between the Email group and Chat group.

Part6 The relationship of Metacognition and English Writing Competency.

In this section the correlation between Metacognition and English Writing Competency were analyzed by Pearson's product moment correlation.

Table 37. Correlation of Metacognition scores and English Writing Competency

Type of WCT	Pre- experiment	Post- experiment
Email (n=33)	.09	.18
WebBoard (n= 27)	.02	.23
Chat (n=32)	.20	.04
Total	.15	.10

The relation of Metacognition and English Writing Competency in students of those who used different Web Collaborative Tools were showed by mean of Pearson's product moment. Before the experiment, the correlation's Email was .09 , WebBoard was .02, and Chat was .20 and after experiment the correlation 's Email is .18 ,WebBoard was .23, and Chat is .04. The relation of Metacognition and English Writing Competency in pre-experiment was 0.15 and the post-experiment was 0.10.

Table 38. Relationship of Thai university students's Metacognition scores and English Writing Competency were shown on different WCT.

Type of WCT	Pre- experiment	Post- experiment
Email (n=19)	.31	.27
WebBoard (n= 14)	-.28	.09
Chat (n=19)	.02	.11
Total	.06	.09

This table presented the relation of Metacognition and English Writing Competency in Thai students of those who used different Web Collaborative Tools by mean of Pearson product moment. Before the experiment, the correlation's Email was .31 , WebBoard was - .28, and Chat was .02 and after experiment the correlation 's Email is .27 ,WebBoard was .09, and Chat is .11. The relation of Metacognition and English Writing Competency in pre-experiment was .06 and the post-experiment was higher .09.

Table 39 Correlation of Metacognition assessment and English Writing Competency between Chinese university students.

Type of WCT	Pre- experiment	Post- experiment
Email (n=19)	.15	.29
WebBoard (n= 14)	.51	.50
Chat (n=19)	.58	.08
Total	.41	.23

In table 24 are presented the Pearson Correlation of Metacognition and English Writing Competency in Thai students of those who used different web collaborative tools. The correlation 's Email is .15 , WebBoard is .51, and Chat is .58 before experiment and after experiment the correlation 's Email is .29 ,WebBoard is .50, and Chat is .08. The total correlation of pre-experiment is .41 while the post-experiment is .23.

Table 40 Correlation of Metacognition assessment and English Writing Competency between between Thai and Chinese university students.

	Thai Students' Correlation		Chinese Students' Correlation	
Type of WCT	Pre	Post	Pre	Post
Email	.31	.27	.15	.29
WebBoard	-.28	.09	.51	.50
Chat	.02	.11	.58	.08
Total	.06	.09	.41	.23

When compare the correlation of Metacognition and English Writing Competency of Thai and Chinese university students who used different web collaborative tools between pre-experiment and post- experiment. It shown that the Email group of Thai student is lower while Email group of Chinese student is higher. WebBoard group of Thai student is higher while the WebBoard group of Chinese student is lower. Chat group of Thai student is higher while the Chat group of Chinese student is lower.

Chapter 5

FINDINGS AND DISCUSSION

This research attempted to investigate the effect of Web Collaborative Tools in Web-based Instruction upon Metacognition and English Writing Competency between Thai and Chinese students. The subjects in this experimental research were 2 groups, Thai and Chinese university students. The Thai subjects were selected from the Faculty of Business Administration, Rajamangala Institute of Technology (RIT), Thailand. The Chinese subjects were selected from the College of International and Culture, Guangxi Normal University, Quilin, People's Republic of China. The experiment of this research were applied separately in 2 phases, the research experiment in Thailand and the research experiment in People's Republic of China.

Purpose of the study

The objectives of this study were as follows:

1. To investigate the effect of learning with Web Collaborative Tools upon Metacognition of Thai and Chinese university students.
2. To investigate the effect of learning with Web Collaborative Tools upon English Writing Competency of Thai and Chinese university students.
3. To study the correlation of Metacognition and English Writing Competency with Web Collaborative Tools of Thai and Chinese university students.

Hypothesis

The research hypotheses of objective 1 were as follows:

1. Subjects who studied from different Web Collaborative Tools had significantly different Metacognition.
2. There were different upon Metacognition of Thai and Chinese university students from each Web Collaborative Tools.

The research hypotheses of objective 2 were as follows:

3. Subjects who had access to different Web Collaborative Tools had significant different scores on English Writing Competency tests.
4. There were different score on English Competency tests of Thai and Chinese students from each Web Collaborative Tools.

The research hypotheses of objective 3 are as follows:

5. There were correlations between Metacognition and learning English competency of Thai and Chinese students from each Web Collaborative Tools.

Research Instruments

The research instruments comprised of 2 types of tools as follows:

1. Web-based Instruction with 3 types of the WCT
2. Instruments for collecting of data which comprised of 4 tools
    a. Internet usage and computer literacy questionnaire
    b. Metacognition assessment
    c. Pretest of English Writing Competency
    d. Posttest of English Writing Competency

Procedure and collecting data

The experiment has 2 stages. The first stage conducted at the Faculty of Business Administration, Rajamangala Institute of Technology (RIT), Pratumtani province Thailand from 22 July 2002 until 16 August 2002. The second stage conducted at Guangxi Normal University, Quilin, People's Republic of China from 5 September until 4 October 2002. Both Thai and Chinese university subjects would gained 70 % of the Internet usage and computer literacy skill survey questionnaire. Then the Metacognition test and pretest of English Writing Competency were administered both group before the treatment The WBI lessons with 3 types of WCT were spent as research treatments and the experiment lasted one month. After the treatment, the subjects were taken posttest again for Metacognition and the English Writing Competency.

Findings

The findings of the investigation the effect of Web Collaborative Tools in web-based instruction upon Metacognition and English Writing Competency between Thai and Chinese students were found as follows:

1. There were significance difference upon metacognition of the students who studied from Web-based Instruction with difference 3 Web Collaborative Tools at the level of 01.
2. The metacognition of Thai university students were significance difference from the metacognition of Chinese university students who studied from Web-based Instruction with difference 3 Web Collaborative Tools at the level of 01.
3. The posttest score of English Writing Competency which students studied from Web-based Instruction with difference 3 Web Collaborative Tools were significance difference the pretest score of English Writing Competency at the level of 01.
4. The students who studied from Web-based Instruction with E-mail and WebBoard had higher English Writing Competency score than the students who studied from Web-based Instruction with Chat at the level of 05.

5. There were no significance of the English Writing Competency between Thai and Chinese who studied from Web-based Instruction with difference 3 Web Collaborative Tools.
6. The effect of difference 3 Web Collaborative Tools were not showed the correlations upon Metacognition and English Writing competency.

Discussions

There are some findings that were conform the hypothesis however there are some findings that were against the hypothesis that should be discussed .The finding discussions were presented 3 points. Firstly, WBI with WCT effected on student's Metacognition. Secondly, WBI with WCT effected on student's English Writing Competency. Lastly, WBI with WCT effected on the relationship between Metacognition and English Writing competency .

1. The effect of Web Collaborative tools in WBI upon student's Metacognition were not found significancely. Hence this finding of this research was against the hypothesis 1 that the subjects who studied from different Web Collaborative Tools had significantly different Metacognition. However, some interested points of Metacognition were found. The pre-Metacognition scores were significance difference from post-metacognition scores at level .01 as shown in table 20. When using t-test to compare between mean differences of pre- Metacognition and post- Metacognition, the t-test was significancely shown. It found that the post-Metacognition's mean score of Chinese university students were higher than the post-Metacognition's mean score of Thai university students at level .01 as shown in table 16. Although there were no significance different upon Metacognition of Thai and Chinese university students from each Web Collaborative Tools, it could explain why the post- Metacognition mean score was higher than the pre-Metacognition mean score. It should be the effect learning from Web-based Instruction. This finding conformed Romiszowski's study (1996) that metacognition is the necessary component in information analysis as online learning. Thus, it expected that metacognition occurred when studnts learned with Web-based Instruction but the Web Collaborative Tools were not effected the differences on Metacognition. Another reasons why the Metacognition of Thai and Chinese university students were not shown significance different which categorized by WCT, firstly, the Metacognition in this experiment was not directly taught to the students. As, Brown(1987) stated that teaching Metacognition was important implication for control of the mental functions whether humans have conscious access. Borkowski (1992) pointed that induce Metacognition is frequently cited than directly teaches Metacognition. That is the Web-based lesson in this study mean as indirectly teaches Metacognition than directly teaches Metacognition. Secondly, the allocative of time for create Metacognition was inadequate. Watanaporn Ra-ngubtook (1992) spent 5 weeks with 2 periods per week for metacognitive learning strategy training in English reading comprehension. Somchit (1997) study the effects of using the Metacognition development model for the elementary school students. The experiment trained for 16 days with 45-50 minutes each day. Schunk and Rice (1992) investigate the effect of Metacognition on reading by using strategy instruction on main ideas, the students were taught and practiced using the strategy daily for 20 weeks. The study reported significant differences between control group and experiment group. Hence, teachers should teach students to reflect on their

thinking process to promote learning because they help students develop metacognitive skills. Lastly, the methods of teaching and training Metacognition was an important point. Rampp and Lary (1999) explained the two major methods of teaching and training Metacognition techniques were stand-alone and infused into content. That this research use Metacognition designed in web-based instruction as method of infused into content. As well as Watanaporn Ra-ngubtook (1992) develops the effectiveness of direct and embeded metacognitive learning strategy training models in English reading comprehension for learner grade 11 at Satrisuksa in Roied province, Thailand. After training, the comparation of metacognitive learning strategy was assessed. It was found that the metacognitive learning strategy in English reading comprehension awareness and the English reading comprehension mean score were higher than the criteria. And Tonglaw Wong-in (1998)'s study find that metacognitive knowledge in person, task and strategy of the learners experts in mathematical problem solving showed higher achievement score than the learner novices.

Lastly, some points for guideline the further study were showed that the total mean of post-Metacognition scores were higher than the total mean of pre-Metacognition score both Thai and Chinese university students. The post-Metacognition scores of the Thai university students who studied WBI with WCT: Email and Chat were higher than the pre-Metacognition scores while the post-Metacognition scores of the Thai university students who studied WBI with WCT: WebBoard were lower than the pre-Metacognition scores. All groups of WCT, the mean of Chinese university students' post-Metacognition scores were higher than the pre-Metacognition scores. When compare the Metacognition between Thai and Chinese university students the total mean Chinese university students gained both pre-Metacognition and post-Metacognition score higher than Thai university students as shown in table 5. Morover, the Chinese university students who using Web Collaborative Tools: Email, and Chat shown the mean of post-Metacognition score higher than Thai university students. Although, all the Chinese university students who using Web Collaborative Tools: Email, WebBoard and Chat show that the mean of post-Metacognition score are higher than pre-Metacognition score. However, there were no significance difference found between the pre-Metacognition and post-Metacognition on 3 WCT with web-based instruction. As well as, the Chinese university students, there were not found significance difference on pre-Metacognition and post-Metacognition on 3 WCT with web-based instruction.

