# THE DEVELOPMENT OF AN INTERNET-BASED INSTRUCTIONAL SYSTEM FOR TEACHING REMEDIAL ENGLISH TO FIRST-YEAR UNIVERSITY STUDENTS

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรดุษฎีบัณฑิต สาขาวิชาภาษาอังกฤษศึกษา มหาวิทยาลัยเทคโนโลยีสุรนารี ปีการศึกษา 2548 ISBN 974-533-571-1

# THE DEVELOPMENT OF AN INTERNET-BASED INSTRUCTIONAL SYSTEM FOR TEACHING REMEDIAL ENGLISH TO FIRST-YEAR UNIVERSITY STUDENTS

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การวิจัยครั้งนี้มีวัตถุประสงค์ 4 ประการ คือ (1) เพื่อพัฒนาระบบการสอนวิชาภาษาอังกฤษ ซ่อมเสริมทางอินเทอร์เน็ตสำหรับนักศึกษาชั้นปีที่หนึ่ง มหาวิทยาลัยเทคโนโลยีสุรนารี,

(2) เพื่อหาประสิทธิภาพของบทเรียนที่ใช้สอนวิชาภาษาอังกฤษซ่อมเสริมทางอินเทอร์เน็ตที่พัฒนา ขึ้นตามเกณฑ์มาตรฐาน 80/80, (3) เพื่อเปรียบเทียบผลสัมฤทธิ์ทางการเรียนของนักศึกษาที่ได้รับการ สอนวิชาภาษาอังกฤษซ่อมเสริมทางอินเทอร์เน็ตและนักศึกษาที่ได้รับการสอน โดยวิธีเผชิญหน้า, และ (4) เพื่อศึกษาเจตคติของนักศึกษาที่มีต่อการสอนวิชาภาษาอังกฤษซ่อมเสริมทางอินเทอร์เน็ต

การวิจัยเรื่องนี้เป็นการวิจัยเชิงทคลองแบบการทคสอบก่อนและหลัง กลุ่มตัวอย่างที่ใช้ใน การวิจัยในครั้งนี้คือนักศึกษาสาขาวิชาวิศวกรรมศาสตร์ชั้นปีที่ 1 ของมหาวิทยาลัยเทคโนโลยีสุร นารีซึ่งมีความสามารถทางภาษาอังกฤษในระคับอ่อน จำนวน 60 คน นักศึกษาเหล่านี้ได้ลงเรียนวิชา ภาษาอังกฤษ 1 ในภาคการศึกษาที่ 3 ปีการศึกษา 2548 โดยแบ่งเป็นกลุ่มทคลองและกลุ่มควบคุม กลุ่มละ 30 คน กลุ่มทคลองเรียนจากการสอนวิชาภาษาอังกฤษซ่อมเสริมทางอินเทอร์เน็ต และกลุ่ม ควบคุมเรียนวิชาภาษาอังกฤษซ่อมเสริมทางอินเทอร์เน็ตที่ชื่อว่า "Suppasetseree's Remedial English Online" (SREO) และกลุ่มควบคุมได้เรียนโดยวิธีเผชิญ หน้า จากนั้นให้นักศึกษาทั้งสองกลุ่มทำแบบทคสอบหลังเรียน กลุ่มทคลองจะตอบแบบสอบถาม เจตคติและได้รับการสัมภาษณ์ การวิเคราะห์ข้อมูลใช้การวิเคราะห์ความแปรปรวนร่วม (ANCOVA) การหาค่าเฉลี่ย และค่าร้อยละ

### ผลการวิจัยพบว่า

- 1. ระบบการสอนวิชาภาษาอังกฤษซ่อมเสริมทางอินเทอร์เน็ต สำหรับนักศึกษาชั้นปีที่หนึ่ง มหาวิทยาลัยเทค โน โลยีสุรนารีที่พัฒนาขึ้น ได้รับการประเมินจากผู้ทรงคุณวุฒิทางเทค โน โลยีระบบ การสอนและการสอนภาษาอังกฤษว่าอยู่ในเกณฑ์ "เหมาะสมมาก" ( $\overline{x}=4.52$ )
- 2. บทเรียนสอนวิชาภาษาอังกฤษซ่อมเสริมทางอินเทอร์เน็ต สำหรับนักศึกษาชั้นปีที่หนึ่ง มหาวิทยาลัยเทคโนโลยีสุรนารี ที่พัฒนาขึ้นมีค่าประสิทธิภาพ 85.03/86.27 ซึ่งสูงกว่าเกณฑ์มาตร ฐาน 80/80 ที่ตั้งไว้

- 3. ผลสัมฤทธิ์ทางการเรียนของนักศึกษาที่ได้รับการสอนวิชาภาษาอังกฤษซ่อมเสริมทาง อินเทอร์เน็ตสูงกว่านักศึกษาที่ได้รับการสอนโดยวิธีเผชิญหน้า (F = 16.716\*\*)
- 4. นักศึกษามีเจตคติที่ดีมากต่อการเรียนสอนวิชาภาษาอังกฤษซ่อมเสริมทางอินเทอร์เน็ต  $(\bar{x}=4.85)$

สาขาวิชาภาษาอังกฤษ ปีการศึกษา 2548 ลายมือชื่อนักศึกษา สุรม สารม สุกเสรษาเสรี ลายมือชื่ออาจารย์ที่ปรึกษา ลายมือชื่ออาจารย์ที่ปรึกษาร่วม X มีม SUKSAN SUPPASETSEREE: THE DEVELOPMENT OF AN INTERNET-BASED INSTRUCTIONAL SYSTEM FOR TEACHING REMEDIAL ENGLISH TO FIRST-YEAR UNIVERSITY STUDENTS. THESIS ADVISOR: BANJERT CHONGAPIRATANAKUL, Ph.D. 304 PP. ISBN 974-533-571-1

### INTERNET-BASED INSTRUCTION/INSTRUCTIONAL DESIGN

The purposes of this study were four-fold: (1) to develop an Internet-based instructional system for teaching Remedial English to first-year students at Suranaree University of Technology, (2) to determine the efficiency of Remedial English lessons via the Internet based on the 80/80 standard, (3) to compare English learning achievement of students who received tutoring via the Internet and those who received tutoring through face-to-face methods, and (4) to explore the students' attitudes toward learning Remedial English via the Internet.

This study employed a pre-test and post-test experimental design. The samples for this study comprised 60 first-year engineering students of Suranaree University of Technology who have low English proficiency. These students took English 1 course in the third trimester of the 2005 academic year. They were divided into two groups: the experimental group received tutoring via the Internet whereas the control group received tutoring from face-to-face method on Remedial English. After giving a pre-test, the experimental group was taught by the Internet-based instruction entitled "Suppasetseree's Remedial English Online" (SREO) where as the control group was taught by face-to-face method. Then, both groups were requested to do a post-test. For the experimental group, the attitude questionnaires and interview were administered. The statistical analysis of the data included ANCOVA, arithmetic mean, and percentage.

The findings were as follows:

- 1. The developed Internet-based instructional system for teaching Remedial English to first-year students at Suranaree University of Technology was rated by the experts in Instructional Systems Technology and English Language Teaching field as "Very Appropriate" ( $\bar{x} = 4.52$ ).
- 2. The efficiency of the Remedial English lessons via the Internet to first-year students at Suranaree University of Technology was 85.03/86.27 which was higher than the prescribed criteria 80/80.
- 3. The English learning achievement of students who received tutoring via the Internet and those who received tutoring through face-to-face method were highly significant different (F = 16.716\*\*).
- 4. The students had very good attitudes toward learning Remedial English via the Internet  $(\bar{x} = 4.85)$ .

School of English

Academic Year 2005

Student's signature Schoon Support Ivee

Advisor's signature Bampet Change Valenthal

Co-Advisor's signature Sarit Snibbas

Co-Advisor's signature <u>Kand Hhm</u>

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### **CHAPTER 1**

### INTRODUCTION

### 1.1 Introduction and Purpose of the Chapter

This study attempts to develop an Internet-based instructional system for teaching Remedial English to first-year students at Suranaree University of Technology (SUT). This chapter is an introduction to the thesis and provides a background as well as a context for the present study. This section contains rationale and significance of the study, purposes of the study, research questions, research hypothesis, scope and limitations of the study, definitions of key terms, and the implications of the study. The chapter concludes with an outline of the thesis.

### 1.2 Rationale and Significance of the Study

As we enter the 21st century and go further into the information age, many educational institutions and schools are turning to technology to enhance their programs and to expand their knowledge. Geography is no longer a barrier for preventing people from accessing information and education (Dixon, 1996). Rapid developments in telecommunication technologies have stimulated an increasing interest in distance education in all educational settings (Honeyman & Miller, 1993). Through the use of videoconferencing, computers, modems, and the Internet, universities or colleges are able to deliver courses and degree programs to students in distance locations without requiring them to set foot in a traditional classroom. Virtual environments, instant access to information, and talking machines make the world

seem more like a nearby reality rather than fiction. The capabilities of technology have advanced significantly in recent years and, in conjunction with delivery technologies such as the World Wide Web (WWW)is now possible to view IT networks as a medium through which entire learning programs can be conducted remotely.

Being challenged with the rapid changes in the world of advanced technologies, especially information technology, education in Thailand is required to play a more proactive and developmental role in preparing Thai people to cope with the globalization movements in the next decade. Accordingly, the Eighth National Education Development Plan (1997-2001) has been formulated with the following concepts and processes, objectives, policies and major programs for educational development.

As in many other developing countries, the role of English in Thailand is becoming more and more important in all aspects of life, social as well as academic. But in addition, the inevitable adoption of the Internet in business, education, science and technology requires people to have a high level of proficiency in English.

Researchers on the needs and wants of English in the workplace have suggested that the English language curriculum in Thai universities cannot meet the demands for English used in the workplace. The skills used most at this level are listening and speaking, which are not the focus skills in the Thai tertiary education English curriculum.

With these points in mind, the Ministry of University Affairs (MUA) set up a committee in 2000 to plan for the modification of the English curriculum in Thai universities. In 2001, the committee came up with the proposals for changes which have subsequently been made a policy by the MUA for all universities across the country to adopt. The proposal was the consensus of heads of the English departments and coordinators of foundation courses in public and private universities all over the country. It is planned to complete the changes over a period of four years.

According to Wiriyachitra and Keyuravong (2002), the changes include using a set of scores from the MUA English Proficiency Test to consider students entering the universities, and using this same set of scores to place students in English classes that will carry credit. But those who are very weak will take a remedial course first with no credit. Another change is that students who choose to take English as their language subject must take at least four compulsory English courses (12 credits). Foundation courses 1 and 2 are integrated language skills and study skills courses; the others may be English for Academic Purposes (EAP) or English for Specific Purposes (ESP) courses as required by each major. Apart from that, every university student will take a National English Proficiency Test before leaving university. The results will show their proficiency in each skill but will not appear in the transcripts. Groundwork for the test has already been planned.

Concurrent with the emphasis on English for Science and Technology (EST), Suranaree University of Technology (SUT) was instituting a new educational policy called 'Borderless Distant Learning' (BDL). This innovative distant education system used the World Wide Web for instruction. To comply with this project, teachers at

SUT were required to revise or redesign current teaching materials to meet requirements for web-based instruction. The English teachers were assigned to carry out these tasks to meet with our students' demand in the information age.

To design the new mode of instruction, teachers should learn about students' background. Twenty percent of the first-year students at SUT were admitted through the national entrance examination administered by the Ministry of University Affairs (MUA). The remaining 80 percent of the students were admitted through quota admission allocated to the northeastern provinces. Clearly, the majority of SUT students were from rural schools. Most teachers admitted that the language proficiency of our students was rather low. The teachers thought that low proficiency might have resulted from limited exposure to English and learning experiences that were generally restricted to a lecture teaching style. Students had minimal opportunities to use language and to participate in class activities. As a result, these students tended to be passive receivers of information rather than active participants. Therefore, these students would need time to adapt themselves to the new communicative teaching styles and new types of teaching materials. Moreover, these materials might need to be sacrificed for remedial lessons to solidify the students' grammatical background. (Seepho, 2002)

Chongapirattanakul (1999) studied the English proficiency of first-year students at SUT enrolled in 1998-1999. The results on the students' background showed that about half of SUT students were from the northeastern region (52.3% in 1998, 46.9% in 1999). The majority of the students enrolled in engineering program (75.4% in 1998, 66.5% in 1999). There were more female students than male students

(63.7% and 36.5% in 1998, 60.7% and 39.3% in 1999). The data analyzed from English Placement Test showed high correlation between students' scores on the SUT English Placement Exam and their scores on the Ministry of Education Entrance Exams. When looking at scores obtained by students according to the region they originated from, the students from the northeastern region got the lowest scores in both years, 1998-1999. This was because students from the northeastern region were male students rather than female and male scored lower than female scores. And those students graduated from math and science track which got lower scores than those who graduate from arts and math track. She also suggested that research on developing remedial package for teaching English for students who got low scores should be conducted.

Having been teaching English more than five years at SUT, the researcher found that many of the first-time freshmen entering SUT in each academic year get quite low score from the MUA English Entrance Exam. Therefore, these students are not ready to enroll English 1 course (203101) because they have not become proficient in the English language. Most students have problems in reading and writing skills. They also struggle to meet their grammar target. To solve this problem, these freshmen have to take Remedial English classes before they further their English 1 course. However, the School of English cannot offer the remedial courses to meet the freshmen's demand because there are a large number of freshmen who need to enroll the Remedial English courses and the School of English won't have enough instructors to teach them through face-to-face method. According to the problems of learning and teaching English at SUT as well as the usefulness of Internet, the researcher realizes that learning via Internet can help students learn more effectively

and enhance their good attitudes. Therefore, the researcher aims to develop an Internet-based instructional system for teaching Remedial English to first-year students at SUT.

### 1.3 Purposes of the Study

The purposes of this study were four-fold:

- (1) To develop an Internet-based instructional system for teaching Remedial English to first-year students at Suranaree University of Technology.
- (2) To determine the efficiency of Remedial English lessons via the Internet to first-year students at Suranaree University of Technology based on the 80/80 standard.
- (3) To compare English learning achievement of students who received tutoring via the Internet and those who received tutoring through face-to-face method.
- (4) To explore the students' attitudes toward learning Remedial English via the Internet.

### 1.4 Research Questions

In order to achieve the purposes state above, the study focused on the following questions:

- (1) What are the elements in designing of efficient lessons for Remedial English via the Internet?
- (2) Are there any differences in learning achievement between the experimental and control groups?

(3) What are the students' attitudes toward learning Remedial English via the Internet developed to improve their English learning achievement?

### 1.5 Research Hypothesis

In this study, there were three research hypotheses as follows:

- (1) An Internet-based instructional system for teaching Remedial English to first- year students at Suranaree University of Technology developed by the researcher was rated as "Appropriate" by the experts in Instructional Systems Technology and English Language Teaching field.
- (2) The efficiency of the Remedial English lessons via the Internet to first-year students at Suranaree University of Technology meets the 80/80 standard.
- (3) The English learning achievement of the first-year students at Suranaree University of Technology who received tutoring via the Internet was higher than those who received tutoring through face-to-face method at the .05 level.
- (4) The students had good attitudes toward learning Remedial English via the Internet.

### 1.6 Scope and Limitations of the Study

Although this study was to develop an Internet based instructional system for teaching Remedial English, there were three limitations as follows:

(1) The main concern of this study aimed at developing an Internet-based instructional system for teaching Remedial English to first-year students at Suranaree University of Technology, and comparing the English learning achievement of the students who received tutoring via the Internet and those who received tutoring through face-to-face method. Thus, the subjects of this study may not be

representative of first-year students studying in the same fields at other universities since the students may have different backgrounds, learning environment and needs. The findings are used to describe only the subject of this study, that is, first-year students who studied English 1 course in the third trimester of 2005 academic year at Suranaree University of Technology.

(2) The instructional plan for teaching Remedial English via the Internet to first- year students at Suranaree University of Technology was rated by the experts in Instructional Systems Technology and English Language Teaching field.

### 1.7 The Definitions of Key Terms

Along with this study, many terms are used as follows:

- (1) "Instructional systems" means procedure used by instructional designers to create instruction. Each step requires input from prior steps and provides input to the next step. Evaluation provides feedback that is used to revise instruction until it meets the original need or specification.
- (2) "Instructional plan" is a simplified representation of an instructional system, often in picture or flowchart form, showing selected features of the system.
- (3) "The Internet" is an interconnected system of networks that connects computers around the world via the TCP/IP protocol.
- (4) "Remedial English" is a non-credit English course for first-year students entering Suranaree University of Technology with very low scores from the English

Entrance Exam. These students have low English proficiency so they need to take this course before they further their English 1 course in the university.

- (5) "Students" refers to the 60 first-year students studying in engineering field at Suranaree University of Technology. These students have low English proficiency. They were studying English 1 course in the third trimester of the 2005 academic year and some who failed English 1 course in trimester 1 and 2 and they have to pass it before they further to the next course. Therefore, they need to take Remedial English to help them learn English 1 course in the university better.
- (6) "Attitudes" refers to opinions or feedback about learning Remedial English via the Internet.

### 1.8 Implications of the Study

This present study provided the following implications.

- (1) The findings from the research can provide key guidelines for further researches and studies of using technology in teaching English in all levels.
- (2) An Internet-based instructional system for teaching Remedial English to first-year students at Suranaree University of Technology designed by the researcher can be applied to any English teaching situations.

### 1.9 Outline of the Thesis

To achieve the purposes of the study, the researcher first review related literature and previous research. This is developed in Chapter 2 and includes a literature review on technology in education and technology in English as a Foreign Language. Then, theories which technology in education and in English as a

Foreign Language are based on is described. Lastly, previous research on the Internet-based instruction in TEFL and TESOL contexts is also included and analyzed.

In Chapter 3, a research procedure will be presented. It discusses the main research method including variables, sampling, instruments, construction and efficiency of instruments, and data collection. The data analysis will be included in the last part of this chapter.

Chapter 4 describes and discusses the results of the research findings of the present study.

Chapter 5 presents Suppasetseree's Remedial English Online (SREO) Plan and the Remedial English lessons via the Internet for first-year students at Suranaree University of Technology and illustrations of the lessons are demonstrated.