2. The posttest score of English Writing Competency which students studied from Web-based Instruction with difference 3 Web Collaborative Tools were significance difference from the pretest score of English Writing Competency at the level of 01. Moreover, the students who studied from Web-based Instruction with E-mail and WebBoard had higher English Writing Competency score than the students who studied from Web-based Instruction with Chat at the level of 05. These findings were conformed the research hypothesis 3-4 that the subjects who had access to different Web Collaborative Tools had significant different scores on English competency tests and there were different score on English Competency tests of Thai and Chinese students from each Web Collaborative Tools. There are 3 points that could explain the reasons. Firstly, the student's frequency of access the Web-based lesson and how long of the times that student spend on the lesson. Following the Anuchai's research (1999) found that the frequency of access the web significantly

affect on learning achievement hence the students who frequently access to Web-based Instruction gained difference on English Writing Competency.

Secondly, the Web-based Instruction provided materials which could supported the writing skills. Wang (2002) revealed that the Web-based learning environment facilitated the ESL students in reading comprehension and writing skills. As well as, Suwanthep (2000) studied L1 transfer in English writing instruction and pointed that technology by means of available supportive resources for Metacognition In principle, the technology should provide a stimulus for students to think metacognitively which will help the students in English writing. Although the Metacognition in this study has not been shown the significance difference between pretest and posttest, it does not mean that the students had no Metacognition in supporting their writing.

Thirdly, the Web Collaborative tools: Email, WebBoard and Chat are communication tools in internet for practice writing. The differences of the tools are synchronous or asynchronous communication which depend on the condition of time. When student practice writing with Email or WebBoard, asynchronous communication, the student could spend more time than Chat, synchronous communication. In contrast, Chat is real time and immediately response. Students mostly use Chat for talking than writing while WebBoard and Email have more writing attribute characteristics. Thus, time is necessary for prepare planning, drafting, revising and rewriting. Cava (1999) discovered that success in L2 learning as second language writer based on the use of metacognitive strategies. The Cava's study found that, the successful second language writers employed necessary and effectiveness strategies for success in writing that mean the student of second language writers. attend to strategies for monitoring and evaluating the written outcome. However, the second language writers' person knowledge (Flavell 1979), such as self-concept, self-assessment, anxiety, and self-confidence, also influence the performance and use of metacognitive strategies. Pufahl et all (2001) stated that the information access on the World Wide Web and the use of new information technologies, especially networked computers, has contributed to increased communication among foreign language teachers and students in many countries for improving foreign language teaching in the classroom. Moreover, e-mail, mailing lists, discussion groups, and chat room increased the interaction and collaboration with speakers of other languages. Through such communication tools the Internet has increased access and communication in the foreign language with both native and nonnative speakers. As well Thitirat (2001) stated that the English writing ability of the undergraduate depend on using strategies. Also Pawinee (2000) found the relationship between language learning strategies and ability in English language writing of students.

In conclusion, WebBoard and Email are Asynchronous internet communicative tools. This attribute characteristic would help the students who studied with WebBoard and Email aware their own thinking while doing the practice They had more time to write, check their wring, evaluate and revise before sending Email or posting WebBoard while Chat is Synchronous internet communicative tools. The attribute characteristic make the students use their own thinking and write immediately like talking through the keyboard so that the writing time was less than the students who studied with WebBoard and Email.

3. The effect of difference 3 Web Collaborative Tools were not showed the correlations upon Metacognition and English Writing competency. Hence, the

findings were againsrt the hypothesis 5 of this research. The correlations between Metacognition and learning English competency of Thai and Chinese students from each Web Collaborative Tools l were shown but there was no significance difference…. But there are some research study such as Tonglaw (1998) found that there were differences between Metacognition between the high and low achievement students in using Metacognition knowledge. As well as, Suwanthep (2000) studied L1 transfer in English writing instruction and pointed for further study of supportive resources for Metacognition by means of available technology. In principle, the technology should provide a stimulus for students to think metacognitively. Chitra (1998) pointed out that there was a crucial need for the traditional teachers of English in Thailand to evaluate methods and materials in L2 teaching writing.

Recommendations for implementation

1. The ESL teaching can use WBI as the principle material or supplement material of the course for improving student's writing,
2. The Web Collaborative tools in ESL teaching would be used for urge students writing.
3. The matacognition teaching can support and improve ESL writing.
4. The teacher in WBI would use Web Collaborative tools as directly Metacognition teaching.

Recommendations for further research

1. There must be further research on finding the effect upon Metacognition development model for ESL teaching writing.
2. The research.of time allocation on Metacognition should be study.
3. The study of effect of Web Collaborative Tools in ESL teaching especially in writing would be study more.

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APPENDIXES

1. Research Tools

a. Internet usage and computer literacy questionnaire
b. Metacognition assessment
c. Pretest of English writing competency
d. Posttest of English writing competency.
e. Web-based Instruction with 3 types of the WCT

2. List of experts

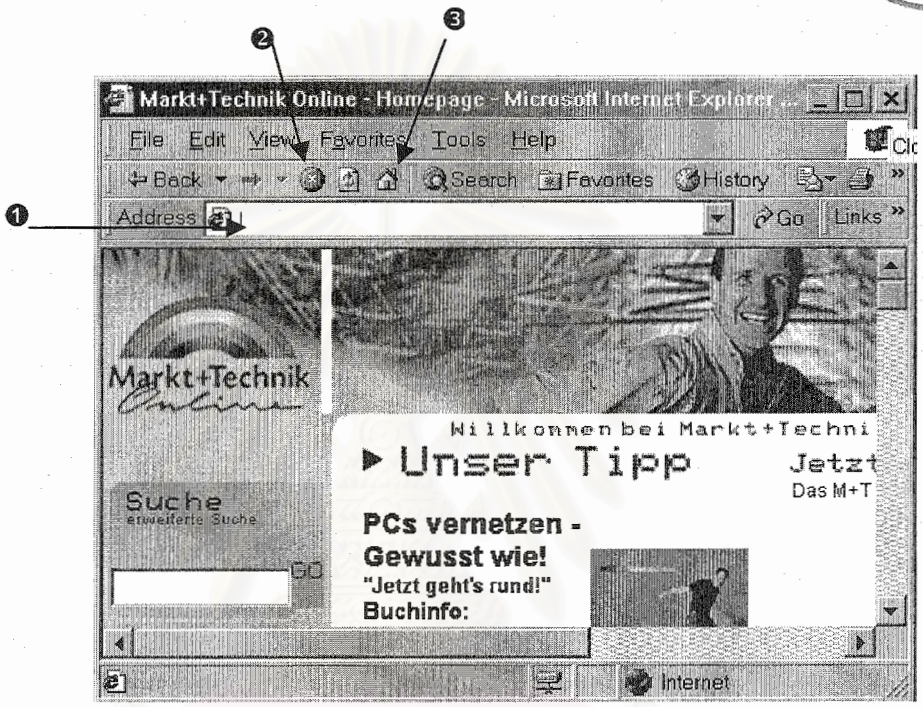
Internet Usage and Computer Literacy Questionnaire

This Internet Usage and Computer Literacy Questionnaire was one of the research tool that used to measure the students' basic skill of the Internet usage and computer literacy skills before they were selected. The students had to gain 70 % of the test mean passed the test.

Internet Usage and Computer Literacy Questionnaire

Instruction: Mark a circle in front of the best question.

Look at this picture and answer the questions no. 1-3



1. From the figure above, what is bar space ❶ used for?
   a. specifying the e-mail address.
   b. putting the name of website.
   c. searching keyword.
   d. specifying the URL ✓

2. From the tool bar in Internet browser , what is this symbol  stand for ?
   a. find
   b. refresh
   c. stop ✓
   d. links

3. From the tool bar in Internet browser , what is this symbol  stand for ?
   a. Back
   b. Forward
   c. Home ✓
   d. History

4. What's a web browser?

a. A kind of spider.
b. A computer that stores WWW files.
c. A person who likes to look at Websites.
d. A software program that allows you to access sites on the WWW. ✓

5. What is the device that allows a computer to transmit information over a phone line?

a. hub.
b. modem. ✓
c. server.
d. terminal.

6. Which of these is an e-mail address?

a. professor.at.learnnet
b. www.learnnet.com
c. professor@learnnet.com ✓
d. professor@learnnet

7. From this professor.learnnet.at.com , which is the domain name ?

a. professor
b. learnnet ✓
c. learnnet.com
d. www.learnnet.com

8. How do you talk with people like face to face by the Internet?

a. Chat. ✓
b. E-mail.
c. Usenet
d. WebBoard

9. What is a home page?

a. An individual webpage not a company webpage.
b. A web page by clicking a series of hyperlinks.
c. The web page you like to visit the most.
d. The entry page of most websites. ✓

10. What is the WebBoard ?

a. The Internet tool for discussion and sharing the ideas. ✓
b. The blackboard for writing news in the internet.
c. The program for using the web-based mail.
d. The internet software as a shareware .

Metacognition Assessment

This test was designed to assess student 's metacognition before and after students study with Web-based lesson.

Instruction: Please circle on the score that is your answer
The answer score divide into 5 levels and has been show as follow:

☹ 1 : Not at al
2 : Sometime
😐 3 : Moderately
4 : Much
☺ 5 : Very Much

Question items	1	2	3	4	5
1. I am aware of my thinking while I learn from Web-based lesson.					
2. When searching with Web-based lesson I know that I can remember the path to go back.					
3. When using Email, or Chat, or WebBoard I am always aware of my thinking before I write.					
4. I was aware of the need to plan my course action.					
5. I am aware that I have really learned.					
6. I try to determine what the lesson require.					
7. I know that studying with Web-based lesson will effective for the learner who has self-control in learning process					
8. Before beginning to write in English, I try to see which tasks are easy and what parts are difficult.					
9. When studying with Web-based lesson, I know that I have to pay more attention than study in the lecture class.					

Question items	1	2	3	4	5
10. To understand the writing task is easier than to write it.					
11. Before beginning an English writing assignment, I make sure I have a dictionary or other resources.					
12. I use what I know from my past experiences to help me learn more.					
13. While studying with Web-based lessons, the selection and organizing relevant information for writing assignments is helpful for better learning.					
14. I know how to get the main idea in Web-based lessons.					
15. I use notetaking to summarize information and it help us understand more.					
16. When I begin to study, I plan what I am going to do so that I can spend my time properly.					
17. I thought through the task and plan what going to do before I began to write.					
18. Before write a composition, I set the outline of idea to write.					
19. Before writing, I try to understand the goal and the outcome of my study.					
20. When using Email, or Chat, or WebBoard, I check my writing while I am doing it.					
21. Before I write a composition in English, I plan my work.					

Question items	1	2	3	4	5
22. When using Email, or Chat, or WebBoard, I always correct my errors when I write.					
23. I always ask myself how this lesson is related to what I have already knew.					
24. I mostly knew that how much of the lesson had left to complete.					
25. I checked my accuracy of my writing as I progressed through the writing assignment.					
26. Before writing, I think about whether my grammar is good enough to express my ideas.					
27. When studying with Web-based lesson, I click all the menu to see what should I do, how many topics there are and how I spend the time to study.					
28. When I write Email, or Chat, or WebBoard, I know what I need to change in my sentences to make people understand.					
29. Before I send my writing with Email, or Chat, or WebBoard, I check my work					
30. When I study with my Web-based lesson I think about how I write well.					