Finally, Chapter 6 summarizes the main findings of the present study in response to the research hypothesis, including discussions of the research results and recommendations for the further studies.

### **1.10 Summary**

In this chapter, the researcher describes the rationale and significance of the study. This was followed by purposes of the study, research questions and research hypothesis. Then, the scope and limitations of the study, the definitions of key terms, and the implications of the study are presented. Lastly, the outline of the thesis is concluded.

### **CHAPTER 2**

### LITERATURE REVIEW

### 2.1 Introduction and Purpose of the Chapter

This chapter deals with a large body of related literature on technology in education and English as a foreign language, theories which technology in education and in English as a foreign language are based on and conceptual frameworks of the study. Lastly, the chapter concludes with previous research on studies on the Internet-based learning.

### 2.2 Technology in Education

Technology offers all students opportunities for learning never before imagined. Factors encouraging or discouraging technology use can range from the level of teacher enthusiasm and expertise to principal and parental support to quality software and hardware availability and its selection (Burgess & Trinidad, 1997, p.16). How does one define the application of this multipurpose, multifaceted tool integration? The International Society for Technology in Education (ISTE) (2000) defines curriculum integration as follows:

"Curriculum integration with the use of technology involves the infusion of technology as a tool to enhance the learning in a content area or multidisciplinary setting. Technology enables students to learn in ways not previously possible. Effective integration of technology is achieved when

students are able to select technology tools to help them obtain information in a timely manner, analyze and synthesize the information, and present it professionally. The technology should become an integral part of how the classroom functions—as accessible as all other classroom tools." (p. 6)

Clearly, technology cannot be a goal in itself. Without a systemic integration of content and quality professional development for teachers, it is likely to only cause frustration. Technology is useful "insofar as it is handled competently by teachers and it is integrated into the teaching program as a whole" (Hoven, 1992, p.19). One of the reasons for this holistic integration of technology is the fact that there are always new technology tools entering classrooms. Therefore, the potential of such tools needs to be routinely redefined and evaluated with all students in mind. Thoughtfully selected technology tools can offer so much more than just productivity to the learner.

Educational technology, especially computers and Internet, have grown tremendously and have permeated all areas of our lives. It is incomprehensible that anyone today would argue that banks, hospitals, or any industry should use less technology. Most young people cannot understand arguments that schools should limit technology use. For them, the use of the Internet plays a major role in their relationships with, for examples, their friends, their families, and their schools. Teens and their parents generally think the use of the Internet enhances the social life and academic work of teenagers:

The Internet is becoming an increasingly vital tool in our information society.

More people are online to conduct such day-to-day activities as education, business transactions, personal correspondence, research and information-gathering, and job

searches. Each year, being digitally connected becomes ever more critical to economic and educational advancement and community participation. Now that a large number of people regularly use the Internet to conduct daily activities, people who lack access to these tools are at a growing disadvantage. Technology plays an important role in education. Therefore, we have to look more closely at this issue in an articulate and thoughtful manner.

### **Computer-Mediated Communication**

The use of computers and communication technologies in learning has historical background more than two decades. During that time, it was called by many names, including Computer-Mediated Communication (CMC), computer conferencing, online learning, Internet-based learning, and telematics. The advent of the Web provides a new and interesting environment for CMC that offers a host of new possibilities together with many of the advantages of previous incarnations but without some of the problems that have dogged computer-based learning.

Bates (1995) divided the form of teaching via a computer into two different forms: (1) preprogrammed computer-based learning and (2) computer-mediated communication.

For the pre-programmed computer-based learning (CBL), the learner works through pre-designed materials. A variety of terms have been used for it such as CBL, CAL, CAI, CBT, CML CMI (Bates, 1995). The learner of computer-mediated communication (CMC) approach interacts through the computer to other people or sources of information.

The term of CMC was made up by Hiltz and Turoff (1978) in their study of computer conferencing. They used this term to restrict this mode of electronic

communication. Paulsen (1995) defined CMC as the transmission and reception of messages using computers as input, storage, output, and routing devices. CMC includes information retrieval, electronic mail, bulletin boards, and computer conferencing.

According to McCormack and Jones (1998), there are three basic forms of CMC as follows:

Asynchronous CMC includes such standard CMC tools as e-mail, Usenet news, and computer conferencing tools. With asynchronous CMC, individuals participate in communication without the need to come together at the same time. They participate when they want to.

Synchronous CMC includes all of the text-based synchronous systems such as Internet Relay Chat (IRC), MUDs/MOOs, and interactive chat systems. Unlike asynchronous CMC, synchronous CMC requires participants to communicate at the same time.

Almost face-to-face CMC includes the more modern systems such as Internet Phone, CU-SeeMe, Mbone, and other video- and audio-conferencing systems. These systems provide an experience approaching that of face-to-face communication.

According to Henri (1988) many educational applications of CMC can be imagined, such as: a) replying to queries and requests from students, b) providing advice and guidance, c) helping students to solve problems with regard to the subject matter, d) serving as a transmission medium for homework and test papers, e) discussing projects and work with the tutor, f) bringing students together in accordance with their interests and their needs, and g) encouraging team projects and setting up self-help groups.

### (1) Teaching Methods and Techniques for Computer-Mediated

### Communication

Teaching takes place in a system that defines opportunities and constraints and within a system environment that influences the teaching process. The system could be more or less flexible with regard to the teaching methods and techniques that could be applied. Describing a distance education theory attuned to computer conferencing, Paulsen (1992, p.59) argued that "adult students will seek individual flexibility and freedom. At the same time, they need group collaboration and social unity. Computer conferencing, when integrated with other media, can be the means of joining freedom and unity into truly flexible, cooperative distance education programs." In this theory, six dimensions of system flexibility was discussed with regard to time, space, pace, medium, access, and curriculum as shown in figure 2.1.

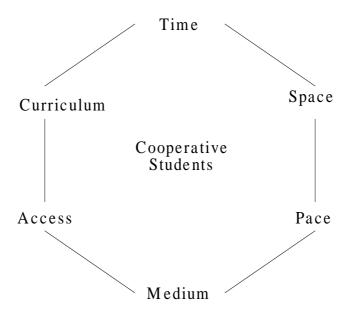


Figure 2.1: Six dimensions of flexibility in a CMC-based teaching system as presented by Paulsen (1992)

Each dimension was regarded as continuous rather than dichotomous, as relative, not absolute. All teaching systems will have some flexibility in each dimension. A high level of flexibility in every dimension is extremely difficult to achieve. Economy, scarcer sources and rigid educational regulations often inhibit flexible teaching systems. With regard to cooperative learning, one may also argue that one person's flexibility ends where another's begins for example that one person's time flexibility is another's time delay. There are no quick, definite, or ready-made answers to the question of how much flexibility a course or program should provide. Nevertheless, teachers and program planners who address the issue of system flexibility are likely to provide better teaching systems.

### (2) The CMC-Based Teaching System

Verner (1964, p.35) discussed three components constituting the process of adult education: "There are three basic components inherent in the establishment of [a relationship for learning between an educational agent and a learner]: organizing people for learning, helping the participants to learn, and selecting from the multitude of devices available to facilitate the operation of the first two. These three components are identified as methods, techniques, and devices." Building on Verner's components, Stubbs and Burnham (1990, p.27)defined an electronic distance education system as: "Any learning situation where methods and techniques enabled by electronic devices combined with instructors and learners who are physically separated and who use methods and techniques enabled by electronic devices to transmit instructional messages over the distance between themis an [electronic distance education] system" Applying Stubbs and Burnham's electronic distance education system on CMC-based teaching systems, results in a system

comprising learners, teacher, content, methods, techniques, and devices as presented in figure 2.2

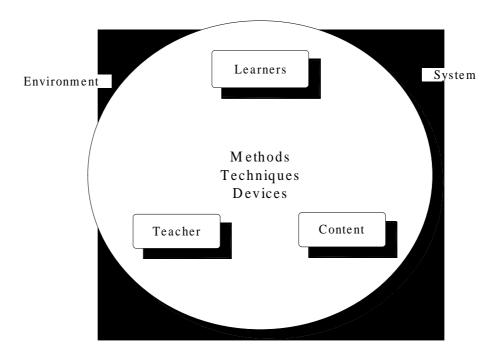


Figure 2.2: A CMC-based teaching system adapted from Stubbs and Burnham (1990, p.27)

Methods: Verner (1964, p.36) distinguished between individual methods and group methods. Applied on CMC, one often encounters a more detailed classification of methods. Harasim (1989), presenting the "Collaborative Learning Horizon", distinguished among one-to-one, one-to-many, and many-to-many learning approaches. This paper suggests that Harasim's classification should be supplemented with the one-alone learning approach to support the four communication paradigms often used in CMC. The paradigms are information retrieval, electronic mail, bulletin boards, and computer conferencing. The classification is derived from Rapaport (1991) who uses it in his book; Computer Mediated Communications: Bulletin Boards, Computer Conferencing, Electronic Mail, and Information Retrieval.

According to this discussion, the framework comprises the four methods: one-alone, one-to-one, one-to-many, and many-to-many.

Techniques: A pedagogical technique is a manner of accomplishing teaching objectives. The techniques introduced here are organized according to the four communication paradigms used in computer-mediated communication. The foregoing considerations result in a framework of four methods and a number of techniques as shown in figure 2.3. First, the techniques classified as one-alone are characterized by retrieval of information from online resources and the fact that a student can perform the learning task without communication with the teacher or other students. Second, the techniques classified as one-to-one can be conducted via e-mail applications. Third, the techniques discussed as one-to-many will typically be conducted via World Wide Web, bulletin boards or distribution lists for e-mail. Finally, the techniques presented as many-to-many can be organized within computer conferencing systems, bulletin board systems, or distribution lists for e-mail. A comprehensive literature review conducted by Paulsen (1995) presented experiences from about 25 different teaching techniques that have been applied in CMC-systems. The techniques that are presented in figure 2.3, constituted by no means an exhaustive list of applicable techniques. They represent, however, a comprehensive array of examples that show the gamut of techniques that are available for teachers, program planners, and designers of CMC courses. Based on the examples found in Paulsen's literature review, some techniques seem prevalent and others seem rare. The review showed, though, that practitioners have a wide range of techniques to choose from.

**Devices:** Verner (1964, p.37) referred to "various mechanical instruments, audio-visual aids, physical arrangements, and materials" as devices that can enhance the effectiveness of an adult education process. Verner stated, however, that television could be regarded as a device when used in a classroom and as a method when it is the primary medium used in a distance education setting. From this, one may argue that CMC could be regarded as both device and method. In this paper, however, CMC is viewed from the device perspective. Using the CMC-classification derived from Rapaport (1991), there are four major CMC-devices: information retrieval systems, electronic mail systems, bulletin board systems, and computer conferencing systems. These four CMC devices correspond primary to the four methods: one-alone, one-to-one, one-to-many, and many-to-many. Building on these foundations, the methods, techniques, and devices that could be applied in a CMC-based teaching system are illustrated in figure 2.3.

Methods:	one-alone	one-to-one	one-to-many	many-to-many
Techniques:	<ol> <li>Online databases</li> <li>Online journals</li> <li>Online applications</li> <li>Software libraries</li> <li>Online interest groups</li> <li>Interviews</li> </ol>	<ol> <li>Learning contracts</li> <li>Apprentice ships</li> <li>Internships</li> <li>Correspondence studies</li> </ol>	<ol> <li>Lectures</li> <li>Symposiums</li> <li>Skits</li> </ol>	<ol> <li>Debates</li> <li>Simulations         or games</li> <li>Role Plays</li> <li>Case studies</li> <li>Discussion         groups</li> <li>Transcript         based         assignments</li> <li>Brainstorming</li> <li>Delphi         Techniques</li> <li>Nominal         group         techniques</li> <li>Forums</li> <li>Project groups</li> </ol>
<b>Devices:</b>	online resources	e-mail	bulletin board	computer conferencing

Figure 2.3: Methods, techniques, and devices that could be applied in a CMC-based teaching system

The System Environment: Teaching takes place in a system environment that influences the teaching process. Focusing on adult education, Donaldson discussed the environment in view of constraints, demands, and choices. He argued that program administrators should seek to "pushback constraints, and

work to have demands relaxed, thereby increasing the quantity, improving the quality, and expanding the types of choices available to them." (Donaldson, 1990, p.11).

Constraints. There are many constraints that limit the opportunities for CMC utilization. Among these are the type of institution, geographical issues, equipment, resources, course timeframe, course workload, communication pattern, and the financial health of the program provider. The program must comply to the rules, regulations, and policies of the institution and these may vary considerably from a private to a public institution and from secondary education to universities. A program is often confined to a certain geographical area such as a campus, a community, a state, or a nation. With regard to CMC, these restrictions are more often due to policies and legislation than to technical limitations. Lack of computer resources, such as hardware, software, and communication networks, is though, an important limitation for many CMC programs. The institutions time tables could pose several restrictions on a CMC course. It is not always convenient for a CMC course to follow a university semester or term plan. In the same way, requirements of a weekly course load could constrain a program. Some institutions may also require some sort of synchronous communication that furthers constrain a program.

Demands. National legislation and parent organizations form policies and procedures that cannot be ignored. There are demands for quality programming and healthy finances. Further, the local community, faculty, staff, and students all have demands to the program. These demands may, of course, be more or less rigid, but together they are an important element of the system environment.

Choices. Some program choices could be the program's actual target group, its objectives, and to a certain degree the available resources. The use of CMC may depend on the program's actual target group. Important target group variables are group size, educational level, CMC expertise, computer aptitude, motivation, and financial status. The group size may vary from one to more than one thousand participants, but very few CMC courses have more than fifty participants. CMC programs are available at primary level, secondary level, undergraduate level, graduate level, and continuing education level. In addition, the prospective students' motivation, financial status, and experience with CMC and computers vary considerably.

A program's use of CMC will further depend on the program objectives. Important aspects of the objectives are the program discipline and subjects, such as science, arts, or business related subjects. Of further importance is the formal character of the program, it may be a diploma course, a vocational course, or a purely informational program. The institutional resources are of vital importance to a CMC program. The resources include employed and affiliated staff and faculty, CMC technology and proficiency, and, of course, the institution's financial status and its willingness to invest in CMC.

# 2.3 Technology in English as a Foreign Language

Technology and foreign language education are no stranger to one another. In the sixties and seventies, language laboratories were being installed in numerous educational settings. The traditional language laboratory was comprised of a series of booths, each providing a cassette deck, and accompanying microphone and headphone. Teachers monitored their students' interactions by using a central control panel. The basic premise behind this technology was that if verbal behavior was modeled, and then reinforced, students would quickly learn the language in question. The language lab activities were therefore grounded in a stimulus-response behavior pattern. The more drill practice the students encountered, the faster they would learn the second language. While the language laboratory was a positive step in linking technology and language education, it was soon recognized that such activities were both tedious and boring for learners. Furthermore, the amount of student-teacher interaction was minimal, and individualized instruction was irrelevant. Besides, the pedagogical deficiencies, the audio equipment was cumbersome and prone to breakdown, and had only one function to disseminate auditory input. These factors put together led to a shift to the communicative approach to second language education, namely, computer assisted language learning.

Microcomputers and quality CALL software provided yet another medium for language learning. Its potential as both a teaching and learning tool are widely written about in the educational literature. At present, there are a variety of computer applications available including vocabulary, grammar, and pronunciation tutors, spell checkers, electronic workbooks, writing and reading programs, as well as various authoring packages to allow instructors to create their own exercises to supplement existing language courses. In addition to the range of software available, CALL has also been shown to increase learner motivation (Blake, 1987). Chun and Brandl (1992) also propose that the interactive and multimedia capabilities of the computer make it an attractive teaching/learning tool. Computers can provide immediate feedback to students and students can work at an individualized pace. Software can be designed to

include sound, graphics, video, and animation. Moreover, information is presented in a non-linear sequence enabling learners to select the exercises or concepts they wish to review.

Despite the advantages and widespread use of CALL, it continues to suffer from criticisms for several reasons. Many believe that learning and practicing grammar rules of a foreign language through fill-in-the-blank exercises, for example, does little to improve a speaker's ability to produce grammatically appropriate utterances (Armstrong & Yetter-Vassot, 1994). Others point out that CALL suffers from its rigidity in light of the complexities of natural languages. For example, a program designed to provide drill practice on French verb conjugation is useful for only that and nothing else. Recently, however, we are beginning to see encouraging and promising results in the area of CALL software development. Interactive video and programs which provide more authentic and communicative task-based activities are being created, which are more in line with the current theoretical and pedagogical views of learning.

## 2.3.1 The Internet

Over the past few years, the Internet has emerged as a prominent new technology. The influence of such a powerful technological tool has pervaded all aspects of the educational, business, and economic sectors of our world. Regardless of one's familiarity with the Internet, it is repeatedly made reference to. News broadcasters and commercials, for example, will now provide web addresses, and even the recent movie, "The Net" was sparked by the impact of this new technology (Mike, 1996). Regardless of whether one uses the Internet or not, one must be clear about the fact that we have entered a new information age and the Internet is here to

stay. Because the use of the Internet is widespread in numerous fields and domains, without a doubt, it also carries great potential for educational use, specifically second and foreign language education. This study will therefore focus on the following questions: (1) What is the Internet? (2) How can various facets of the Internet be used in the second and foreign language classroom? (3) What are the benefits of employing the Internet in such a setting? (4) What are the disadvantages or obstacles the Internet presents in a second language classroom? And (5) The implications of using the Internet in second language classrooms will be discussed. The Internet is the latest in a series of technological innovations for second language education. In order to understand the role of the Internet, it would be useful to provide a brief history of technology and language teaching, present a survey of the technological resources available to second language learners, and, finally consider the role of the Internet and its possibilities.