English Writing Competency Test A

Instruction:

1. There are 5 pages in this test. The total score is 100. The test times is 1:30 hours.
2. The test comprises 4 sections

   Sec 1. Finding the main idea, supporting sentences and the concluding sentence
   30 scores 30 minutes

   Sec 2. Read the following sentences and decide which ones are irrelevant.
   20 scores 10 minutes

   Sec 3. Write a paragraph by using the information is provided list.
   20 scores 20 minutes

   Sec 4. Write a paragraph on the topic of **"Advantages of learning a foreign language."**
   30 scores 30 minutes

English Writing Competency Test A

Total 100 scores 1:30 hrs.

Sec 1. Read these four paragraphs and answer the following questions.

30 scores 30 minutes

Paragraph 1

There are many species of birds. Each species build its own special kind of nest. The most common materials used for nests are grasses, twigs, and feathers. A bird must weave these materials into a nest. Some birds build a nest that looks like a basket. The nest is shaped like a pear with a hole in the middle. The hole is the door of the nest. Some others make a nest that is very solid. The nest is made of mud. Like a sculptor, the bird molds the mud into the shape of an oven and then lets it dry in the sun. The sun bakes the mud, making it very hard.

1. What is the main idea of this paragraph?

---

2. What can you conclude from this para graph?

Paragraph 2

Ants are very strong animals. An ant can lift a load fifty times heavier than itself. Ants must often carry food to their homes from places that are far away. Thousands of ants live in tunnels that twist and turn in many directions. The tunnels are divided into parts. Each part serves a special purpose. The royal chamber is the place where the queen ant lays her eggs. The queen spends her whole life laying eggs while worker ants must bring food to the queen. The worker ants in an ant colony have many different jobs. Some workers pull the eggs from the royal chamber into a room called the "nursery." In the nursery, there are workers who look after the larvae. Larvae are the baby ants when they first come out of the eggs. Some workers look for food and store it in granary, where seeds are kept. Others dump leftovers in the rubbish room. Ants have busy world hidden in tunnels under our feet.

3. What is the main idea of this paragraph?

---

4. What is the topic sentence of this paragraph?

---

5. What can you conclude from this paragraph?

Paragraph 3

Stunt people are the hidden heroes of many movies. Stunt people were around long before films. If a movie scene is dangerous, stunt people usually fill in for the stars. Stunt people must resemble the stars they stand in for. Their height and build should be about the same. But when close-ups are needed, the film focuses on the star. Some stunt people specialize in certain kinds of scenes. For instance, a stuntwoman named Jan Davis does all kinds of jumps. Yakima Canutt was a famous cowboy stunt man. He was the only stunt man ever to get an Oscar.

6. What is the main idea of this paragraph?

---

7. What is the topic sentence of this paragraph?

---

8. What are the supporting sentences in this paragraph?

Paragraph 4

Noise can affect your hearing. All those loud sounds may actually damage your ears. A very loud noise very close to the ear can injure it right away. Much hearing damage comes more slowly. It occurs over a period of time. Due to the constant loud noise in rock bands can gradually damage their ears so that some people lose their hearing. However this can happen to other people as well. For instance, loud noise comes from fireworks, from car horns in traffic, even from vacuum cleaners. Another fact that affect your hearing is when people grow older, their hearing skills gradually decrease. This is a fairly natural phenomenon.

9. What is the main idea of this paragraph?

---

10. What is the topic sentence of this paragraph?

Sec 2. Read the topics and the sentences below. Decide which sentence does not support (irrelevant) to the topic.

20 scores 10 minutes

1. Topic: There is a lot to do in Singapore.
   a. There are many interesting parks to visit.
   b. It is the cultural center of S.E. Asia.
   c. It is clean and green.
   d. The restaurant is good.
2. Topic: Cats make wonderful house pets.
   a. They are very loving and friendly.
   b. They are clean.
   c. Many people are allergic to their hair.
   d. They don't eat much, so they are not expensive.
3. Topic: The packaging of many products is very wasteful.
   a. Often the packaging is twice as big as the product.
   b. Packaging is used to protect things that are breakable.
   c. Many food items, for example, have several layers of extra packaging.
   d. Most of these extra layers are absolutely useless.
4. Topic: Running has many positive effects on the body.
   a. It increases the efficiency of the heart and lungs.
   b. It helps the body develop greater physical endurance.
   c. However, many people prefer swimming than running.
   d. It helps the body become more mechanically efficient.

5. Topic: There are several reasons why many women are waiting until they are 30 years old to have their first baby.
   a. Many couples have two children.
   b. They are waiting until they are financially secure
   c. Some women don't want to take responsibility of having children.
   d. Some women have good jobs and want to continue their careers.

Sec 3. Write a paragraph based on the topic "advantage of knowing a foreign language." Use this information provided for supporting your writing.

20 scores 20 minutes

a. enables direct communication with a foreigner
b. makes it easier to live/work in another country
c. helps if you want to study in another country
d. enables you to make closer contact with other nationalities
e. makes it easier and cheaper to conduct business with another country

Sec 4. Write a paragraph on the topic of "Advantages of learning a foreign language."

30 scores 30 minutes

English Writing Competency Test B

Instruction:

1. There are 5 pages in this test. The total score is 100.
   The test times is 1:30 hours.

2. The test comprises 4 sections

   Sec 1. Finding the main idea, supporting sentences and the concluding sentence
   30 scores 30 minutes
   Sec 2. Read the following sentences and decide which ones are irrelevant.
   20 scores 10 minutes
   Sec 3. Write a paragraph by using the information is provided list.
   20 scores 20 minutes
   Sec 4. Write a paragraph on the topic of "**Advantages of Studying Abroad.**"
   30 scores 30 minutes

English Writing Competency Test B

Total 100 scores 1.30 hrs.

Sec 1. Read these four paragraphs and answer the following questions.

30 scores 30 minutes

Paragraph 1

There are many ways to learn a new language. One way is to spend a lot of time watching TV and listening to the radio. Another way is to take classes at a language school or university. But the best way to learn language is to talk to native speakers.

1. What is the main idea of this paragraph?

---

2. What can you conclude from this paragraph?

Paragraph 2

After twenty years of being very successful, fast-food restaurants are no longer doing as well as they were. At the moment, the $10,000 million dollar fast-food hamburger business is having trouble. There are three major reasons for this. The first reason is the increase in the cost of beef over the past three years. The second reason is that people are becoming tried of hamburgers. The third reason is called saturation. That means that there are too many fast-food restaurants.

3. What is the main idea of this paragraph?

---

4. What are the supporting sentences of this paragraph?

---.

5. What can you conclude from this paragraph?

Paragraph 3

The rising cost of energy has had many effects on the daily lives of people all over the world. Most people are really trying to conserve oil. As a result, there have been many changes in American life style. For one thing, people are buying smaller, more fuel-efficient cars. They are also moving back into cities so they won't have to drive so far to work. In addition some people are taking fewer vacations because of the high cost of fuel. When they do go on holiday they are often going to places closer to their hometown. Finally, people are trying to use less heat in the winter and to use their air conditioners less frequently during the summer.

6. What is the main idea of this paragraph?

---

7. What is the topic sentence of this paragraph?

---

8. What is the supporting sentence of this paragraph?

Paragraph 4

Sharks are the greediest eaters and killers. They suffer from continual hunger. Sharks have been described as eating machines, and indeed they are perfectly designed for that activity. They are powerful swimmers, with smooth, well-muscled, streamlined bodies. When a shark attacks, it opens its mouth wide until its teeth can stab straight into the body of its victim. The teeth slice like razors as the shark twists and rolls its body to tear off a chunk of food. New teeth are constantly being formed and moving forward to take the place of those lost during the shark's violent feeding activities. Even very old sharks have razor-sharp teeth.

9. What is the main idea of this paragraph?

---

10. What is the topic sentence of this paragraph?

Sec 2. Read the topics and the sentences below. Decide which sentence does not support (irrelevant) to the topic.

20 scores 10 minutes

1. Topic: It is interesting to visit foreign countries.
   a. You can meet new people.
   b. You can eat different kinds of food.
   c. You can buy expensive things.
   d. You can see the way other people live.
2. Topic: People prefer small cars for a number of reasons.
   a. They are cheaper to buy.
   b. They use less fuel than bigger cars.
   c. They are easier to park.
   d. Some small cars do not have enough leg room.
3. Topic: Smoking cigarettes is a bad habit.
   a. It may cause cancer.
   b. There are many kinds of cigarettes.
   c. The smoke often bothers other people.
   d. Cigarettes left burning can cause fires.
4. Topic: The Japanese motorcar industry uses robots in many phases of its production process.
   a. A Japanese car factory uses robots in all of its production stages.
   b. Some Japanese universities are developing medical robots to detect certain kinds of cancer.
   c. Another car factory in Japan uses robots to paints car as they come off the assembly line.
   d. Most Japanese factories use robots to weld the parts of the car together.
5. Topic: Different people spend their free time in different ways.
   a. A lot of people spend their free time at the cinema.
   b. The price of cinema seats has increased recently.
   c. Some people prefer to listen to music.
   d. Many people enjoy sports.

Sec 3. Write a paragraph based on the topic **"Good Points of Using Dictionary."** Use this information provided for supporting your writing.

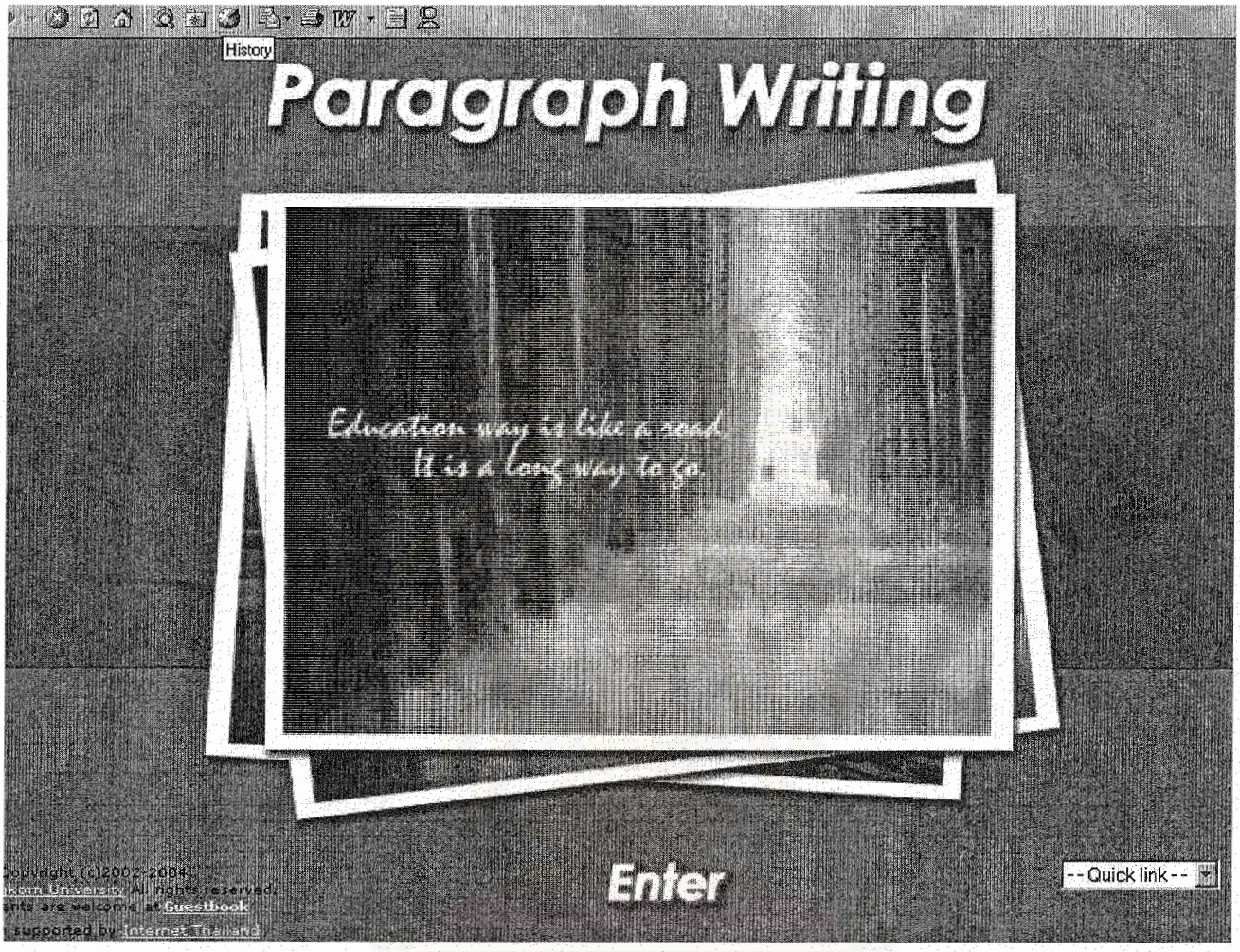
20 scores 20 minutes

a. to find meanings and synonyms
b. to check spellings for word pronunciation and stress
c. to see the differences between confused words
d. for information about grammar
e. to check idioms, phrases, proverbs

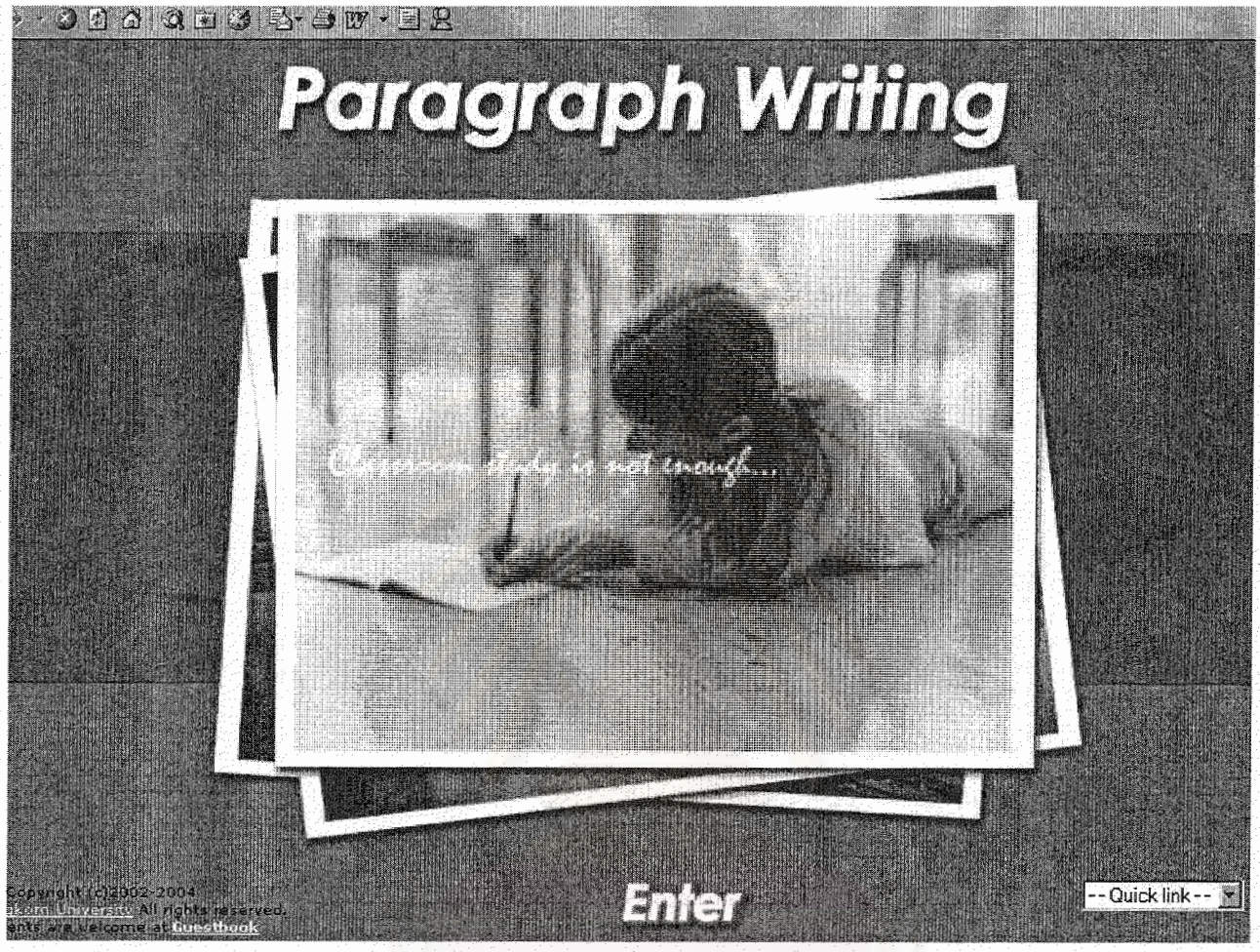
Sec 4. Write a paragraph on the topic of **"Advantages of Studying Abroad"**

30 scores 30 minutes

Web-based Instruction



Web-based Instruction



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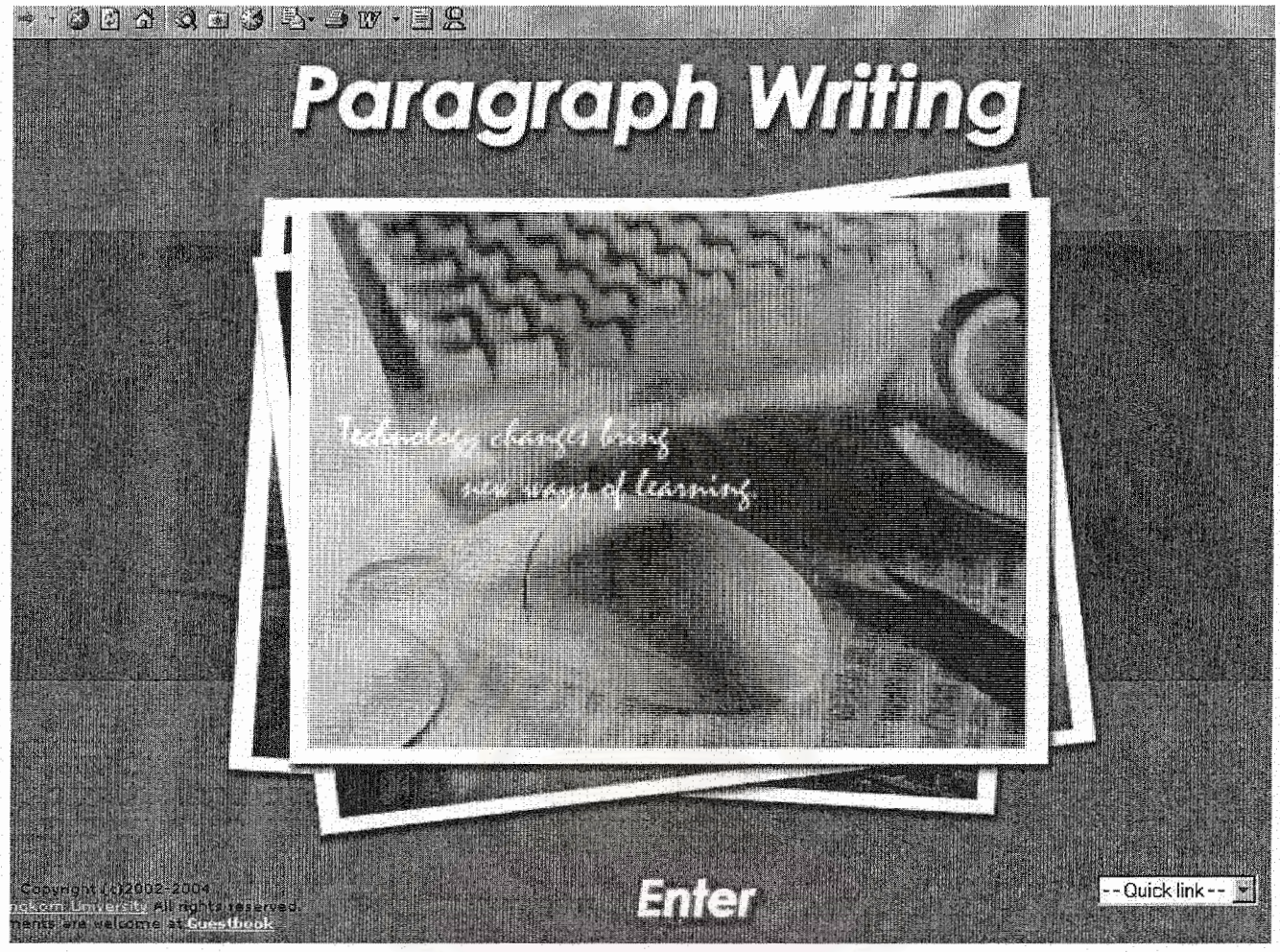
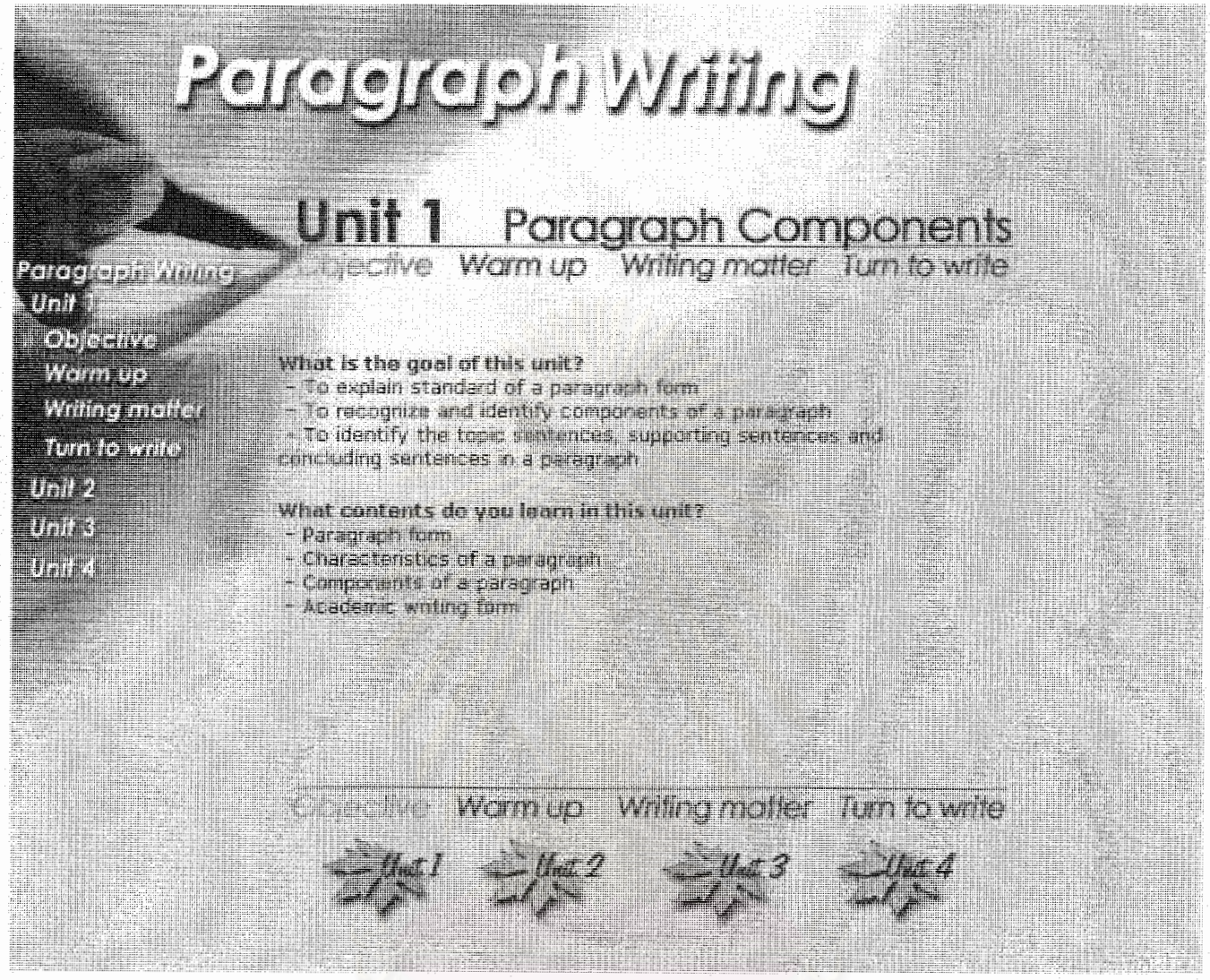