#### 2.3.1.1 What is the Internet?

While the computer is now used in some form or another in most language classrooms, and is considered standard equipment, the Internet is also gradually being introduced in the second language classroom as teachers become more familiar with it. The Internet is a confederation of thousands of computers from various sectors of society such as education, business, government and the military. It is a network of thousands of computer networks (Lewis, 1994). Each individual system brings something different to the whole (databases, library services, graphs, maps, electronic journals, etc), and the end result is a vast accumulation of information. It is a worldwide network of computers that interact on a standardized set of protocols which act independently of particular computer operating systems,

allowing for a variety of access methods to the Internet. For example, the Internet can be accessed from an IBM computer in a student's home in Australia, or from a Macintosh computer at a school in Canada. It can therefore be conceived of as the equivalent of a telephone system for computers. It can be used to both exchange information through electronic mail, newsgroups, listservs, professional on-line discussion groups, and so forth, as well as to retrieve information on a variety of topics through the World Wide Web.

#### 2.3.1.2 The Internet and Electronic Mail

Although the Internet has been available to most people, only recently have educators been realizing the potential the Internet can have in second and foreign language classrooms. The following section will, therefore, consider some of these potential benefits and advantages of incorporating such technology in language courses. The Internet has been used by some language instructors in creative ways - one of these innovations being use of electronic mail (e-mail), a specific feature of the Internet. Overall, e-mail can encourage students to use computers in realistic, authentic situations in order to develop communicative, and thinking skills. E-mail is easy to use and even teachers intimidated by computers can quickly become adept at using e-mail with their students. Furthermore, even timid or inhibited students can benefit from the meaningful interaction and communication e-mail makes possible. Kroonenberg (1995), for example, employed e-mail in her ESL classes at Hong Kong International School. She relates her initial experiences of working with two classes of ESL multinational students in grades 9-12, and a homogeneous group of summer school students involving Cantonese-speaking 14 and 15 year olds. The Dragon Bulletin Board System (BBS) using the TELIX communications software was

established in order to allow students and teachers to send messages to each other, as well as make public entries on discussion conferences.

During the initial stages, students were logged on the system and each student created a password. Students were simply asked to write freely as in a dialogue journal. Kroonenberg (1995) believes this allows students to become familiar with the system and further allows their ideas to flow. Writing on e-mail can therefore be used to generate ideas about a topic, or can enable learners to free-write without any impositions. E-mail can also be used in various conference-type formats or to generate discussion. For example, Kroonenberg often provided students with topics of high interest in order to generate more writing. In fact, one student who was part of this project stated, "I usually get involved in the BBS because the subjects are interesting and I have a lot to say about them" (p. 25). Writing topics often involved school issues or issues that were directly relevant to the students' lives. In other conference assignments, students are the main audience. Students read entries and then respond to them via e-mail. This allows each student to express their opinion. In this manner, all opinions are voiced and heard, something which may not always occur in oral discussions in the classroom.

Chat rooms can also be carried out through e-mail. In this situation, two or more individuals can "talk" on-line about various topics or issues. For instance, language learners can be paired up and can be given a debatable topic to discuss. Such experience, once again stimulate authentic communication and assist students in developing specific communication skills such as arguing, persuading, or defending a particular point. Listservs from around the world can offer news and discussion groups in the target language providing another source of authentic input

and interaction. Cononelos and Oliva (1993) organized e-mail exchanges between entire classes of students in order to generate discussion, improve writing skills, and promote peer interaction. In this particular project, advanced level Italian students employed e-mail newsgroups to improve both their writing, as well as their knowledge of contemporary Italian society. In this manner, the teaching of culture was also facilitated through the immediate feedback and contact of L2 speakers who were interested in informing others about their culture.

E-mail can also be used to communicate long-distance with language learners in other schools, or other countries for that matter. A study exploring the potential of long-distance communication involving second language learners was carried out by Chang (1993). The goals of the study were to provide students with a real context for improving their writing, help them to expand their ideas of "content-area" reading and functional writing across cultural boundaries, make students familiar with international telecommunications, and investigate with students, the potential effects of telecommunications on literacy acquisition (Davis & Chang, 1994).

The subjects involved in the study included undergraduate students at Taiwan's National Kaohsiung Normal University (NKNU) and students at University of North Carolina at Charlotte (UNCC). The 8-week teleconference began with Prompt 1 in which students were asked to write letters to one another. In addition to personal introductions, students were asked to include a focus on their previous English language learning experiences and the difficulties associated with this. In Prompt 2 and 3, students were asked to use their textbooks on the History of English Language to report on interesting uses of English, (ie. connotations, spelling, etc).

Prompts 4 and 5 asked the learners to work with sections of specific texts to comment on pronoun and lexical use, as well as syntactic structure. In the final prompt, both groups of students collected examples of English slang and idioms used in each country's films and music. Questions pertaining to the above were asked and responded to by students in each group.

Davis and Chang (1994) point out that as writers on both sides of the world shared questions and comments, jokes began to surface. Over time, the students' reading and writing began to change as well. Through surveys and informal case studies of student writing during the conference, it was found that for the most part, students' writing had improved in both fluency and organization. Surveys also indicated that students saw some carry over to their study literature, and that they had a better understanding of English usage. While the above examples illustrate a few uses of e-mail in the second and foreign language classroom, without a doubt e-mail can provide authentic communication and can foster awareness of both the language learner and the languages they are learning.

## 2.3.1.3 History and Development of the Internet

The original Internet was set up in 1969 as a project for the Advanced Research Projects Agency or ARPA of the U.S. Department of Defense to connect to military, university, and defense contractors working on ARPA projects (Wiederspan & Shottan, 1996). These institutions such as the Massachusetts Institute of Technology (MIT) and the University of California, Los Angeles (UCLA) designed a new network protocol in order to provide high-speed communication (Division of Microsoft Corporation, 1996). The network was designed to find the way for widely separated computers to transfer information and solve the problems such as power

failures, interruptions in communication lines or a nuclear attack. This network was knows as Darpanet (Stout, 1996) or called the ARPAnet at the time (Savetz, 1994). One of the main uses of the network was for scientists and researchers to share information and resources. Researchers were able to access from remote areas to use government or academic computer resources to complete their work (Lumpkin & Durnbaugh, 1995).

By the late 1970s, the ARPAnet was so large that its original set of standard and communication could not support the Internet's growth. Thus, the ARPAnet changed to use the TCO/IP or Transmission Control Protocol/Internet Protocol which is the language of the Internet. When the Internet connects computers that use very different operating systems or languages, for example, UNIX, DOS, Macintosh, and so on, TCP/IP will be used to facilitate communication among all the systems. TCP/IP is hardware-and software-independent, so that any type of computer can connect to the Internet and share information with any other computer (Eager, 1994). To put it simply, it is used to communicate across the Internet. There are thousands of computers networks around the world. Some computers are connected with the Internet while others are not. Some networks are private and some are publicly accessible. Protocol is what enables them to share data across their web of cables, computers, and users. TCP/IC is the suite of protocol used to move data over the Internet (Division of Microsoft Corporation, 1996).

Since the network was not used only for military personnel, but also for researchers, ARPAnet split into two networks, ARPAnet and MILNET. ARPAnet continued to serve the needs of academics, while MILNET served the needs of the military. However, information could be shared between these two networks.

The interconnection between ARPAnet and MILNET was known as DARPA Internet (Defense Advanced Research Project Agency), eventually shorted to the Internet (Eager, 1994).

In 1986, the National Science Foundation (NSF) created a highspeed network called NSFnet to develop a network so as to connect researchers across the country to many computer centers. These centers included the following:

- Cornell National Supercomputer Facility, Cornell University,
   Cornell, New York
- John von Neumann National Supercomputer Center,
   Princeton, New Jersey
- National Center for Supercomputing Applications (NCSA),
   University of Illinois, Champaign, Illinois
- Pittsburge Supercomputer Center, Pittsburgh, Pensylvania
- San Diego Supercomputer Center, University of California,
   San Diego, California
- Scientific Computing Division of National Center for Atmospheric Research, Boulder, Colorado (Eager, 1994, p.13).

The NSFnet was a high-speed backbone network to support education and research. The transmission lines of this backbone included telephone, fiber-optic, microwave, and satellite links. These transmission lines are data superhighways. Data travels from the backbone to mid-level network which route the data through their own systems. Then, data travels to users, including individual users, academic users, business, and government. For individual users, they can connect

through service providers and academic users can connect through local area-networks (Eager, 1994).

Because the purpose of NSFnet was to support education and research, it was not allowed to use the network for commercial purposes. In 1991, the Commercial Internet Exchange or CIX was created by a group of small commercial networks which allowed commercial use. Since then, commercial users could connect with each other quickly and legally. CIX raised up the growth of the Internet concerning commercial collaboration, technical supported by e-mail, pay-for-use databases (Savetz, 1994).

At present, the Internet which is a combination of the ARPAnet, NSFnet, and the CIX, and thousands of networks, will continue to grow and change to serve the needs of people, no matter what they use it for (Savertz, 1994).

# 2.3.1.4 The Internet in Thailand

The development of the Internet in Thailand began in 1987 when Songklanakarin University and Asian Institute of Technology or AIT set up dial-up e-mail connectivity to Melbourne University, Australia. Then, Chulalongkorn University connected with UUNET Technologies, sending and receiving information via the Internet online twenty-four hours. Next, National Electronic Computer and Technology Center or NECTEC connected computer networks of six educational institutions altogether. Those institutions included National Electronic Computer and Technology Center (NECTEC), Chulalongkorn University, Asian Institute of Technology (AIT), Songkhlanakarin University, Thammasart University, and Kasetsart University. Thisnetwork was called "ThaiSARN" or Thai Social/Scientific

Academic and Research Network (Tunsuthiwong, Punnachaiya & Punnachaiya, 1996, quoted in Suwannawaree, 2000, p.2).

Many of the educational institutions are members of ThaiSARN network. This network expands to primary level and secondary level schools according to the project of network for schools in Thailand or known as SchoolNet (Rohitsathian, 1999).

SchoolNet in Thailand was started in late 1995. The aim of SchoolNet was to provide Internet access to secondary schools throughout Thailand. Initially, this project was not successful because there was a weakness in the system, for example, the schools outside Bangkok had to spend high cost of distance phone calls to get connected (Kiattananan & Koanantakool, 1999).

Later, in 1996 or in the Kanchanapisek year (Golden Jubilee), NECTEC was assigned to carry out a grand project to celebrate 50<sup>th</sup> anniversary of His Majesty the King's accession to the throne. Therefore, the project of digital library containing information about His Majesty's life and work was carried out (Kiattananan & Koanantakool, 1999).

A nationwide "Intranet" was created for free access to this digital library. The success of the Kanchanapisek network helped to promote and create Thai language content on the Internet. At the end of 1997, the three important components of Thailand mass education programs including school awareness, Thai language content, and a nationwide access network were completed. These three components were integrated in 1998 to form the SchoolNet network.

In 1998, there was a new network which was an initiative of Her Royal Highness Princess Maha Chakri Sirindhorn. This network was called

SchoolNet@1509. It was designed to provide Internet access to 1,500 schools nationwide. SchoolNet@1509 was implemented by the cooperation of four government agencies consisting of NECTEC, the Telephone Organization of Thailand (TOT), the communication Authority of Thailand (CAT), and the Ministry of Education (MOE).

In 1999, <u>SchoolNet@1509</u> allowed public and private schools at primary or secondary levels to participate (Kiattananan & Koanantakool, 1999).

At present, the Internet Service Provider or ISP covers every part of Thailand. Educational institutions at the tertiary level and Thai government offices are linked to the Internet (Tatchayapong, 1998, p. 10-24, quoted in Suwannawaree, 200, p.2), Currently, the Internet is available in almost every big city in Thailand, especially where universities are located. People who can afford it can utilize the commercial Internet services that are available and growing throughout the country (Palasri, Huter, & Wenzel, 1999).

UniNet (Inter-University Network), inaugurated in 1997, is a higher education network administered by Office of Information Technology Administration for Educational Development, Ministry of University Affairs. It provides national and international education network services to enable research and development technologies to support all universities and institutions of higher education in Thailand. In order to promote international collaborations for optimizing educational researches and developments by employing the advantages of information technology, it prepared to expand these collaborative opportunities to pursue high performance network for enhancing its educational services and to develop advanced research and development communities for its members.

Moreover, it provides high performance network service and also maintain standard of education for all universities and institutions in Thailand by distributing distance learning services through Video Conferencing System (VCS) and creating lifelong learning materials such as courseware.

Furthermore, its optimize quality of education by providing reference databases for advancing our members' researches and developments.

# **UniNet Objectives**

- To set up information technology infrastructure to connect all universities/institutions and campuses over the country
- To develop self-study centers by providing electronic library databases, Internet, multimedia, video on demand, and other self-study material
- To develop social-learning and lifelong-learning systems by creating multimedia courseware, and providing knowledge databases and distance learning systems.
- To train teachers and assistants to be able to apply IT for educational development (Jenwikai, 2002)

#### **UniNet Members**

UniNet is a non-profit higher education network funded by government and operated jointly by universities/institutions. Under this charter, UniNet members came from public and private universities/institutes under Ministry of University Affairs, higher education institutions under Ministry of Education as

Rajabhat Institutes, Rajamangala Institutes of Technology and other higher education institutes from other ministry. Today, UniNet connects more than 200 institutions.

# 2.3.1.5 The Internet as a Teaching and Learning Tool

In addition to the communication benefits of the Internet, the Internet can also be used to retrieve and access information. The World Wide Web is therefore a virtual library at one's fingertips; it is a readily available world of information for the language learner. While the Internet offers numerous benefits to the language learner, a few such possibilities are examined here, in the context of language learning. Perhaps one of the most essential pedagogical principles of language teaching is one that emphasizes the study of language in a cultural context. The research, along with many other language instructors believes that language and culture are inextricable and interdependent; understanding the culture of the target language enhances understanding of the language. To this end, the Internet is a valuable resource to both language teachers and learners. As discussed previously, email on the Internet allows language learners to communicate with native speakers. In this manner, the Internet facilitates the use of the specific language in an authentic setting. The Internet can also be used to acquire information from language resources for a variety of purposes. For example, students can access current information from countries around the world. They can obtain geographical, historical, social/cultural, economic, and political information from the countries in which the target language is spoken. Students can read web versions of daily newspapers and same-day news reports from sources such as the French Embassy's gopher service, the daily Revue de Press (Armstrong & Yetter-Vassot, 1994). Such experiences can allow learners to

participate in the culture of the target language, which in turn can enable them to further learn how cultural background influences one's view of the world.

The Internet also serves as a medium for experiencing and presenting creative works. While students can peruse the information on the Net, they can also use it as a platform for their own work such as essays, poetry, or stories. Numerous public schools, for example, are making use of the World Wide Web for publishing student work which can be accessed by other web users. Students therefore become not only consumers of content, but in fact generate the content.

As Mike (1996) described, the use of the Internet has also been shown to promote higher order thinking skills. A language teacher, for example, may instruct learners to search for specific information. Searching the Web requires logic skills. Once information has been obtained, the results must be reviewed which requires scanning, discarding, and evaluative judgment on part of the learner. The information must be put together to make a complete and coherent whole which entails the synthesis process. Such an endeavor permits students to practice reading skills and strategies. The Internet also promotes literacy for authentic purposes, as stated previously. In addition to being a supplement to reading materials, especially current information, when students are exploring the Net, they are essentially exploring the real world. Such browsing or exploration can also lead to incidental learning as they encounter a variety of information in this way. Communication with native speakers furthers literacy development for authentic purposes, enables language learners to compare student perspectives on an issue, and allows them to practice specific skills such as negotiating, persuading, clarifying meaning, requesting information, and engaging in true-life, authentic discussion. Promotion of literacy also occurs within a social context. The interaction that results from the above situations can lead to cooperative projects and increased communication between students from all over the world, in turn leading to the development of social skills. Finally, use of the Internet can promote computer skills and the technical and conceptual experiences of using a computer.

Lastly, the Internet provides supplemental language activities which can provide students with additional practice in specific areas of language learning. These include reading tests and comprehension questions, grammar exercises, pronunciation exercises possible through the available multimedia capabilities, cloze tests, vocabulary exercises, and so forth. Students can search the Web for such sites, or teachers may recommend specific sites on the Web. Published lists are also available from various sources. For example, Paramskas (1993) offers a list of sites for both language teachers and language learners, some of which relate to issues of language learning, others which use language as a medium for discussion of culture or current affairs, and others which assist in locating native speakers.

# 2.3.1.6 The Internet Challenges

Up to this point in time, the above discussion has described some of the potential benefits of the Internet and how it can be used in the second or foreign language classroom. However, such a discussion would be incomplete without addressing the disadvantages or obstacles related to the use of the Internet in the language classroom. While the Internet and its various facets offer a great deal to the language learner, it is not without its problems. The nature of the Internet itself can be a disadvantage at times. When lines are busy due to many users, it may take time to access information or browse the Net and technical glitches themselves can lead to

frustration. Lack of training and familiarity on part of the teachers can make it difficult to implement the Internet in the language classroom. This requires that school administrators budget for training in this area. Foreign language teachers are especially anxiety prone to computers since they often have little experience with computers. For the most part, computers in schools are used for business or computer science courses. Costs related to training, as well as on-line costs of using a provider are issues that may interfere with implementing such a technology in schools, especially in schools that have little funding. Censorship may also be a concern to language programs and instructors. The Internet offers access to all types of issues and topics, some of which are unsuitable for children, and this in itself may result in various problems. While some precautions can be taken at the present time, they are not full proof by any means. Equity issues may also present difficulties when attempting to implement such technology in the classroom. As the commercial sector begins to assume a more prominent role in the Internet's infrastructure, rural and inner-city schools, already hard-pressed to provide Internet access, may find it less affordable. This is certainly discouraging for both language teachers and students in such educational settings (Mike, 1996). Many institutions such as these may also not have the computers or computing facilities necessary to implement such type of technology.

Despite these limitations and obstacles, it must be realized that the Internet's educational potential is immense. Although electronic, the Internet is an entity related to literacy - people still interact with it entirely through reading and writing. For this reason alone, the Internet is a technology that will, without a doubt, have significant implications for both teaching and learning. So what does this imply

for language teachers and learners? Teachers must become familiar with using the Internet and its various functions such as e-mail. They must also learn how to use specific search tools in order to access information, search for lesson plans, or material and ideas to supplement their lessons. Lastly, language teachers must learn now to transfer files from Internet sites to their own computer and vice versa. Obtaining information or literature on the Internet, either through the Net itself, through books, or by attending workshops and courses will further assist this process. To avoid facing the same difficulties or problems associated with use of the Internet, teachers can ask students to keep track of problems that arise during use. In essence, language teachers must take the plunge and approach the Internet as a learning experience themselves. The more enthusiastic and more knowledgeable language teachers are, the more successfully they can implement Internet in the language classroom. For the language learner, the Internet offers a world of information available to students at the touch of a button. While it must be recognized that the Internet cannot replace the language classroom or the interaction between the language teacher and student, if offers a vast amount of information and lends itself to communication possibilities that can greatly enhance the language learning experience.