Web-based Instruction



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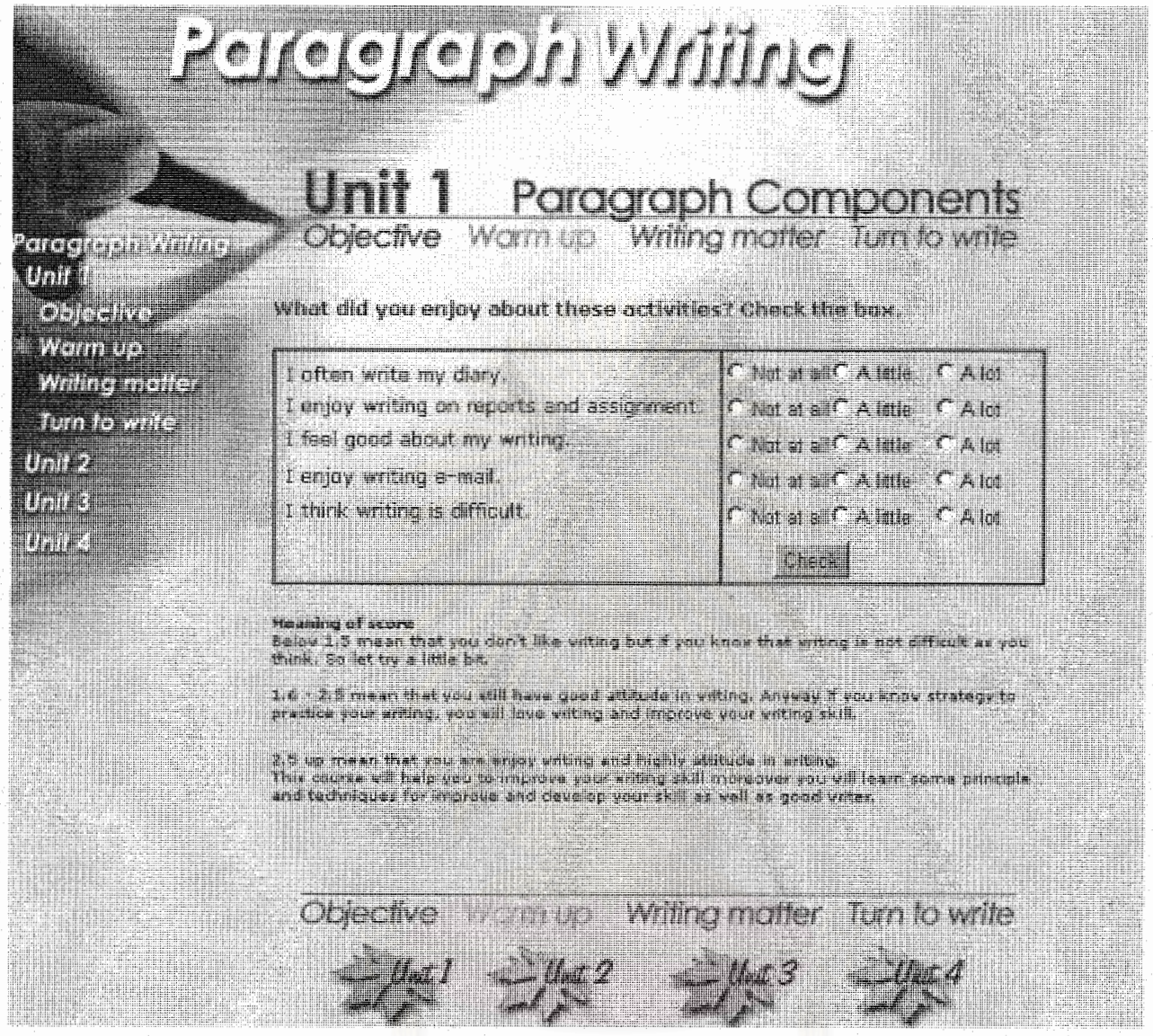
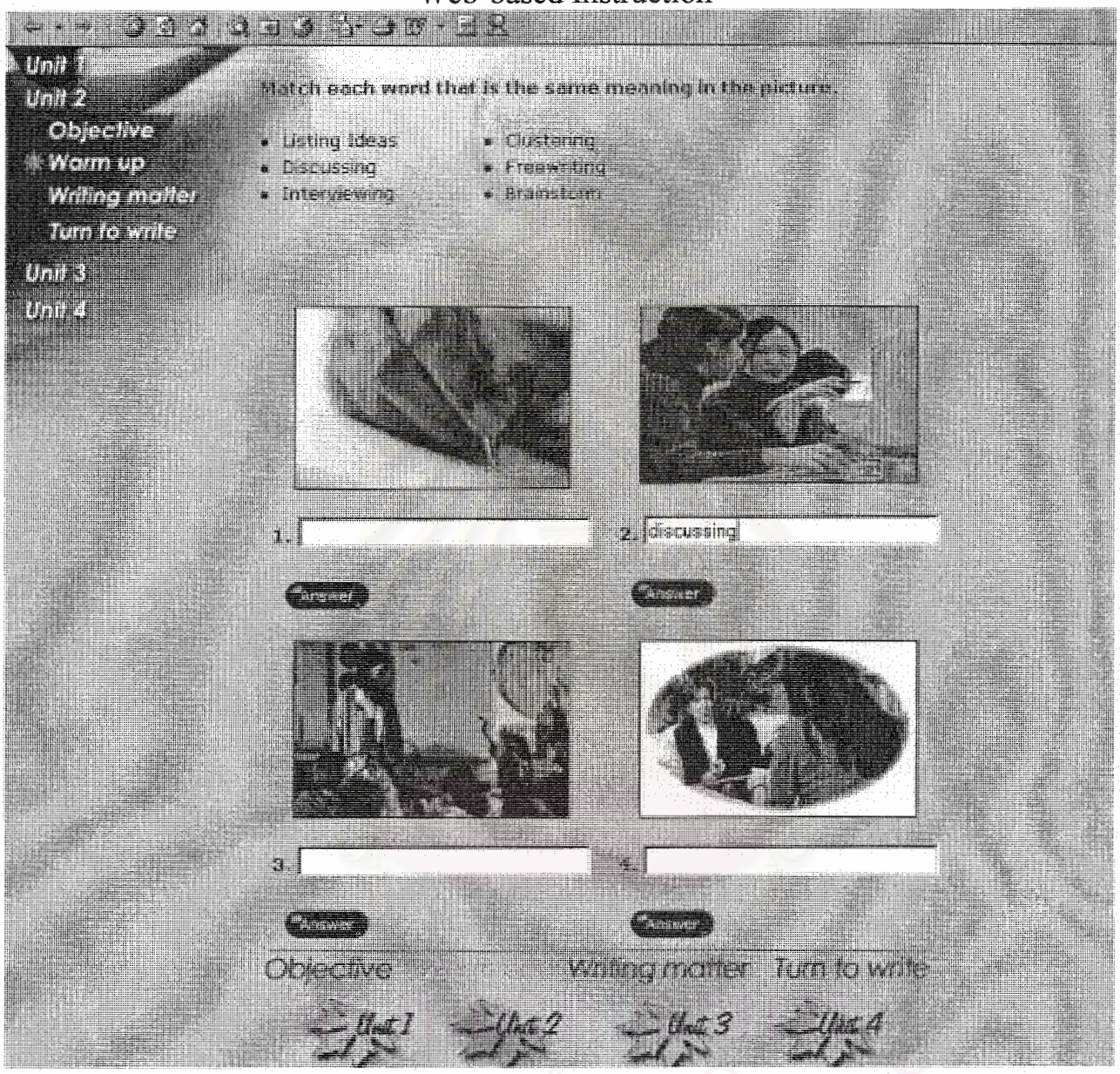


Web-based Instruction



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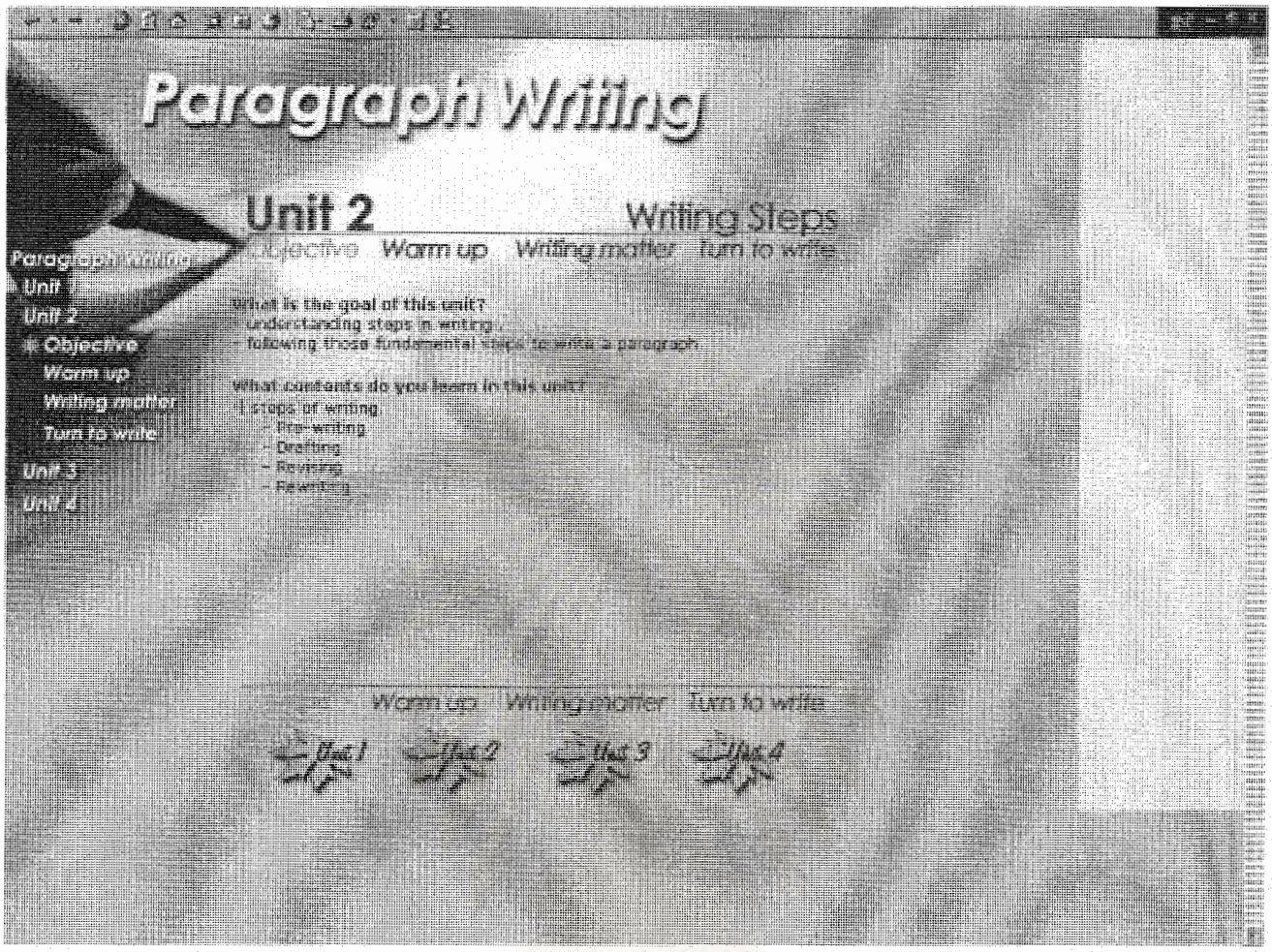
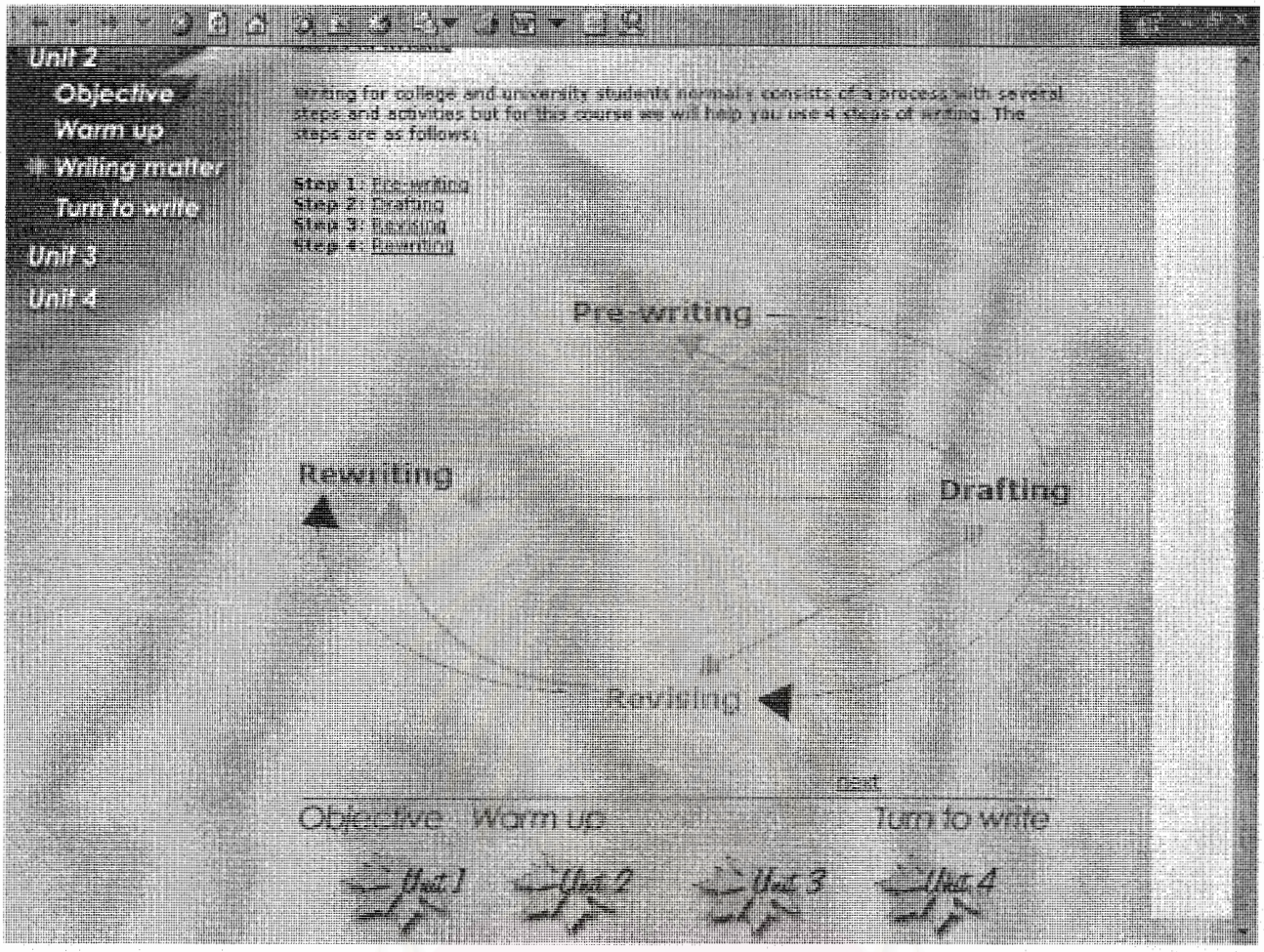


Web-based Instruction



Web-based Instruction

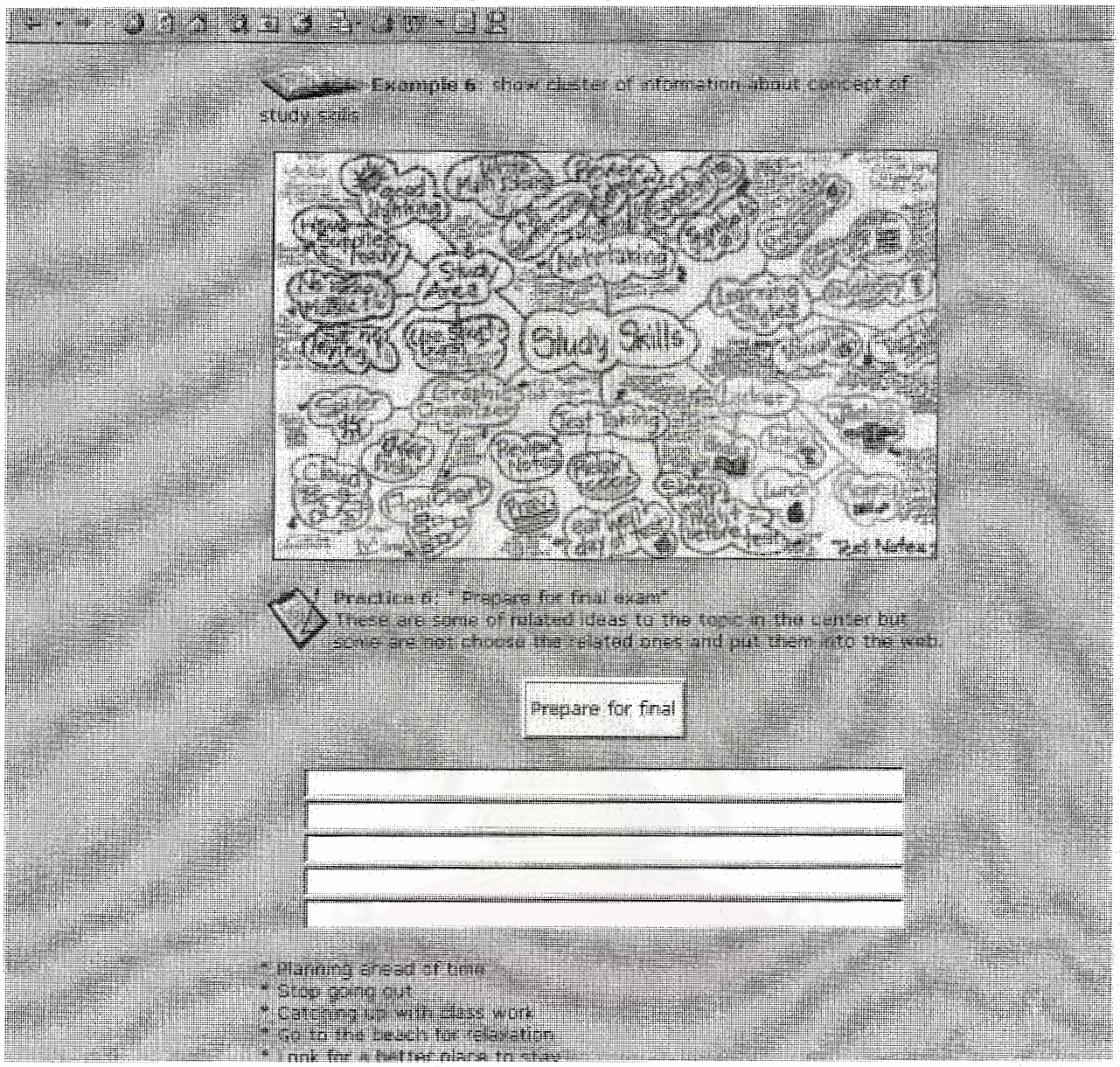
Web-based Instruction

Meal

Breakfast is usually quite a small meal for some people. They usually have just a slice of toast and coffee. The breakfast time is early at around 7 o'clock because they have to leave for the office. Lunch is not a very big meal for some people either. They have lunch in the office canteen. Lunch time is at about 12.30. Some people brings sandwiches from home and just buys a drink. The evening meal is the biggest meal of the day for some since they usually have dinner with their family. The dinner time is at around 7 o'clock. After dinner some people like to drink a cup of strong black coffee.