Certainly at this point in time, several questions need to be asked to guide future research in this area. How can use of the Internet correspond to the communicative or pedagogical goals of language teaching? How will the Internet and its related facets assist language learners in functioning in the global community? What will the real impact of the Internet in foreign language classrooms be? How can the Internet be used more effectively along side the present language curriculum? While these questions have been examined to some degree, researchers and language

educators must further investigate and implement this technology to provide others with guidelines in this area.

Without a doubt we are in the center of a "monumental technological paradigm shift, one which will eventually change the way that all instructors teach and the way students learn" (Jensen, 1993). While technology should not take over the language classroom, it must be embraced in order to allow educators to do those things which they are unable to do themselves, or those which will improve what is currently being done in the classroom. As we approach the next century, it is essential that we make informed decisions about how the Internet can be successfully integrated into the language classroom. If we as educators do not rise to the challenge - who will?

#### 2.3.2 Internet-Based Instruction

Internet-based instruction is an increasingly popular method for delivering college courses. Internet-based instruction clearly has the potential to offer a rich and stimulating educational environment (Windschitl, 1998). The WWW provides both teachers and students with numerous learning opportunities by: allowing students to learn and develop at their own pace; enhancing writing and communication skills; developing higher-order problem-solving skills; and nurturing critical reflection (Peck & Doricott, 1994).

Several terms can be found relating language learning with the use of the Internet such as Internet-assisted language learning, Internet-based language acquisition, and Web-based language learning. Since the term, "Internet-based language learning" does not appear to have been used in the literature to this date it will be useful to define here on web-based instruction.

#### 2.3.2.1 Definition of Web-Based Instruction

Web-based instruction or WBI was defined by Khan 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 (Khan, 1997)

Web-based instruction, also called web-based training (WBT), was given a definition by Clark (1996) as, "Individualized instruction delivered over public or private computer networks and displayed by a Web browser" (p.1-2).

Relan and Gillani (1997) defined web-based instruction as the application of a Repertoire of cognitively oriented instructional strategies within a constructivist and collaborative learning environment, utilizing the attributes and resources of the World Wide Web.

Web-based instruction is a method of delivery instruction over the World Wide Web. Web-based instruction involves hypermedia element. This kind of instruction uses WWW pages to support educational activities ("Web-Based instruction," n. d.).

Fuchs and Szabo (1997) stated, "web-based instruction is instruction delivered either whole or in part on the World Wide Web. Materials created for this mode of instruction take advantage of the hypertext capabilities of the Web and/or communications features of the Internet" (p.1).

Fuchs and Szabo (1997) also explained that web-based instruction can be divided into three categories. These are stand-alone courses, web-supported courses, and web teaching resources. The first two categories involve whole courses whereas the third category deals with educational activities, experiences or

resources which could be part of a course. For stand-alone courses, materials and resources are accessed and delivered by the Internet. This kind of web-based instruction can take place on a campus where students are physically present. In web-supported courses, students and teachers can actually meet. Activities such as assignments, reading, computer-mediated communications are integrated into the course activity. For web teaching resources, the World Wide Web is used to offer materials that could be integrated into a large course or serve as a resource for an educational activity. These resources, for instance, can be texts, graphics, animations and communications.

Generally speaking web-based instruction is an innovative approach which takes advantage of the Internet and the World Wide Web, and the resources of the web are used to create a learning environment.

# 2.3.2.2 Features of Web-Based Instruction

Web-based instruction consists of interactivity, online searches, cross-cultural interaction, and is not restricted by time limits. Interactivity refers to students, teachers, or experts communicating among with each other, providing support, feedback, and guidance. Online-searches mean that students can find online resources to support course content and resources. Time independent refers to students' participating in this learning environment at their convenience. Cross-cultural interaction means that students and teachers can communicate with other people throughout the world to explore ideas, cultures, and civilizations (Web-Based Instruction," n.d.).

Web-based instruction is a powerful way to support a learning environment. There are several ways that web-based instruction can be used;

Firstly, it can be used for information resources, As we know, there are millions of potential WWW sites, therefore, these sites can be used to support student research, discovery, and exploration.

Secondly, web-based instruction can be used for supporting materials, assignments, lessons or course information. Students can access materials that teachers put in a central place or on the web site. For example, teachers create a workbook for a lesson, including text, graphics, links to other sites, teachers can convert this workbook so that it is part of the World Wide Web and students can access it. Also teachers can make all kinds of course and lesson information available.

Thirdly, complete lessons can be given on the web. Students can take lessons individually or in small groups. In this instruction, teachers can include lesson content, practice, feedback, and assessment.

Finally, complete courses can be offered through this kind of teaching. That means an entire class online or entire program can be taken by students. For this entire learning experience, teachers might not see their students at all ("Web-Based Instruction," n.d.).

As mentioned above, web-based instruction takes advantage of the Internet and the World Wide Web. The web offers many features for both learners and teachers. Web-based instruction can be seen as an integral part of instructional activities.

# 2.4 Theories which Technology in Education and in English as a Foreign Language are Based on

# **2.4.1 Constructivism Theory**

Constructivism is a theory of knowledge and learning (Fosnot, 1996 quoted in Liaw, 2001). The constructivist believes that knowledge is not transmitted by the teacher to the students. Rather, the teacher helps the learners to construct their own meaning (Jonassen, Peck & Wilson, 1999, quoted in Duhaney, 2001).

It is believed that meaning is imposed on the world rather than existing in the world independently of us (Duffy & Jonassen, 1991, quoted in Boyle, 1997).

Jonassen et al. (1993) stated:

"The most important epistemological assumption of constructivism is that meaning is a function of how the individual creates meaning from his/her experiences. What we know is internally generated by the individual rather than received from any external source" (p.232).

Similar ideas presented by Mcdonough (2001) is that knowledge is constructed by the individual, as she said,

"Constructivists believe that knowledge is *constructed* by the individual rather than *transmitted* to the individual. People make sense out of whatever they experience by constructing their own meaning based on what they already know, and how they perceive the one individual cannot fully understand anything in exactly the same way that another individual understands it. Meaning making, Jonassen (1999) explains, is at the core of constructivist philosophy" (p.77-78).

From this perspective, teachers should try to create classroom conditions in which learners actively constructivist learning environments. These environments are: Firstly, providing multiple representations of reality. Secondly, emphasizing on knowledge construction. Thirdly, placing the focus on authentic tasks in a meaningful context. Fourthly, encouraging thoughtful reflection on experience. Fifthly, enabling context dependent and content-dependent knowledge construction. Lastly, supporting collaborative construction of knowledge through social negotiation.

There are some general principles about learning which are derived from the theory of constructivism. The principles are as follows.

Firstly, learning is not the result of development but learning is development itself. This means that invention and self-organization on the part of the learner is needed. Put simply, learners should be allowed to raise their own questions, generate their own hypothesis and test them for viability.

Secondly, disequilibrium facilitates learning. Error need to be reviewed, not avoided. Learners should be offered challenging, open-ended investigations in realistic and meaningful contexts.

Thirdly, reflective abstraction is the driving force of learning. Allowing reflection time through journal writing, representation in multi-symbolic form, and discussion of connection across experiences may facilitate abstraction.

Lastly, dialogue within a community engenders further thinking. The classroom needs to be seen as a community so that learners can engage in activity, reflection, and conversation (Fosnot, 1996, quoted in Mcdonough, 2001).

In constructivist learning theory, modern technology offers opportunities to be exploited in language learning. This approach now directs much of

technology based teaching and learning environment, the materials must engage the learners and support cognitive processing leading to knowledge construction (Reeves, 1993, quoted in Oliver, Omari & Herrington, 1998). The materials, such as graphical or visual aids, are seen as valuable external aids to support their internal activity (Fosnot, 1984, quoted in Brown & Kerr, 2000).

As pointed out by Mcdonough (2001), the technology which supports constructivist learning theory is the use of the World Wide Web. For example, in one exercise, the student answers multiple choice questions which are comprehension checks on vocabulary. If the student answers correctly, a piece to a puzzle appears. If all the questions are correctly answered, the completed puzzle becomes a picture of something authentic within the target culture. That picture is a link to relevant sites on the World Wide Web, so the learners may click on the picture and go exploring topics to the target culture. This is the opportunity for discovery learning, constructing one's own meaning at one's own pace.

As it is seen that technology, especially computers, become a powerful tool if it uses teaching strategies with a solid theoretical basis. Constructivist theories of learning can be used to show that technology can be a useful tool in language learning and teaching (Duhaney & Duhaney, 2000).

In conclusion, constructivism emphasizes the learner rather than the teacher. Constructivist views learners learning by adding new information to what they already know. It is believed that learners learn best when they are involved in the process of understanding, and the instructional materials have to engage the learners and enhance the process of knowledge construction.

#### 2.4.2 Autonomous learning

As the theory and practice of language teaching enters a new century, the importance of helping students become more autonomous in their learning has become one of its more prominent themes. The idea of autonomous often provokes strong reactions. To its critics, autonomy is an idealistic goal and its promotion a distraction from the real business of teaching and learning languages. To its advocates, autonomy is a pre-condition for effective learning; when learners succeed in developing autonomy, they not only become better language learners but they also develop into more responsible and critical members of the communities in which they live.

Autonomy, or the capacity to take charge of one's own learning, is seen as a natural product of the practice of self-directed learning, or learning in which the objectives, progress and evaluation of learning are determined by the learners themselves (Benson, 2001).

According to the definition given by Schwartz (as cited in Holec, 1981), autonomy is the ability to assume responsibility for one's own affairs. In the context with which we are dealing, the learning of languages, autonomy is consequently the ability to take charge of one's own learning. This ability is not inborn but must be acquired either by natural means or by formal learning, ie in a systematic, deliberate way.

According to Dickinson (1987), autonomy describes the situation in which the learner is totally responsible for all of the decisions concerned with his learning and the implementation of those decisions. In full autonomy there is also independent of specially prepared materials.

Autonomy and independence are used more or less as synonyms in language teaching. Both terms imply that students take a greater degree of control over the content and methods of learning than is usual in classroom language learning contexts. Taking control over learning also implies that students have or develop the capacity to learn independently and that the institutional context in which they are learning allows them to do so. It has been claimed that all learning is ultimately autonomous learning in the sense that it depends on the efforts of the learners themselves. Allowing students greater freedom in learning and helping them to become more aware of their capacities for autonomy may therefore enhance motivation and the quality of learning. Autonomy is not a synonym of 'learning on your own' or 'self-study'.

Although autonomy was associated with the concept of individualization in the early 1980s, most researchers now prefer to emphasize interdependence as a dimension of autonomous learning. The term 'self-direction', or 'self-directed learning', is often used in connection with autonomy. It implies that learners study under their own direction rather than under the direction of another. Self-directed learning does not necessarily imply 'learning without a teacher', but in self-directed learning the teacher's may become more that of a helper or counselor.

It seems that there is a direct relationship between teacher and student readiness for learner independence: the more preparation that is done, the better equipped the students are to cope with learner independence and the more secure teachers will feel that they can loose the reins and let the students go free. The professional conscience is thus salved, but neither a 'guilt trip' nor 'ego panic' is necessary if we remember that the teacher's role does not become superfluous when

learners become autonomous. The teacher is still necessary as counselor, adviser and expert and these roles are more, rather than less demanding, open-ended and deeply committing as they are.

The attitudinal or personality implications of letting go are clearly important for both learners and teachers. For learners, learner independence or learning maturity cannot be achieved suddenly, after one session of preparation. Preparation should be built into the learning program, so that cognitive and metacognitive awareness is fostered in, rather than foisted onto learners. The length of time needed for this depends on the individuals concerned: their previous learning experience, age, language level, personality, social level and cultural background. However, we should beware of falling into the trap of 'cultural camouflage': what may seem to be averse to a culture, and innovatory in terms of educational experience can nevertheless be implemented provided the necessary adjustments to role are made slowly, learners' awareness of the process they are undergoing is awakened and acceptance of change is agreed. Also, only when learners have been successful in learning independently in small ways will they be able to grow to full learner independence with confidence.

# 2.4.3 Instructional Systems Design

Instructional Systems Design (ISD) is a process for developing instruction. Many models exist, ranging from simple to complex. All provide step-by-step guidance for developing instruction. The ISD approach acknowledges a relationship among learners, instructors, and materials. Instructional designers develop materials using an iterative process to relate the three components optimally. Developers who use the instructional systems design (ISD) model understand how

learners, instructors, and materials are related and that they are dependent on one another. Changes to any one of these components affect the entire system and the outcome of instruction. Several models are suitable for the design of instruction of course units and lessons.

# 2.4.3.1 Dick and Carey Model

One widely known model is the Dick and Carey (1985) model presented in figure 2.4.

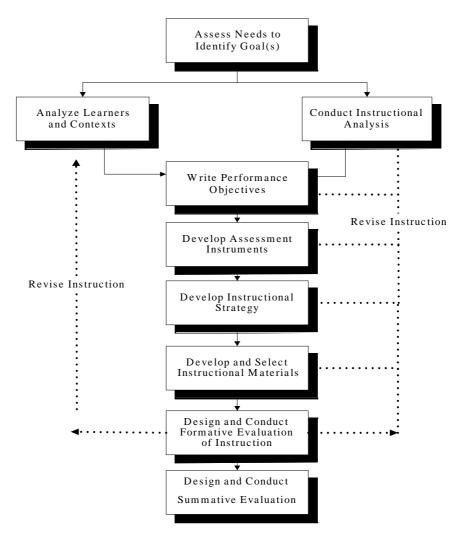


Figure 2.4: The Dick and Carey Systems Approach Model for Designing Instruction (Dick & Carey, 1985, pp. 2-3)

Figure 2.4 depicts instructional design as a looping process. It requires the designer to revisit each step whenever there are changes to the audience, purpose, environment, or other parameters of the project. It further illustrates what take place at each step and the iterative nature of the ISD model. The stages of the ISD model are discussed below.

### (1) Assess Needs to Identify Goal(s)

The first step in the model is to determine what it is that you want learners to be able to do when they have completed your instruction. The instructional goal may be derived from a list of goals, from a needs assessment, from practical experience with learning difficulties of students, from the analysis of people who are doing a job, or from some other requirement for new instruction.

A needs assessment is a process whereby data is gathered to establish whether the web-based instruction is required. To determine whether or not it is necessary, ask questions to discover if poor learner performance is caused by a gap in skills or knowledge. Consider factors such as a poor learning environment, a lack of motivation, or the absence of incentives.

# (2) Conduct Instructional Analysis

After you have identified the instructional goal, you will determine step-by-step what people are doing when they perform that goal. The final step in the instructional analysis process is to determine what skills, knowledge, and attitudes, known as entry behaviors, are required of learners to be able to begin the instruction. A diagram will be produced that depicts the relationships among all of the skills that have been identified.

#### (3) Analyze Learners and Contexts

In addition to analyzing the instructional goal, there is a parallel analysis of the learners, the context in which they will learn the skills, and the context in which they will use them. Learners' current skills, preferences, and attitudes are determined along with the characteristics of the instructional setting and the setting in which the skills will eventually be used. This crucial information shapes a number of the succeeding steps in the model, especially the instructional strategy.

## (4) Write Performance Objectives

Based on the instructional analysis and the statement of entry behaviors, you will write specific statements of what the learners will be able to do when they complete the instruction. These statements, which are derived from the skills identified in the instructional analysis, will identify the skills to be learned, the conditions under which the skills must be performed, and the criteria for successful performance.

#### (5) Develop Assessment Instruments

Based on the objectives you have written, develop assessments that are parallel to and measure the learners' ability to perform what you described in the objectives. Major emphasis is placed on relating the kind of behavior described in the objectives to what the assessment requires.

## (6) Develop Instructional Strategy

Based on the information from the five preceding steps, identify the strategy that you will use in your instruction to achieve the terminal objective. The strategy will include sections on pre-instructional activities, presentation of information, practice and feedback, testing, and follow-through activities. The strategy will be based on current theories of learning and results of learning research, the characteristics of the medium that will be used to deliver the instruction, content to be taught, and the characteristics of the learners who will receive the instruction. These features are used to develop or select materials or to develop a strategy for interactive classroom instruction.

## (7) Develop and Select Instructional Materials

In this step you will use your instructional strategy to produce the instruction. This typically includes a learner's manual, instructional materials, and tests. (When we use the term instructional materials we are including all forms of instruction such as instructor's guides, student modules, overhead transparencies, videotapes, computer-based multimedia formats, and web pages for distance learning. We intend the term materials to have this broad connotation.) The decision to develop original materials will depend on the type of learning to be taught, the availability of existing relevant materials, and developmental resources available to you. Criteria for selecting from among existing materials are provided.

(8) Design and Conduct the Formative Evaluation of Instruction
Following the completion of a draft of the instruction, a series
of evaluations is conducted to collect data that are used to identify how to improve the
instruction. The three types of formative evaluation are referred to as one-to-one
evaluation, small-group evaluation, and field evaluation. Each type of evaluation
provides the designer with a different type of information that can be used to improve
evaluation of existing materials or classroom instruction.

## (9) Revise Instruction

The final step (and the first step in a repeat cycle) is revising the instruction. Data from the formative evaluation are summarized and interpreted to attempt to identify difficulties experienced by learners in achieving the objectives and to relate these difficulties to specific deficiencies in the instruction. The line in the figure1 labeled "Revise Instruction" indicates that the data from a formative evaluation are not simply used to revise the instruction itself, but are used to reexamine the validity of the instructional analysis and the assumptions about the entry behaviors and characteristic of learners. It is necessary to reexamine statements of performance objectives and test items in light of collected data. The instructional strategy is reviewed and finally all this is incorporated into revisions of the instruction to make it a more effective instructional tool.