Practice 3: Ask yourself about the topic "How to make your favorite dish." Add five questions or more that you use technique of brainstorm in the box below

Web-based Instruction



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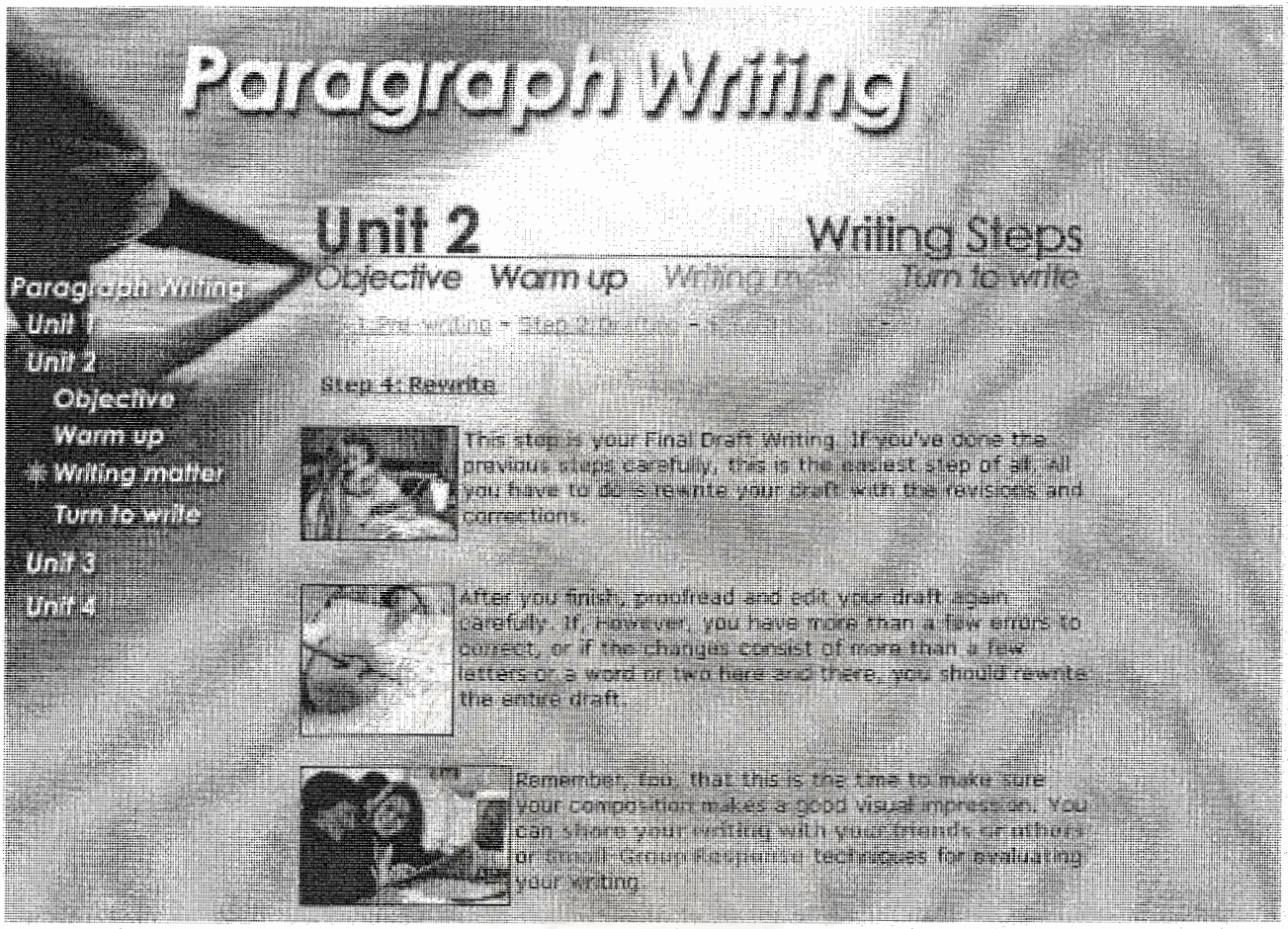

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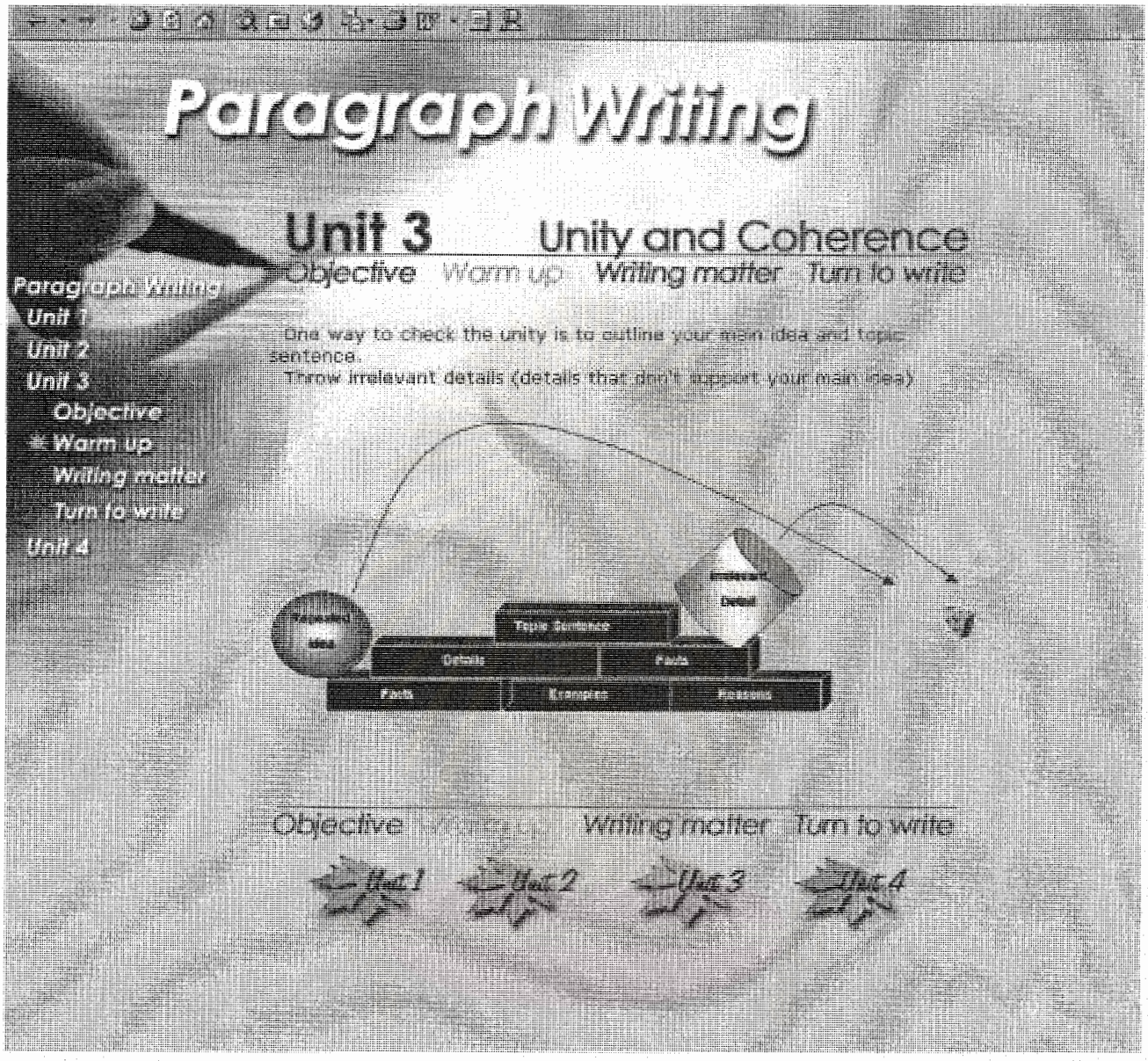


Web-based Instruction

of my writing?	
2. Would repeated words, pronouns, transition signals improve the flow of my writing?	☐
3. Have I deleted all unnecessary words?	☐

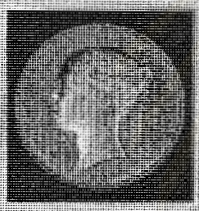
Using transition words as a guide makes it easier for your reader to follow your ideas. Transition words give your paragraph coherence.

Repetition of key nouns

The easiest way to achieve coherence is to repeat key nouns frequently in your paragraph.

Example 1: Look at the model paragraph about gold to see how it uses key nouns technique to achieve coherence. The key noun in this paragraph is gold.

Paragraph with coherence model



Gold, a precious metal, is prized for two important characteristics. First of all, gold has a lustrous beauty that is resistant to corrosion. Therefore, it is suitable for jewelry, coins and ornamental purposes. Gold never needs to be polished and will remain beautiful forever. For example, A golden coin remains as untarnished as the day it was made. Another important characteristic of gold is its usefulness to industry and science. For many years, it has been used in hundreds of industrial applications. The most recent use of gold is in astronauts' suits. Astronauts wear gold-plated heat shields for protection outside spaceships. In conclusion, gold is treasured not only for its beauty but also for its utility.

Next

Objective Warm up Turn to write

Unit 1 Unit 2 Unit 3 Unit 4

Web-based Instruction

Paragraph Writing

Unit 3 Unity and Coherence

Objective Warm up Writing matter Turn to write

Unity - Coherence - Repeating - Pronoun - Linking
Transition Signals - Logical Order

Paragraph Writing
Unit 1
Unit 2
Unit 3
Objective
Warm up
Writing matter
Turn to write
Unit 4

Practice 6: Read the model paragraph which groups related ideas about international languages.

International Language

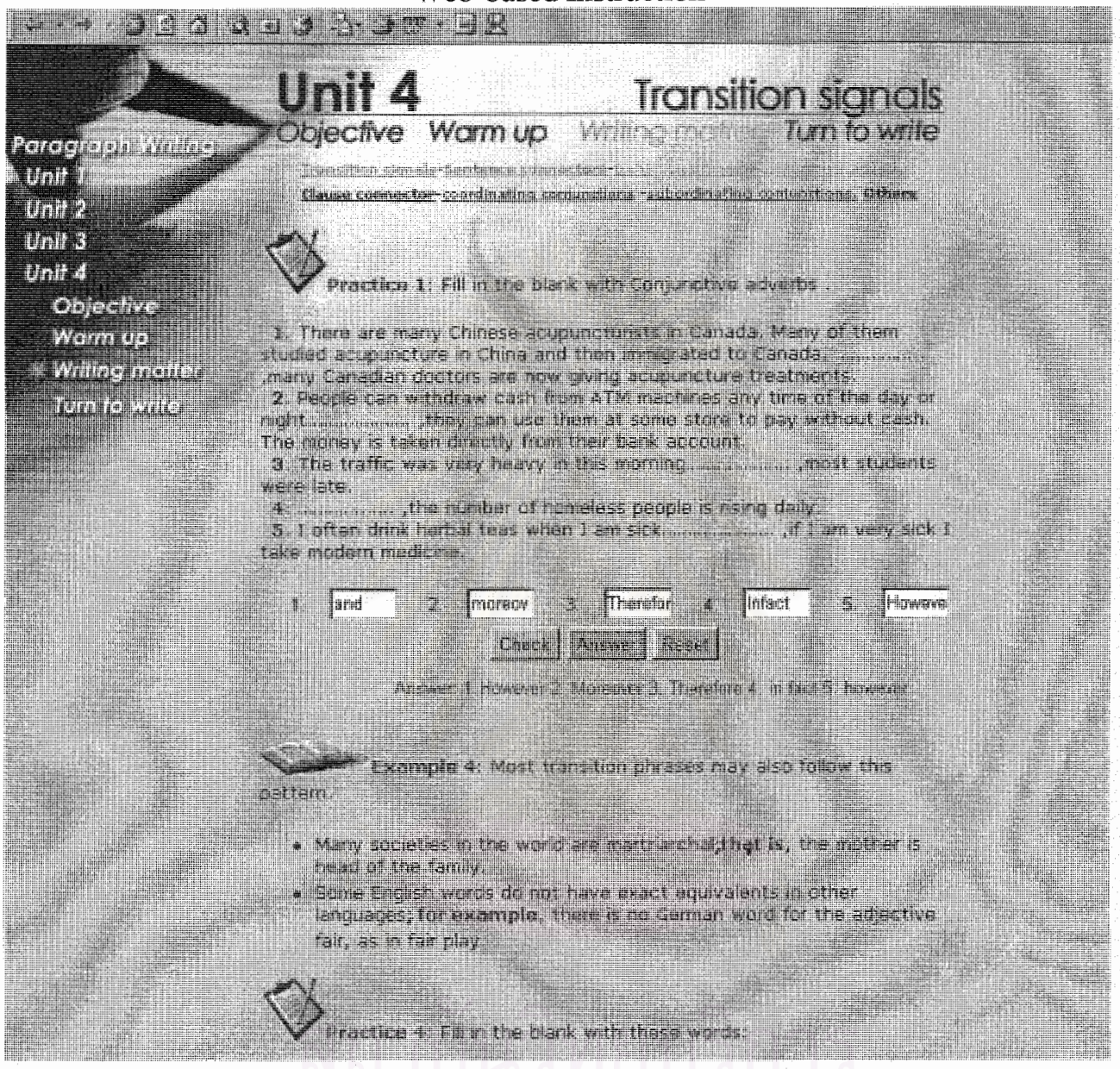
English has almost become an international language. Another Chinese, more people speak it than any other language. The next international language, Spanish is the official language of more countries in the world, but more countries have English as their official or unofficial second language. More than 70 percent of the world's mail is written in English. English is the primary language on the Internet. In international business, English is used more than any other language, and it is the language of airline pilots and air traffic controllers all over the world. Moreover, although French used to be the language of diplomacy, it has displaced English throughout the world.

Questions:

1. Can you identify what languages are being discussed in the paragraph?
Answer: English, Chinese, Spanish and,French

2. The topic "International languages" can be divided into sub-topics English/other international language. Rewrite the paragraph by grouping the sentences under these two sub-topics.

Web-based Instruction



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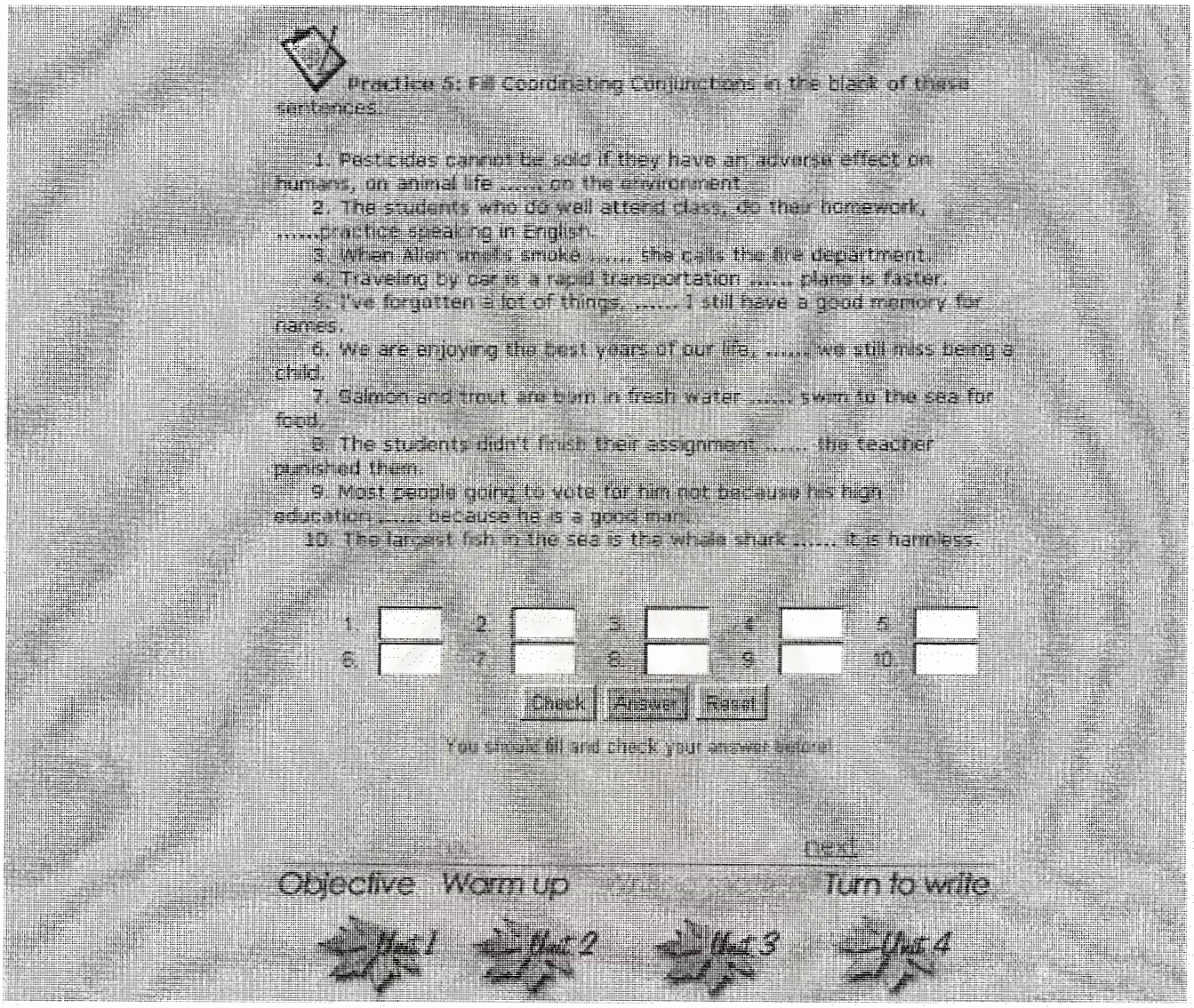

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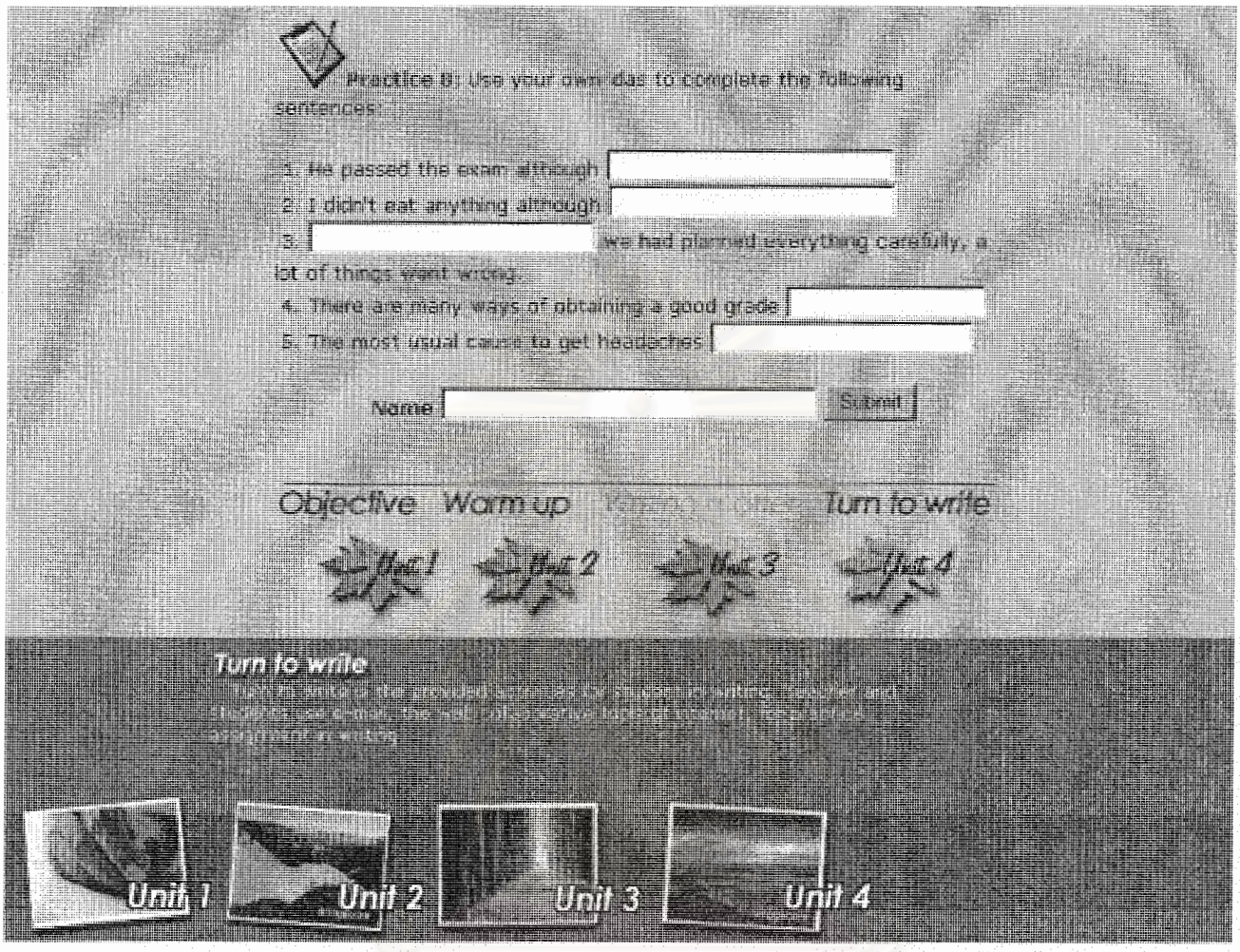

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Psychology Experts

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BIOGRAPHY

Mrs. Suyanee Dejthongpong was born on 4 April 1957 in Bangkok. She graduated bachelor degree in Mathematics from Srinakarinwirot University (SWU) in 1972. Then, she went on her education and got a master degree in Educational Statistics from Chulalongkorn University in 1974. In 1999, she continued her studying at the department of Educational Communications and Techonology, Chulalongkorn University. Her current academic position is Assistance Professor at Rajamangala Institute of Technology (RIT), Bangkok Technical Campus.

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