# (10) Design and Conduct Summative Evaluation

Although summative evaluation is the culminating evaluation of the effectiveness of instruction, it generally is not a part of the design process. It is an evaluation of the absolute and/or relative value or worth of the instruction and occurs only after the instruction has been formatively evaluated and sufficiently revised to meet the standards of the designer. Since the summative evaluation usually does not involve the designer of the instruction but instead involves an independent evaluator, this component is not considered an integral part of the instructional design process per se.

#### **2.4.3.2 Kemp Model**

Kemp (1985) introduces the ten elements of the instructional design process necessary for a comprehensive design plan. These ten elements should receive attention in a comprehensive instructional design plan:

- (1) Assess *learning needs* for designing an instructional program; state *goals*, *constraints*, and *priorities* that must be recognized.
- (2) Select *topics* or *job tasks* to be treated and indicate *general purposes* to be served.
- (3) Examine *characteristics* of *learners* or *trainees* which should receive attention during planning.
- (4) Identify *subject content* and analyze *task* components relating to stated goals and purposes.
- (5) State *learning objectives* to be accomplished in terms of subject content and task components.
- (6) Design teaching / learning activities to accomplish the stated objectives.
- (7) Select *resources* to support instructional activities.
- (8) Specify *support services* required for developing and implementing activities and acquiring or producing materials.
- (9) Prepare to evaluate learning and outcomes of the program.
- (10) Determine preparation of learners or trainees to study the topic by *pretesting* them.

The ten elements of this instructional design plan can be illustrated by the diagram shown in figure 2.5.

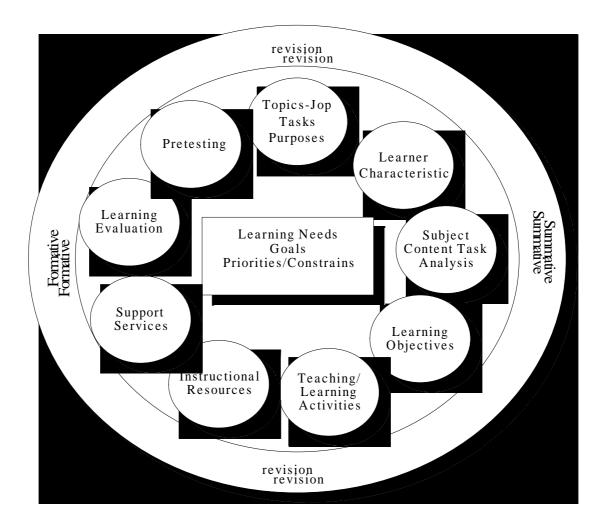


Figure 2.5: The ten elements of the instructional design process (Kemp, 1985, p.11)
Klausmeier and Ripple Model

Klausmeier and Ripple (1971) provide the framework to conduct a day's lesson, a unit of study, or a semester or year of work. Eight main components of the system have been identified in terms of the primary responsibilities of the teacher, or the team, or the students and instructional staff cooperatively. The amount of student participation in the various operations of the system varies according to the objectives to be achieved and the maturity of the students. Figure 2.6 outlines an instructional system.

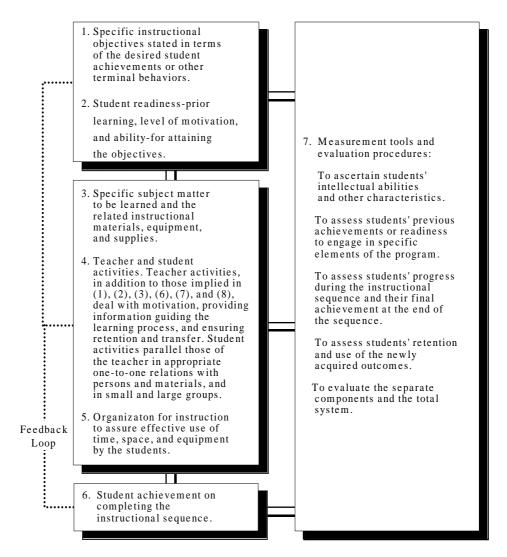


Figure 2.6: Framework of an instructional system (Klausmeier & Ripple, 1971, p. 11)

#### 2.4.3.3 Gerlach and Ely Model

Gerlach and Ely (1980) discussed the ten elements of systematic teaching and learning. This model is an attempt to portray graphically a method of systematically planning instruction. It is a guideline-a roadmap-and should be used as a checklist in planning for teaching. It shows the totality of good teaching-learning, even though it does not portray the fine details of each component. It shows the relationship of one element to another, and it offers a sequential pattern that can be

developed into a plan for teaching. Each of the elements in the model is illustrated in figure 2.7.

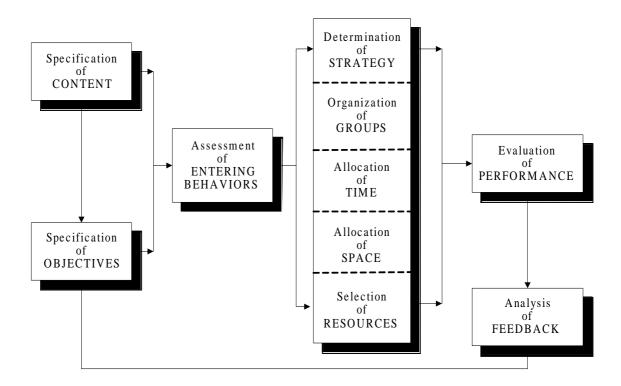


Figure 2.7: The ten elements of systematic teaching and learning (Gerlach & Ely, 1980, p.11)

# 2.5 Previous Research Studies on Internet-Based Instruction in TEFL and TESOL Contexts.

Many of the initial studies of new technologies in education were directed towards the web-based learning environment. The primary purpose of this section is to describe a survey of research of learning on web-based instruction carried out by different researchers in TEFL and TESOL contexts.

As we know the World Wide Web (WWW) gives opportunities to access powerful sources of information which can be used for teaching and learning. Such powerful sources can be used and developed to enhance the learning environment. This can be supported by the study of Wang (1998) Wang studied the learner control with advice in web-based learning environment. The research was carried out with undergraduate students at the National Taiwan Normal University in Taipei, Taiwan. The research questions were:

- (1) whether learner control with advice would affect an English as foreign language distant learner's task performance in a web-based learning environment;
- (2) whether a distant learner's prior English skills would affect task performance under learner control with advice;
- (3) whether a distant learner's preference toward hypermedia elements could be the major effect to influence performance under learner control with advice in a web-based learning environment.

The research finding indicated that the distant learners' scores improved significantly in both web-based learning methods. However, the score of the learner control with advice group was significantly higher than another group. A distant learner's prior English skills did not significantly affect task performance under learner control with advice. Moreover, a distant learner's level of preference toward hypermedia elements did not significantly affect task performance in a web-based learning environment.

Zhuo (1998) examined the relationships among hypermedia-based instruction, cognitive styles, and teaching subject-verb agreement to sixteen adult ESL learners to find an effective way to teach grammar. It was found that the hypermedia-based instruction was very effective for grammar teaching and learning. However, there was

a significant difference related to learning time of the cognitive style groups and a significant two-way interaction between cognitive style and treatment.

Kitchen and Mcdougall (1999) conducted a study of students' perceptions of the educational value of collaborative learning when using the Internet for course delivery with twenty six students from both Master and Doctoral programs. The results of the study showed that although the students enjoyed the convenience and opportunities for collaboration, a number of dissatisfactions were expressed concerning the instructional strategy and the delivery medium.

AL-Arfaj (2001) examined the perception of Saudi college students towards distance WBI. Specifically, the perception of the students, male and female enrolling in King Faisal University (KFU) is examined. The instrument used was the Students' Perception Towards Distance WBI (SPTDWBI) questionnaire, developed by the researcher. A descriptive analysis was used to measure the students' perception. A two-way analysis of variance (2-Way ANOVA) design was implemented to examine the difference between the students' perception based on their gender and college of study. Also, a two-way analysis of covariance (ANCOVA) was also implemented (the effect of students' computer experience is controlled). A qualitative analysis was also used to perceive the expected advantages and disadvantages of distance WBI. The findings of this study indicate that the students' perception towards distance WBI is positive. Using both ANCOVA and ANOVA designs, a small but statistically significant difference is found between the perception of male and female students in favor of female students. No significant difference is found among the perceptions of the students based on their college when 2-Way ANCOVA is used. But, when 2-Way ANOVA is used, a small but statistically significant difference is detected in favor of the College of Management over the College of Agriculture. The majority of the students believe that distance WBI is efficient, is effective, is convenient, expands learning opportunities, includes huge information with high quality, increases isolation, and contains many technical problems. Few of them think that it is not efficient, is not applicable for all courses, is time wasting, allows for building new relationship, harms the health, allows for bad use of the Internet, and is based on English language. Slightly more than half of them believe that it is cost effective, but the other half believes that it is not cost effective. Several students feel that before taking a distance WBI course, many conditions must be met, such as a high level of self-motivation and discipline, and good computer and Internet skills for both instructors and students. Owning and using a computer, as well as accessing the Internet from home, are found to positively influence the perception towards distance WBI. The female students who agreed to enroll in distance WBI believe that it would not be in conflict with their family responsibilities; and they would feel more private. The male students who agreed to enroll in distance WBI think that it would not be in conflict with their work responsibilities; and it would be cost effective for them by minimizing the expenses of their travelling, housing, daily transportation, etc. However, the male students who said they would not enroll in distance WBI think that it would not be cost effective for them because they would be responsible for purchasing a computer and the Internet connection and telephone fees.

Handy (2000) conducted a study focused on an undergraduate honors English class that used computer-supported collaborative learning (CSCL) in an online virtual environment. The purpose was twofold: (1) to provide an in-depth case study of Internet-based CSCL and (2) to develop a grounded theory to describe changes in

teacher and student roles in a CSCL environment. Interview and observational data, online writing assignments, class handouts, and photographs were analyzed according to qualitative methods and with reference to Brandon and Hollingshead's (1999) model for CSCL. Students collaborated using the Speakeasy Studio and Café, online software developed by the university to assist faculty in making classes more interactive. The Studio simulates a café environment that invites relaxed conversation. During threaded discussions, students responded to online instructor prompts and peer responses, posted written papers, and provided one another with suggestions to improve their writing. With reference to Brandon and Hollingshead's CSCL model, students reported increases in course-related knowledge and group- and technology related skills, the formation of positive relationships with other students, and overall satisfaction with the CSCL. The changing roles of students and instructor during the implementation of CSCL are explained through the grounded theory. In general, the instructor's role evolved from "director" to "facilitator" according to three stages. During the first stage, Thinking It Through, the instructor focused on preparing the CSCL environment. During the second stage, Getting Out of the Way, the instructor established classroom routines, helped students become comfortable with CSCL, and encouraged collaboration in the online environment. During Not Really Necessary, the third stage, students took increasing responsibility for their learning, and the instructor facilitated student-designed activities. Recommendations for practice address access to computers and the Internet, appropriate software, and training for instructors in creating CSCL environments. Suggestions for further research focus on the preparation of instructors who have successfully implemented CSCL, the use of CSCL with a "general" (rather than honors) student population, and courses that are taught in a totally online environment.

The students' participation in whole-class, face-to-face discussions and in World Wide Web-based bulletin board discussions in a TESOL teacher preparation course titled Methods of Teaching Second Languages was investigated by Kamhi-Stein(2000). The participants in this study were twenty students enrolled in Methods of Teaching Second Languages. Participation patterns and attitudes toward the web-based discussion were identified through quantitative and qualitative analyses. The research results revealed that the students contributed a substantially larger number of turns in the web-based bulletin board interactions than the instructor did, and the students also had positive attitudes toward web-based bulletin board discussions. The results appeared to indicate that the integration of web-based instruction helped future ESOL teachers develop knowledge through collaboration while increasing the growth in their experience in learning through technology.

Suwanbenjakul (2002) conducted a study of the development of web-based instruction on relative clauses for Matayomsuksa V students at Kham-sakaesaeng School, Nakhon Ratchasima. The purposes of the study were 1) to develop the web-based instruction entitled relative clauses, 2) to compare students' English learning achievement of both experimental group and control group, 3) to explore students' attitudes toward learning through web-based instruction. The samples were 80 students selected from Matayomsuksa V students who learned English 13(E019) in the first semester in the academic year 2002 at Kham- sakaesaeng School. They were divided into the experimental group and the control group. After giving a pre-test, the experimental group was taught by web-based instruction whereas the control group

was taught by the teacher's manual. After that, both groups were asked to do a posttest. For the experimental group, a classroom observation and attitude questionnaires were administered. The findings were as follows:

- (1) The efficiency of the web-based instruction developed was 83.33/80.13.
- (2) The English learning achievement of students in the experimental group was higher than those of students in the control group with statistical significant differences at the level 0.01.
- (3) Students' attitudes toward learning through the web-based instruction were positive.

Andreatta (2003) examined the influences of three forms of affective feedback (no affective feedback, supportive language, and supportive language with emoticons) on student satisfaction and retention in community college web-based courses that used text-based feedback. A quasi-experimental in situ methodology was used with a sample of 109 students enrolled in actual web-based instruction. Pre- and post-treatment surveys were used to collect the data from students via the Internet. The differences between means for the variations in affective feedback on student satisfaction and student retention did not reach statistical significance. The results of stepwise multiple regression analyses to examine the interrelationships among eight predictor variables (type of affective feedback, computer and Internet self-efficacy, external feedback propensity, internal feedback propensity, internal feedback ability, gender, native English language, and ethnicity) and the variables student satisfaction and retention, revealed significant predictors (external feedback propensity, type of affective feedback, internal feedback ability, gender) for student satisfaction. The results of ancillary analyses to examine sub-group differences suggested that white

and male students, and students with high external feedback propensity and high computer and Internet self-efficacy, were more influenced by supportive language affective feedback than the other two feedback treatments. Results also suggested that students who had previous successful experience with web-based instruction were more positively affected by the inclusion of affective feedback than students who had no prior experience.

Homan (2003) investigated whether a difference exists between traditional and web-based modes of instruction for English Composition I. Identical objectives were communicated through an identical course schedule to one web-based and one traditional section of the course. All course information, activities, and assignments were delivered to the web-based class through an online instructional platform and the traditional class through handouts, PowerPoint presentations and small and large group discussion. Data were collected from pretest and posttest essays composed in a controlled environment. Each essay was read and scored by four evaluators using the department's standard criteria and the data were subjected to two dependent t-tests, one for each group. This process indicated that both groups improved significantly; therefore the hypothesis was supported which stated that significant pretest to posttest writing improvement would exist in the web-based as well as the traditional classroom.

Liu (2003) conducted a study of an instructional design theory for teaching freshman English in a Hybrid Web-based instruction course in Taiwan. The purpose of the study was to develop a tentative instructional design theory for EFL instructors to teach English to Taiwanese first-year undergraduate learners in a hybrid WBI course. The researcher utilized the broad framework of instructional design theory to develop guidelines for teaching EFL in a hybrid WBI course and used the formative

research methodology to collect and analyze data to refine the guidelines in the theory in a five-stage process. The results of the expert review indicated that the hybrid WBI course approach was likely to be an appropriate way for teaching Freshmen English in Taiwan.

Bartoshesky (2004) compared how the variables--years of experience, ease of locating, technological knowledge, technological access, and departmental recommendations--influenced post-secondary language teachers' use of Web-based LTMs and ATLMs. The sample included instructors of English for Speakers of Other Languages (ESOL), Commonly Taught Languages (CTL) and Less Commonly Taught Languages (LCTL). A negative correlation occurred between ESOL instructors' hours of Web use and access to the Web. Positive correlations were found between LCTL teachers' hours of Web use and ease of locating materials, technological knowledge and Web access. These results indicate that several factors influence language teachers' adoption of Internet-based materials. These findings could help determine which factors should be studied further in language-specific and language learning area contexts. This study also examined preliminary data on how these language educators integrate Web-based materials into their instruction. Across groups, most of the participants reported using LTMs and ATLMs to teach reading. Many ESOL participants in this sample reported using Internet-based materials to teach writing, speaking, vocabulary and pronunciation whereas more CTL and LCTL participants reported using Web-based materials to teach culture. Another preliminary section identified some instructional resources that could help language instructors find and use Web-based materials more effectively and efficiently. Language teachers across groups expressed interest in annotated lists of language education websites.

Furthermore, many of the CTL and LCTL participants would consider instructional websites useful. These findings suggest a need for further research on how teachers integrate Internet-based materials into instruction and how professional development resources could enhance teachers' use of Web-based materials.

Buck (2004) identified how field dependence-independence learners differ and how dominant mediation or cognitive abilities differ in performance, completion rates, navigation styles, and a sense of "becoming lost" in a secondary education nonlinear hypertext modular distance learning environment. A total of 149 secondary education AP English students were tracked over 4 weeks. Multiple measures of subject performance, demographics, and situational factors were made by means of Webbased surveys, Embedded Figures Test (EFT), Gregorc Style Delineator (GSD), instructional lessons, and examinations. This study revealed that between the field dependence (FD) and the field independence (FI) learners, as defined by the EFT, there were no significant differences in the group means for module quizzes or module scores, in the group count for module completion/noncompletion, nor in either their navigation styles, or in there being a sense of becoming lost. Additionally, similar results were found between the dominant cognitive ability groups, as defined curriculum provides sufficient flexibility in construction and presentation, allowing diverse learning styles to become less of an influencing factor in performance, completion rates, navigation styles, or students developing a sense of becoming lost. For researchers and educators using web-based distance learning delivery systems, the findings may lead to greater control of time, location, rate of instruction, online data collection, duration, and cost.

Chen and Okamoto (2004) investigated the learning effectiveness of a webbased course called Academic English for acquisition of English for academic purposes (EAP). The main focus of the study was to examine the interactivity dimension of the course (i.e., the form, function and impact of interactions in the course) based on our communication-oriented instructional design framework. The assumptions underlying this research are that L2 (second language) interaction is substantial for language construction and reconstruction. In the study, twenty university level ESL students participated in this experiment. They were randomly assigned to two groups: a controlled group and an experiment group with interpersonal task and infra-personal task treatments, respectively. The optionality of interaction for each group depends on different task treatments. Statistical analyses revealed no significant effect of treatments on either comprehension or general L2 development, but significant differences were found with respect to language interaction for task completion under different task treatments. Further research is needed to examine the notion of self-repair in students' production in target language in this course.

Huffman (2005) identified the obstacles and barriers that community college faculty and Latina/Latino students face in Web-based teaching and learning at their campuses. Sought was an understanding of the experiences of faculty and students as they move from a traditional to a Web-based teaching and learning environment. The study found that Latina students agreed with online learning as an option to traditional courses, but preferred the land-based courses mostly due to their personal and cultural attitudes. The study also presented data that supported the absence of ESL and English entry-level courses at three Northern Community colleges was due to faculty

members' limited knowledge and access to technology that would allow for real-time visual and aural online environments for this special population. The data obtained from this study may help faculty and educational institutions to understand the special needs of populations, such as non-native speakers of English, as they begin to develop online programs for language minority, at-risk student populations. The study found that the implementation of an effective online learning program for Latinas and Latinos is critical for higher education access and completion of the most rapidly growing special population in the country today.

Takahashi (2005) identified and described the perceptions of Japanese and non-Japanese college English language professors on their professional preparation and teaching characteristics in Japan. The participants of this study were selected from undergraduate Humanities departments with an introductory letter to professors currently teaching English in Japan explaining the purpose of the study. Data collection for this study was accomplished through a questionnaire and an interview. This study sought to identify participants' (a) professional preparation, (b) teaching characteristics on curriculum practices, delivery of instruction, and instructional teaching strategies, and (c) challenges and issues in teaching English at the college level in Japan. Findings of the study revealed few differences among the responses of Japanese and non-Japanese participants. There were 5 main findings of the study: (1) Participants showed a diversity of educational background, educational degrees, and English language preparation. Thirty-two percent of non-Japanese participants have worked outside Japan as an EFL/ESL teacher, while Japanese participants have only taught in Japan as an EFL teacher. Eighty-five percent of the Japanese participants have lived in a country where English is an official language. Forty percent of the

Japanese participants have received either a master's degree or a doctorate abroad, whereas 320 of non-Japanese participants received a master's degree abroad. (2) Regarding curriculum practices, although both groups agreed on the preference for developing own teaching materials, 840 of non-Japanese participants responded that they actually developed their own materials. Japanese participants utilized students' favorite books or articles for textbooks or supplementary readings. In addition, Japanese participants used more Internet-based activities than non-Japanese participants. (3) "Guided reading" and "dictation" were chosen as a more frequently used instructional strategy by Japanese participants. These strategies are related to the Japanese traditional method of the "grammar-translation" approach. (4) Both groups of participants identified "Japanese students' lack of motivation to learn English" and "lack of practices of the English language" as challenging issues in their teaching. Interviewed participants mentioned that there is a need for Japanese professors to use more English in their teaching. (5) Sixty-three percent of participants agreed that students need more exposure to good English in order to increase the scoring at the Test of English as a Foreign Language (TOEFL).

From the research presented above, it can be seen that web-based instruction has been used not only for distance learning, but also for supporting traditional classroom instruction. English teachers created web-based learning lessons as a medium to deliver the instruction. The Internet and the World Wide Web were made use of lesson delivery as well as for hypertext resources that support learning English. As can be seen, most of the research finding showed that learners' performance in web-based learning environment was developed and learners' attitudes toward web-based instruction were generally positive.

# 2.6 Summary

This chapter first takes a look at the details of technology in education and English as a foreign language, theories which technology in education and in English as a foreign language are based on and conceptual frameworks of the study. Lastly, research on web-based instruction in TEFL and TESOL contexts is presented.

## **CHAPTER 3**

## RESEARCH PROCEDURE

## 3.1 Introduction and Purpose of the Chapter

The purpose of this chapter is to describe how the study will be carried out. It explains the research method, population and samples, and research design of the present study. This is followed by a description of variables and instruments. The construction and efficiency of research instruments is also presented. The last part of this chapter deals with how the data obtained are analyzed and interpreted.

## 3.2 Research Methodology

The present study was an experimental research with both quantitative and qualitative data analysis. The study included two groups: the control, and experimental group. The formal received tutoring from the face-to-face method based on the content of Remedial English, whereas the latter received tutoring via the Internet-based instruction on Remedial English. Prior to the experiment, both groups were measured in their learning achievement by a pre-test. After the experiment was conducted, a post-test was given to all subjects. For the experimental group, the questionnaires and semi-interview were administered. Then, the data obtained were analyzed to find out whether the two groups were significantly different.

## 3.3 Population and Samples

The population and the samples for this study were 60 first-year students from engineering field at Suranaree University of Technology (SUT), Nakhon Ratchasima, Thailand. Most of them were from around Nakhon Ratchasima, and the rest were from other parts of the country. These students had low English proficiency due to their low scores of the English Entrance Examination. They were studying English 1 course in the third trimester of the 2005 academic year and some who failed English 1 course in trimester 1 and 2 and they have to pass it before they further to the next course. The samples were divided into two groups: the experimental group and control group. The experimental group consisting of 30 students received tutoring via Internet on Remedial English course, whereas the control group consisting of 30 students received tutoring from the face-to-face method based on the content of Remedial English

Group	Pre-test	Experiment	Post-test
E R	$T_1$	X	$T_2$
C R	$T_1$	-	$T_2$

X = Treatment

R = Random Assignment

E = Experiment Group

C = Control Group

 $T_1$  = Pre-test

 $T_2$  = Post-test

## 3.4 Research Design

Both control and experimental groups were instructed by the researcher in the third trimester of the academic year 2005. The control group was traditionally taught by a teacher's lesson plan, whereas the experimental group was taught by the Internet-based instruction. In order to make sure that the samples could use computer and the Internet, there was 2-hour training on how to use the computer and the Internet for the experimental group. Since the researcher intended to explore students' attitudes toward learning by the Internet-based instruction, the questionnaires and semi-interview were administered to the experimental group. The research design can be illustrated as follows.

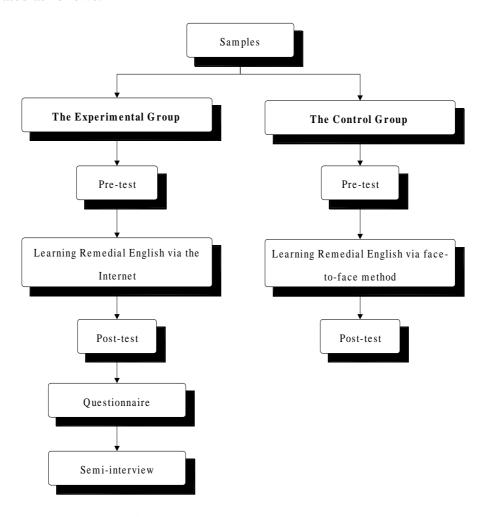


Figure 3.1: Research Design

#### 3.5 Variables

As shown above, the theoretical framework indicated two main types of variables; independent and dependent variables.

## 3.5.1 Independent variables

The independent variables included the two types of methods of instruction; an instruction based on face-to-face method, and an Internet-based instruction method.

#### 3.5.2 Dependent variables

The dependent variables which could be affected by the independent variables were students' English learning achievement and attitudes toward learning through the Internet-based instruction.

#### 3.6 Instruments

The instruments used to accomplish the goal of the study are as follows:

#### 3.6.1 An Instructional System Plan (SREO Plan)

An instructional system plan on Remedial English via the Internet (SREO Plan) constructed by the researcher was employed to develop the Remedial English lessons via the Internet.

#### 3.6.2 An Evaluation Form of SREO Plan

An evaluation form of SREO Plan was originally created by the researcher as there has been no study related. This form together with the SREO Plan was sent to the experts in Instructional Systems Technology and English Language Teaching field to evaluate the plan designed by the researcher before the plan

implementation. The information gathered from the evaluation was used to revise the plan.

#### 3.6.3 Lesson Plan

The lesson plan with the content of Remedial English was employed to the samples in the control group after the pre-test.

#### **3.6.4 Tests**

Remedial English tests constructed by the researcher was employed as a pre-test and post-test for both groups of samples. The parallel tests were constructed to assess students' learning achievement for both groups. Through students' learning achievement score of Remedial English tests, the researcher could see whether students improve their learning.

#### 3.6.5 Questionnaire

To explore students' attitudes toward learning via the Internet on Remedial English, questionnaire was used to collect the data.

#### 3.6.6 Semi-Structured Interview

To elicit students' opinions about learning Remedial English via the Internet, students were asked to express their opinions or comments about learning Remedial English lessons via the Internet.

## 3.7 Construction and Efficiency of the Instruments

The construction and efficiency of the research instruments were carried out with the consultation with the research professionals and research experts. The following are the procedures of instrument construction and the determination of the instruments' efficiency:

## 3.7.1 Instructional System Plan (SREO Plan)

The instructional system plan (SREO Plan) was conducted by the researcher. The followings are the steps of the construction of the plan.

- The researcher reviewed related literature on instructional systems design.
- The researcher studied the instructional systems design process from many educators such as Gagne and Briggs, Kemp, Dick and Carey and etc.
- 3. The researcher determined the components of the system for teaching Remedial English via the Internet.
- 4. The researcher constructed the instructional system plan for teaching Remedial English via the Internet (see Figure 5.1).

#### 3.7.2 An Evaluation Form of SREO Plan

- 1. The researcher constructed an evaluation form of SERO Plan.
- The form together with the SREO plan was sent to the experts in Instructional Systems Technology and English Language Teaching field to evaluate the plan.
- 3. The researcher revised the plan according to the suggestions from the experts.

## 3.7.3 Remedial English Lessons via the Internet (SREO Website)

- The researcher studied a curriculum for university level of the Remedial English subject for first-year students.
- 2. The researcher reviewed related literature on Remedial English.

- 3. The researcher studied on how to create a website by using Dreamweaver Version 8.0 Program.
- 4. The researcher studied on how to create exercise and test in the web site.
- 5. The researcher designed web pages for the instruction. The main menus for the on-line instruction on Remedial English consists of a "Home", "Pre-test", "Units", "Exercises", "Post-test", "Send E-mail", "Dictionary Online", "Web Links", and "Discussion Board".
- 6. The researcher used a Dreamweaver Version 8.0 Program to create web pages for the on-line instruction.
- 7. The website for the instruction was examined by the experts.
- 8. The website for the instruction was revised before being used in the try-out steps.

To evaluate the efficiency of the lesson, the examination was done in three steps of trials. The purpose of each trial was to improve the lessons. The subjects for the trials studied the lessons, did the exercises and took the tests. The subjects' achievement scores from both exercises and tests were calculated for the efficiency of the lessons (see Appendix B).

#### The Individual Test

The first step was individual test. Three students with different English proficiency levels, which represented able, moderate and less able students participated in this step. The criteria of discriminating the samples into different levels of English proficiency are: an able student refers to students who have the English Entrance Examination scores over 50%, a moderate student got between 31-49 scores,

and less able students got below 30. The three students were asked to learn Remedial English via the Internet for 15 fifty-minute periods. After that, they were asked for feedback and opinions about the lessons in order to improve the quality of the instrument. The researcher clarified the lesson instructions and added some explanation in lesson presentation, exercises and tests, and inserted images in some lessons in order to facilitate learning.

## **The Small Group Test**

The following trial was the small group, consisting of six students with three different levels of English proficiency. There were two able, two moderate, and two less able students. The same procedures were done with this group of students. After analyzing the data from the exercises and test scores, the researcher asks the participants' feedback and opinions about the lessons. Then, the researcher revised the lessons as follows. The researcher added more exercises and modified exercises, content and structures, pictures, program functions and lesson instructions as well as translation into Thai for some lessons mentioned by the students, deleting some abundant details, and changing font sizes, colors, formats and the timing speed of some activities in the program.

## **The Field Study Test**

The last step was the field study test. This step included 30 students. All of them were asked to do a pre-test. After studying Remedial English through the web-based instruction for 15 fifty-minute periods, the students did a post-test. Students' achievement scores of the exercises and the self-test scores from the three trials were determined for efficiency of the Internet-based instruction based on criteria of the 80/80 standard level (Brahmawong, 1978).

Achievement scores of the exercises and the self-tests from the trials were calculated for efficiency by using E1/E2 with the following formula.

$$E_1 = \frac{\overline{x}}{A}x100$$

 $E_1$  = Efficiency of the process

 $\bar{x}$  = Average score all students obtain from the exercises

A = Total score of the exercises in the lessons

$$E_2 = \frac{\overline{x}}{B} x 100$$

 $E_2$  = Efficiency of the product

 $\bar{x}$  = Average score all students obtain from the test

B = Total score of the test in the lessons

(Brahmawong, 1978)

To administer the pilot study, the evaluation of efficiency of the Remedial English lessons via the Internet was conducted as shown in the following figure.

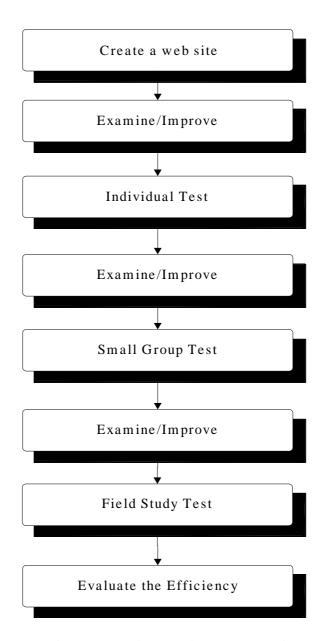


Figure 3.2: Procedures of the Remedial English Lesson Trials

#### 3.7.4 Lesson Plan

The lesson plan was constructed for a control group, There were the procedures for a lesson plan construction for a control group.

- 1. The researcher studied English syllabus.
- 2. The researcher constructed a lesson plan on Remedial English.
- 3. The lesson plan was examined by the experts.

4. The researcher improved and revised the lesson plan before it would be used with samples in a control group (see Appendix E).

#### 3. 7. 5 Pre-test and Post-tests

Remedial English tests which were constructed by the researcher were employed as a parallel pre-test and post-test for both group of students. The test development was conducted as follows.

- The researcher studied a curriculum and related literature and set the testing objectives corresponding to the learning objectives in the Remedial English lesson.
- 2. The researcher studied and consulted with the experts about the testing principles and procedures of test construction.
- 3. The researcher developed a multiple-choice test with four alternatives for 80 items.
- 4. The tests were sent to the experts who were academically qualified and have been teaching English for more than five years for content validity check. The content was then adjusted to their advice.
- 5. A pilot study was conducted with 100 first-year students at Suranaree University who were not the samples in the study.
- 6. Based on the data obtained from the pilot study, an item analysis was carried out. Each question was analyzed for the level of difficulty (d) and discrimination index (r). The criteria used to selected the test items were p = 0.20-0.80 and  $r \ge 0.2$ .

## Formula 1: Test Difficulty Formula

$$p = \frac{R_H + R_L}{N_H + N_L}$$

p = Difficulty of the test

 $R_{H} = Number of students who answer a test item correctly in the high group$ 

 $R_L$  = Number of students who answer a test item correctly in the low group

 $N_H$  = Number of students in the high group

 $N_L$  = Number of students in the low group

#### Formula 2: Discrimination Formula

$$\mathbf{r} = \frac{R_H - R_L}{N_H + N_L}$$

r = Discrimination index

 $R_{H} = Number of students who correctly answered in the high <math display="block"> group$ 

 $R_L = Number of students who correctly answered in the low group$ 

 $N_H$  = Number of students in the high group

 $N_L$  = Number of students in the low group

- 7. Sixty test items were selected as a pre-test and a post-test with 30 items in each (see Appendix A).
- 8. The reliability of the tests was checked, using method of Coefficient Alpha of Cronbach (A-kakul, 1999). The reliability

coefficient value calculated of the pre-test was 0.834 and the reliability coefficient value calculated of the post-test was 0.833.

#### 3.7.6 Questionnaire

The questionnaire was used to see how students thought about learning via the Internet on Remedial English. The questionnaire consisted of three main parts. The first part asked about students' general information. The second part aimed at eliciting students' opinions about learning through web-based instruction and the third part aimed at elicit opinions on learning Remedial English via the Internet. To measure opinion, Likert's rating scale was used. Likert's scale has five categories and each scale consists of two parts: a declarative statement and a list of responses categories ranging from "strongly agree" to "strongly disagree". All scale categories were labeled. Although the declarative statement changed for each scale, the response categories are constant across all scales (Peterson, 2000).

The questionnaire in the second and third parts contains ten items.

After students read each item, they tick in one box. Five point rating scale used for rating students' opinion are as follows:

5 = strongly agree

4 = agree

3 = uncertain

2 = disagree

1 = strongly disagree

Regarding to Likert's scale method, the questionnaire was constructed and developed as the following procedures.

- 1. The researcher studied literature review on how to construct the questionnaire.
- 2. The researcher complied the issues concerning learning via the Internet on Remedial English.
- 3. The researcher constructed statements based on the issues complied from learning via the Internet.
- 4. All of the statements were examined by the experts for content validity check (Chuasathuchon, 1990, quoted in A-kakul. 1999).
- 5. The statements or items tried out with 30 samples for item analysis.
- 6. The items were calculated for the discrimination using t-test. The items which have the discrimination index more than 1.75 were chosen (Edwards, 1975, quoted in A-kakul, 1999).
- 7. Ten items were chosen to be questionnaire and these items were tried out again to find out the reliability.
- 8. The reliability of the questionnaire was checked, using method of Coefficient Alpha of Cronbach (A-kakul, 1999). The reliability coefficient value calculated was 0. 801(see Appendix G).

#### 3.7.7 Semi-Interview

In an effort to collect qualitative data, the researcher used triangulation method. One of the main qualitative data collection tools in this study was a semi-interview. A group interview with guidelines was carried out. The reasons for choosing an interview guide was that it had an outline of topics and subtopics to be covered, therefore, it can help the researcher develop areas of enquiry, remember areas of information, record answers, recognize relevant and irrelevant answers and

determine which probing questions to ask. The interview guide or topics were formed into questions, asking about opinions about learning Remedial English via the Internet. These questions were examined by the experts before using with the subjects in this study (see Appendix H). The interview took place after students were given the questionnaire. Groups of five to six students were interviewed. Each interview lasted between fifteen and twenty minutes. Tape recording was used while the interview was taking place.

## 3.8 Data Analysis

The data obtained from different methods was analyzed and interpreted in two main ways, quantitative and qualitative data analysis.

#### 3.8.1 Quantitative data analysis

Quantitative data analysis includes the data obtained from a pre-test, a post-test, a model evaluation form and questionnaire.

#### 3.8.1.1 The data obtained from pre-test and post-test

To compare both groups of students learning achievement, the Analysis of Covariance or ANCOVA model by Scheffe was used to remove extraneous variability that derives from pre-existing individual differences, such as students' English background knowledge or English proficiency level of the students. The computer software program, SPSS, was used for the analysis.

#### 3.8.1.2 The data obtained from an evaluation form of SREO Plan

The data from five-point rating scale was calculated for the arithmetic means. These means show the specialists' opinions toward the instructional model constructed by the researcher. The criteria of means was from a range divided

by number of level created. This was (5-1)/3 = 1.33 for each level the means was added up with 1.33. The following criteria were used for interpretation.

Means	Interpretation	
1.00-2.33	The SREO Plan is least appropriate.	
2.34-3.67	The SREO Plan is appropriate.	
3.68-5.00	The SREO Plan is very appropriate.	

## 3.8.1.3 The data obtained from questionnaire

The data from five-point rating scale was calculated for the arithmetic means. These means show the students' opinions toward learning via the Internet. The criteria of means was from a range divided by number of level created. This was (5-1)/3 = 1.33 for each level the means was added up with 1.33. The following criteria were used for interpretation.

Means	Interpretation	
1.00-2.33	Students have bad attitudes toward learning SREO website.	
2.34-3.67	Students have good attitudes toward learning SREO website.	
3.68-5.00	Students have very good attitudes toward learning SREO website.	

## 3.8.2 Qualitative data analysis

Qualitative data included the data obtained from semi interview. The data analysis from a semi-structure interview was finally presented.

# 3.9 Summary

In short, this chapter proposed a research procedure. There was a description of population and samples in the study. Besides, the research design and variables, including independent and dependent variables were indicated. In addition, collecting both quantitative and qualitative data as well as instruments used was described. Finally, the data analysis from variety of instruments was identified.

## **CHAPTER 4**

## **RESULTS AND DISCUSSIONS**

## 4.1 Introduction and Purposes of the Chapter

This chapter presents the research findings which are organized according to the three main purposes of the study as stated in Chapter 1, which are:

- 4.1.1 To develop instructional systems for teaching Remedial English via the Internet for first-year students at Suranaree University of Technology.
- 4.1.2 To determine the efficiency of Remedial English lessons via the Internet for first-year students at Suranaree University of Technology based on the 80/80 standard.
- 4.1.3 To compare English learning achievement of received tutoring students via the Internet and those received tutoring through face-to-face method.
- 4.1.4 To explore the students' attitudes toward learning Remedial English via the Internet.

#### 4.2 Results

## 4.2.1 The Results of the Development of Instructional System Plan

The researcher developed the Suppasetseree's Remedial English Online (SREO) Plan and this plan and an evaluation form of SREO Plan was sent to the experts in Instructional Systems Technology and English Language Teaching

field. The collected data from the five-point rating scale questionnaire was calculated for the arithmetic means. The results of the analysis were presented in Table 4.1

Table 4.1: The Results of the Experts' Opinions on Development of
Suppasetseree's Remedial English Online Plan (SREO Plan) and SREO Website

Statements	$\frac{-}{x}$	SD
1. The components of SREO Plan are appropriate		0.55
2. The steps in SREO Plan are clear and easy to implement.		0.55
3. Each component in SREO Plan has appropriate connection.		0.89
4. SREO Plan is appropriate to be used in teaching Remedial English		
via the Internet.	4.6	0.55
5. Learning through SREO website can save time and cost in		
traveling to the learning place.	4.8	0.45
6. Learning through SREO website helps enhance learner-teacher		
interaction.	4.2	0.45
7. Learning through SREO website helps enhance learner-learner		
interaction.	4.6	0.55
8. Learning through SREO website can get academic information		
from teachers and university quickly.		0.55
9. Learning through SREO website can get immediate feedback.		0.45
10. Learning through SREO website is suitable for current social		U. <del>1</del> J
condition.	4.8	0.45
Total	4.52	0.53

Table 4.1 shows that SREO Plan was rated by the experts in Instructional Systems Technology and English Language Teaching field as "Very Appropriate"  $(\bar{x} = 4.52)$ . This corresponded well to the first hypothesis in Chapter 1.

# 4.2.2 The Results of the Development of Remedial English Lessons via the Internet (SREO website)

The researcher conducted trials on Remedial English lessons via the Internet in order to improve the lessons. There were three trials to evaluate the lessons: individual, small group and field study trials. The results of three trials are shown in table 4.2.

**Table 4.2: The Results of the Three Trials** 

T 1	$\mathbf{E_1}$	$\mathbf{E_2}$
Trials	(Efficiency of Process)	(Efficiency of Product)
Individual Test	75.00	78.67
A Small Group Test	81.67	83.00
The Field Study Test	85.03	86.27

The analysis of the trials indicated that the efficiency of the process and product for the individual test was below the prescribed criteria of 80/80. This could be explained that the content and instruction did not cover the learning objectives and was not appropriate to students' learning abilities. According to students' opinions and feedback from students, it was found that students required more explanation, a variety of exercises and pictures for some lessons. Therefore, the lessons were revised. Consequently, the results of the small group test demonstrated that the efficiency of the process and product was improved to meet the criteria of 80/80. This could be

explained that the lessons were revised. The researcher added more exercises and modified exercises, content and structures, pictures and lessons instructions as well as translation into Thai for some lessons mentioned by the students. After the individual and small group tests, the efficiency of the process and product for the field study test was 85.03/86.27 which was above the criteria of 80/80. This corresponded well to the second hypothesis in Chapter 1.

## 4.2.3 The Results of Students' English Learning Achievement for Experimental and Control Groups

The experimental and control groups took pre-tests and post-tests to determine their English learning achievement both before and after studying the Remedial English lessons. The results showed that the English learning achievement of both groups increased (see Table 4.3).

**Table 4.3: English Learning Achievement for Experimental and Control Groups** 

Group	Test	Mean	SD	n
Evanimental	Pre-test	15.53	3.39	30
Experimental	Post-test	24.93	2.46	30
Control	Pre-test	15.67	2.62	30
Control	Post-test	24.77	2.59	30

Table 4.3 shows that both the experimental and control groups got higher mean scores after studying the Remedial English lessons. In addition, to examine whether their English learning achievement increased significantly, pre-test and post-

test scores of each group were compared and calculated for statistical differences. The results were presented in Table 4.4 and 4.5.

Table 4.4: The Statistical Difference of Pre-tests and Post-tests for the Experimental Group

		Paired	Differen	ces		-	-	-
- Experimental			Std.	95% Co	nfidence	-		Sig.
Group	Mean	Std.	Error	Interva	l of the	t	df	(2-tailed)
		Deviation	Mean	Diffe	rence			
				Lower	Upper	-		
Pre-test Post-test	-9.40	3.17	.58	-10.58	-8.22	-16.248	29	.000

Table 4.5: The Statistical Difference of Pre-tests and Post-tests for the Control Group

		Paired	Differen	ces			-	
Control	Mean	Std. Deviation	Std. Error Mean	95% Con Interval Diffe	l of the	t	df	Sig. (2-tailed)
Pre-test Post-test	-9.10	2.56	.47	-10.06	-8.14	-19.437	29	.000

According to Table 4.4 and 4.5, it is apparent that there are significant differences between pre-test and post-test scores of both experimental and control groups were significantly different at the level of .05. This indicates that both students who studied Remedial English lessons via the Internet and those who studied the lessons by the face-to-face method had better English learning achievement after studying the Remedial English lessons.

# 4.2.4 The Results of Comparison of the English Learning Achievement of Both Group

The pre-test and post-test scores of the experimental group and the control group were compared with an analysis of covariance or the ANCOVA model. Table 4.6 presents the results to show that there were significant differences.

Table 4.6: The Results of Students' English Learning Achievement

Dependent Variable: Post-test

	Type III		Mean		
Source	Sum of	df	Square	$\mathbf{F}$	Sig.
	Squares		Square		
Corrected Model	83.148(a)	1	83.148	16.716	.000
Intercept	736.923	1	736.923	148.150	.000
Pre-test	83.148	1	83.148	16.716	.000
Error	288.502	58	4.974		
Total	37423.000	60			
Corrected Total	371.650	59			

a R Squared = .224 (Adjusted R Squared = .210)

The above table shows that the experimental and the control students' English learning achievement between the mean scores of pre-test and the post-test were significantly different (F= 16.716\*\*). Most importantly, the mean score of the post-test ( $\overline{x}$  = 24.93), which the students from the experimental group gained, was higher than that of the control group ( $\overline{x}$  = 24.77), which corresponded well to the third hypothesis as stated in Chapter 1.

## 4.2.5 The Results of Students' Attitudes toward learning Remedial English lessons via the Internet.

To investigate the attitudes of students toward learning Remedial English lessons via the Internet, the researcher collected data using a five-point rating scale questionnaire. The collected data from the five-point rating scale questionnaire was calculated for the arithmetic means. The results of the analysis were presented in Table 4.7 and 4.8 below.

Table 4.7: The Results of Students' Opinions on Learning through the Internetbased Instruction

Statements	$\frac{\overline{x}}{x}$	SD
1. Learning through the Internet-based instruction helps create		
independent learning atmosphere.	4.90	0.31
2. Learning through the Internet-based instruction has no limit of		
places, you can learn anywhere.	5.00	0.00
3. Learning through the Internet-based instruction has no limit of		
time, you can learn anytime.	5.00	0.00

Statements	$\frac{-}{x}$	SD
4. Learning through the Internet-based instruction can save time in		
traveling to the learning place.	4.77	0.43
5. Learning through the Internet-based instruction can save cost in		
traveling to the learning place.	4.60	0.62
6. Learning through the Internet-based instruction helps enhance		
learner-teacher interaction.	4.00	0.64
7. Learning through web-based instruction helps enhance learner-		
learner interaction.	3.97	0.81
8. Learning through the Internet-based instruction can get academic		
information from teachers and university quickly.	4.67	0.48
9. Learning through the Internet-based instruction can distribute		
knowledge to community effectively.	4.57	0.57
10. Learning through the Internet-based instruction is suitable for		
social condition and current economic.	4.70	0.47
Total	4.62	0.57

Table 4.7 demonstrated that students had very good attitudes toward learning through web-based instruction ( $\bar{x}=4.62$ ). Considering for each item, it was revealed that students very strongly agreed ( $\bar{x}=5$ ) on learning through the Internet-based instruction has no limit of places and time. They can learn anywhere and anytime they want. However, students strongly agreed ( $\bar{x}=3.97$ ) on learning through the Internet-based instruction helps enhance learner-learner interaction.

Table 4.8: The Results of Students' Opinions on Learning Remedial English via the Internet (SREO website)

Statements	$\frac{\overline{x}}{x}$	SD
1. Learning through the SREO website is modern.	5.00	0.00
2. Learning through the SREO website has clear letters on web		
pages.	5.00	0.00
3. Learning through the SREO website has appropriate link from		
content and learning objectives.	4.77	0.43
4. Learning through the SREO website has clear explanation for		
contents and exercises.	4.50	0.57
5. Learning through the SREO website has compatibility of content		
and learning objectives	4.70	0.53
6. Learning through the SREO website is convenient to choose each		
lesson to learn.	4.93	0.25
7. Learning through the SREO website is convenient to come back to		
review the lessons.	4.80	0.41
8. Learning through the SREO website is convenient to send e-mail		
to the teacher.	4.80	0.41
9. Learning through the SREO website is suitable to distance		
learning.	5.00	0.00
10. Learning through the SREO website is suitable for learning in		
Information Age.	5.00	0.00
Total	4.85	0.43

Table 4.8 demonstrated that students had very good attitudes toward learning through the SREO website ( $\bar{x} = 4.85$ ). Students very strongly agreed ( $\bar{x} = 5$ ) on learning through the SREO website is modern; it has clear letters on web pages and it is suitable to distance learning and for learning in Information Age. These results corresponded well to the forth hypothesis as stated in Chapter 1.

#### 4.2.6 The Results of Semi –Structured Interview

The results from semi-structured interview were presented as follows:

When students were asked if they liked learning English through "Suppasetseree's Remedial English Online" website, ninety-five percent of them responded positively. The reasons why they liked learning English through "Suppasetseree's Remedial English Online" website were for example, they had opportunities to learn English and to use computer connected to the Internet at the same time. They said that learning English through "Suppasetseree's Remedial English Online" website, and from other linking web sites as learning resources was very helpful to improve their English skills. Besides the knowledge of English, they gained more computer skills such as typing and using word processing program. Student comments were:

"The website is interesting and enjoyable. I can go to other websites from the web link menu. I can play games after I feel tired of doing the exercises in SREO."

"I like SREO because I can read the news which is very up to date from the links in the website."

"I enjoy learning English and listening to music in the same time from the links provided in the website."

"Learning like this is very good. The lesson helps me improve my English skills. I also improve my computer skills."

When asked about the thing that students liked most from learning English through "Suppasetseree's Remedial English Online" website, different responses were given. Eighty-five percent of the students who expressed a preference said that they enjoyed doing exercises from the website. They also found that using email in English class was interesting and fun because they could use easy English language to talk to the teacher or their friends. Some of the students stated that this kind of learning was convenient because they could learn English without textbooks or dictionary. Searching words as well as looking up the meaning of words from dictionary web sites was fun and easy.

"I like doing exercises in this website because they are not too difficult or too easy for me."

"Sending and receiving e-mail with my teacher and my friends in this website is very fun. It helps me practice using new vocabulary when I talk with them."

"I like learning English through website because I don't have to buy any expensive textbooks."

"I can search for the meaning of some difficult words from online dictionary in SREO which is very easy to use." When the students were asked to describe what they did not like from learning through "Suppasetseree's Remedial English Online" website, fifteen percent of them found that understanding the English lessons wad difficult for them. Since the text or explanation was almost in English, they could not understand it clearly. Therefore, they had to spend a lot of time on searching for meanings of difficult words before reading English.

"I think exercises are good practice but I didn't do well on exercises because I didn't understand some difficult vocabulary in the lesson."

"I don't understand some content and exercises because
I can't read the English texts."

Nine percent of them said this kind of learning was time consuming.

Practicing exercises or doing electronic homework needed time, and they could not finish their assignments in time.

"Through learning via Internet is useful, I think I prefer a lecture because I take more time to understand the English content and do the assignments."

"I have to use dictionary all the time to help me understand unknown words in the text."

When asked about problems students found from learning web-based instruction, ten percent thought that it was not convenient to use computers connected to the Internet. They also commented about the speed of computers. Sometimes they had to wait for minutes when connecting to network.

"The website is very beautiful. The lesson is easy to understand with a lot of pictures. However, it takes a long time for me to download each page due to the slow speed of my computer and Internet."

When asked about the learning atmosphere, ninety percent of the students stated that they found that the learning atmosphere was not too serious. They can learn by their own pace.

"I like studying by myself. This website promotes independent learning."

"Learning via the Internet is modern. Students can learn on their own."

When asked if they want to learn English through the web-based instruction like "Suppasetseree's Remedial English Online" website for the next time, ninety—five stated that they wanted to learn English through the web-based instruction again. However, they preferred to have other contents such as English conversation and English for tourism. Lastly, students wanted to learn other subjects through the web as well.

"It would be wonderful if we have more websites like this to practice English."

"I want to practice my conversation skills through learning on the web."

#### 4.3 Discussions

The outcomes of this research were presented above. This section presents a discussion of the results in response to research purposes and hypotheses stated in the first chapter.

Firstly, an instructional systems model on Remedial English via the Internet constructed by the researcher was employed to develop the Remedial English lessons via Internet. The developed instructional system for teaching Remedial English (SREO Model) for first year students at Suranaree University of Technology comprises six components arranging in six logical steps: (1)Analyze Setting, (2) Construct Prototype, (3) Produce Instructional Packages, (4) Test Prototype, (5) Conduct Teaching and Learning Activities, and (6) Evaluate and Revise Instruction. The conceptual model was used to illustrate the SREO Model. The SREO Model was rated by specialists in Instructional Systems Technology and English Language Teaching as "Very Appropriate". This can be seen that the instructional systems model developed by the researcher was suitable to teach Remedial English via the Internet for first year students at Suranaree University of Technology.

Secondly, the Remedial English lessons via the Internet had efficiency at the level 85.03/86.27, which was higher than the specified criteria 80/80. This was because the lessons were completely developed in three try-outs, an individual, a small group, and a field study test. For each step, the researcher could see both good and bad points. Thus, every step of trying out helped to develop the lessons. It can be seen that the efficiency of the product (E<sub>2</sub>) was higher than the efficiency of the process (E<sub>1</sub>). It might be that students were familiar with doing exercises on the web and the content of the lessons. This might motivate them to pay attention in doing the

tests in order to get high scores. Besides, the tests had the same format and content of the exercises. Therefore, the efficiency of the product was higher than the efficiency of the process.

Thirdly, comparing English learning achievement for both groups showed that the experimental and the control students' English learning achievement between the mean scores of pre-test and the post-test were significantly different (F= 16.716\*\*). The students in the experimental group who learned Remedial English via the Internet had a higher average post-test score ( $\bar{x} = 24.93$ ) than the control group ( $\bar{x} = 24.77$ ), who were taught by face-to-face method. The results show that English learning achievement of the experimental group was significantly higher than that of the control group. This can be stated that the lessons promote students' English learning achievement.

Fourthly, the attitudes toward learning Remedial English via the Internet were generally positive. It was interesting to note that this mode of learning and teaching might affect students' attitudes because it promoted independent learning. A teacher played a role as a facilitator, giving support and guidance. Therefore, a learning atmosphere was created.

Lastly, from the semi interview, most students agreed that learning Remedial English via the Internet was interesting for them. Also, it enabled them to have an opportunity to learn both English simultaneously. This kind of learning helped to improve computer and Internet skills.

In conclusion, the Remedial English via the Internet for first-year students at Suranaree University of Technology was a suitable tool for increasing student

knowledge of English. Moreover, it was a means for increasing student motivation to learn English.

## 4.4 Summary

This chapter revealed the research results and discussed these results in associated with the stated hypothesis. Chapter 5 will present the Remedial English lessons via the Internet for first year students at Suranaree University of Technology and illustrations of the lessons are demonstrated.

#### **CHAPTER 5**

# THE INTERNET-BASED INSTRUCTIONAL SYSTEM FOR TEACHING REMEDIAL ENGLISH:

## THE SREO PLAN

#### 5.1 Introduction

The chapter presents the Remedial English lessons via the Internet entitled Suppasetseree's Remedial English Online (SREO) for first-year students at Suranaree University of Technology. The lessons are presented in three major parts: the SREO plan, an overview of the Remedial English lessons via the Internet and the components of the lessons. Illustrations of the lessons are also demonstrated.

#### 5.2 The SREO Plan

This study attempts to develop an Internet-based instructional system for teaching Remedial English to first-year students at Suranaree University of Technology. The SREO Plan was derived according to the models from many instructional designers (Dick & Carey, 1985; Kemp, 1985; Klausmeier & Ripple, 1971; Gerlach & Ely, 1980) as shown in figure 5.1.

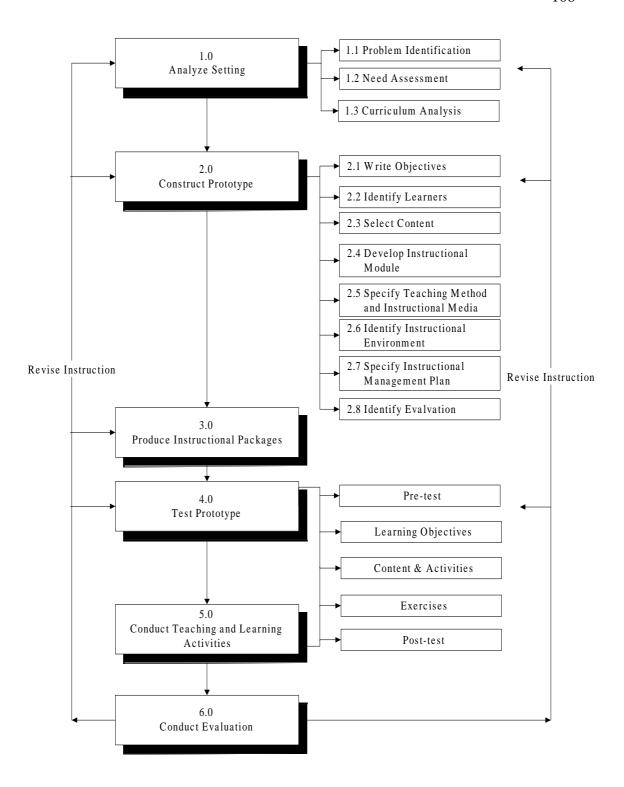


Figure 5.1: Suppasetseree's Remedial English Online (SREO) Plan

From figure 5.1, Suppasetseree's Remedial English Online (SREO) Plan comprises six major steps:

#### **Step 1.0 Analyze Setting**

Before launching any program of study, a survey is conducted to identify problems, needs, and expectation of learners. The obtained data is used as a frame work for developing the curriculum of the program of study.

#### 1.1 Problem Identification

A problem is the statement of a question that needs to be answered or a situation that needs a solution. The problem emerges from a clinical situation in which there is a knowledge gap or uncertainty regarding the "best" response to the situation. The first step is to recognize that a problem exists. The next and more difficult step is to phrase the problem accurately to facilitate the searching for a precise answer. The problem of first year students at Suranaree University of Technology is that they are Science and Technology students which have low English proficiency. They should study Remedial English course to help them get higher scores or pass the English 1 course.

#### 1.2 Need Assessment

A need assessment is a systematic exploration of the way things are and the way they should be. These things are usually associated with institutional and/or individual performance. We must determine the current state of skills, knowledge, and abilities of our current and/or future students. This analysis also should examine our institutional goals, climate, and internal and external constraints. We must identify the desired or necessary conditions for institutional and personal success. This analysis focuses on the necessary job tasks/standards, as well as the skills, knowledge, and abilities needed to accomplish these successfully. It is important that we identify the critical tasks necessary, and not just observe our current

practices. We also must distinguish our actual needs from our perceived needs, our wants. From a survey of students' needs, attitudes and motivation towards using the self-access language learning center at Suranaree University of Technology conducted by the researcher. It showed that 58.5% and 31.7% of the students thought they had average and below average English ability respectively. The most difficult and important English skills for them were speaking (57.6%) and listening (55.8%).

#### 1.3 Curriculum Analysis

The curriculum should be analyzed in terms of sequence and completeness and the requirements of prerequisite skills. This work facilitates the planning of an effective delivery system. The researcher studied English curriculum for School of English, Suranaree University of Technology and syllabus for English 1 course. The researcher also studied curriculum for upper-secondary level of the English subjects.

#### **Step 2.0 Conduct Prototype**

There are 8 sub steps for conducting prototype including write objectives, identify learners, select content, develop instructional module, specify teaching method and instructional media, identify instructional environment, specify instructional management plan and identify evaluation.

#### 2.1 Write Objectives

At this step it is necessary to translate the needs and goals into performance objectives that are sufficiently specific and detailed to show progress toward goals. There are two reasons for working from general goals to increasingly specific objectives. The first is to be able to communicate at different level of persons. Some people such as parents or a board of directors are interested only in

goals, and not in details, whereas others such as teachers and students need detailed performance objectives to determine what they will be teaching or learning. A second reason is to make possible planning and development of the materials and the delivery system. Prior to this stage, the researcher has given much thought to how the needs and goals may be translated into instructional plans at the course or unit level. It is likely that there have been many drafts of instructional objectives, objective groupings, and unit structures before this stage is reached.

#### 2.2 Identify Learners

This step is to determine which of the required enabling skills the learners bring to the learning task. Some learners will know more than others, so we must choose where to start the instruction, knowing that it will be redundant for some, but necessary for others. We must also be able to identify those learners for whom the instruction would not be appropriate, so that they may be given instruction that remediate. For this study the subject is the first year students from engineering program at Suranaree University of Technology. These students study English 1 course in trimester 3/2005 or students who failed the course in trimester 1 and 2 and have to pass it next year. They should have computer and Internet skills.

#### 2.3 Select Content

For a subject which you are familiar, be able to derive the content of a module that would teach an objective in that subject, when given the objective, target population description, an objective's hierarchy, and a description of relevant practice. The content description includes only that which is needed to fill the gap between what students already know and what they must know before they can practice the

objective. For this study, the remedial English course for first year students is selected to test the system.

#### 2.4 Develop Instructional Module

An instructional design should be planned and implemented when developing a learning module. The keys to developing a successful module are to focus its instructional design on an intended audience, and present the information contained there in a logical sequence. A logical sequence enables the learner to easily follow the material from elementary to complex. Be concise, and include only the information required for communicating the intended message which is directly related to the subject. Avoid complexity, and include only those components that the learner can actually use. For this study, the module for teaching remedial English via Internet is developed.

#### 2.5 Specify Teaching Method and Instructional Media

Select learning activities that provide students with examples and non-examples of desired outcomes and guide students to practice new behaviors or skills to master objectives. Choose media based on how they can add value to the learning experience. For the remedial English online lesson, researcher developed it on the website. Students can access to learn it.

#### 2.6 Identify Instructional Environment

The learning packages work well in specially designed virtual environment to provide self-pace learning on the parts of the students. Teacher may be at home or office in front of computer to send information to students and students may be at home, school, or Internet Café in front of computer to get information all the time.

#### 2.7 Specify Instructional Management Plan

Once a materials development project has been established, the next step is the development of a plan. The planning function sets forth the nature, sequence, and inter-relationships needed to achieve the prime objective. The planning at this level is primarily concerned with the structuring and relationships of units of required effort. It establishes the feasibility of meeting the due date for the successful completion of instructional materials. The plan must be realistic in its requirements and consistent with the available resources and time. The planning function sets forth the important objectives, quality, and quantity of the materials to be developed.

#### 2.8 Identify Evaluation

There are two "phases" of evaluation, formative and summative. Formative evaluation takes place during the development and subsequent try-out of the course. It's useful for determining any weaknesses in the instructional plan before a full scale implementation. Formative evaluation is related to the suitability of objectives, subject contents, learning methods and materials as well as to the logistics of delivering the course.

#### **Step 3.0 Produce Instructional Packages**

In this step, the researcher creates the lesson plans that support each objective (or group of similar objectives). The purpose of this step is to create learning activities based on the content associated with the learning objectives.

#### **Step 4.0 Test Prototype**

An iterative process that enables each step to be tested and evaluated until the ISD model has been followed for all objectives.

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**Step 5.0 Conduct Teaching and Learning Activities** 

The learning packages are delivered in the form of web-based via the

Internet and other on-line components such as e-mail and web board.

**Step 6.0 Conduct Evaluation and Revision** 

Observe students using the materials, collect data from student surveys.

Instructors analyze grades to determine what components of the class worked best.

Did students achieve the desired outcomes? What revisions are necessary to improve

the learning process? Revision is a constant process. Instructors may have found an

objective that was consistently hard for students to grasp. Maybe the objective was

unclear? Maybe the materials to learn the objective were inadequate? Revisions act as

a screwdriver that is constantly tweaking the loose areas.

5.3 An Overview of the Remedial English Lessons via the Internet

The Remedial English lessons via the Internet were developed with a

Dreamweaver version 8.0. It is on the <a href="http://www.sreo.net/">http://www.sreo.net/</a>. The lessons aim to

promote English learning for first-year students at Suranaree University of

Technology. The lessons consist of five units as follows:

Unit 1: Saying Hi!

Unit 2: Making Friends

Unit 3: My Family

Unit 4: Daily Routines

Unit 5: Free-time Activities

An orientation to lessons and a brief introduction to the lessons were done by

the researcher at the beginning of class. Students were supported to learn on their own

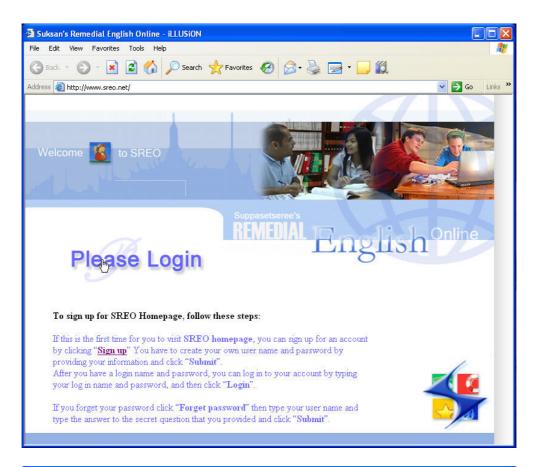
within a 15 fifty-minute periods. However, the researcher acted as a facilitator in learning the lessons. Students were allowed to use dictionary online.

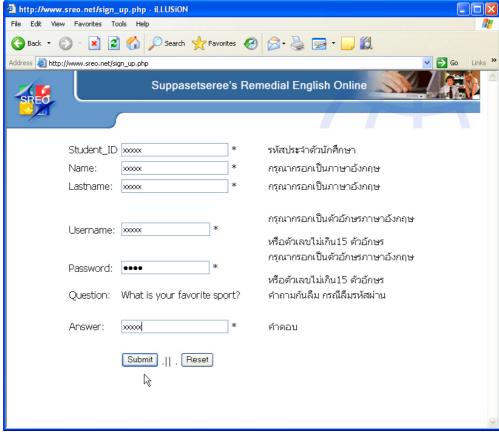
### 5.4 Components of the Remedial English Lessons via the Internet

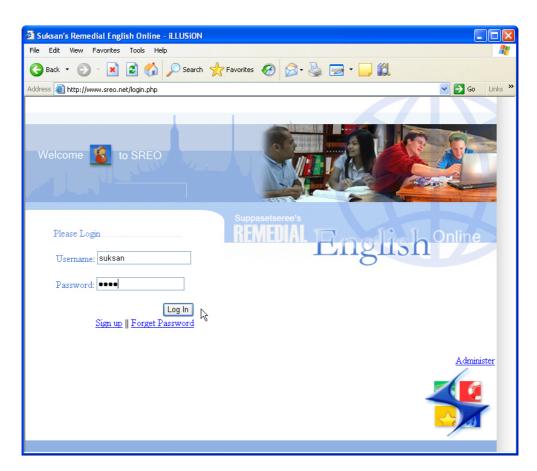
The Remedial English lessons via the Internet are composed of three main sections. First, the introduction to the lessons provides learning guides on steps of studying the lessons and how to use the program. The second section includes the learning units and exercises while the final section presents the useful functions for learning English on the web. Therefore, the Remedial English lessons via the Internet are illustrated according to the sections mentioned above.

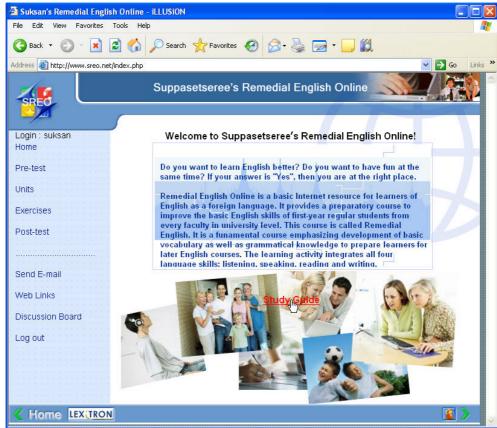
#### 5.4.1 An introduction to the Remedial English lessons via the Internet

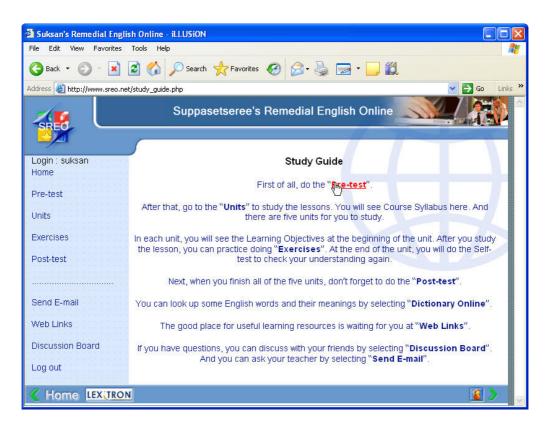
This part provides an overall information about the lessons, study guide on steps of studying the lessons, how to use the program and a lesson menu. The pages are presented as follows.

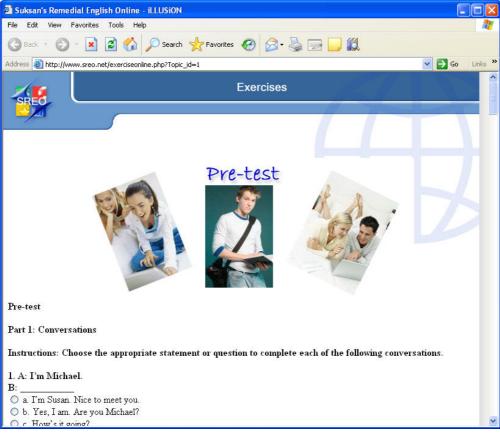


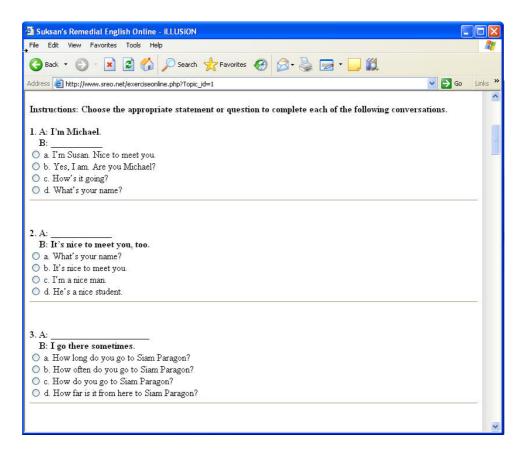


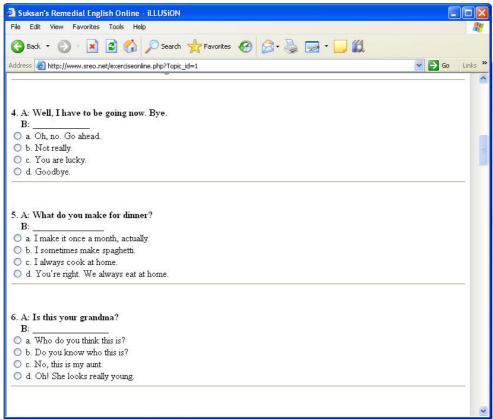


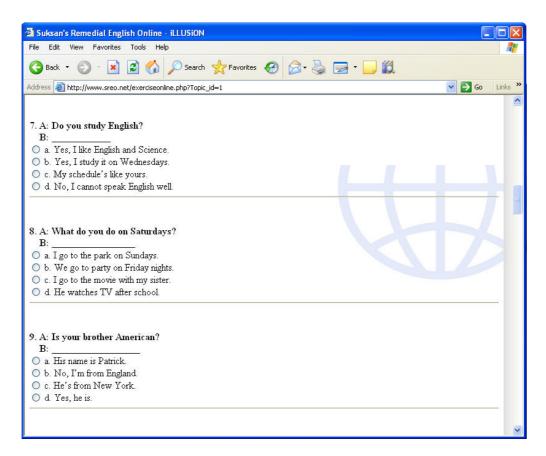


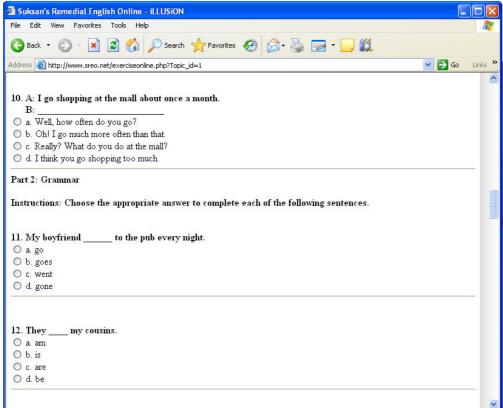




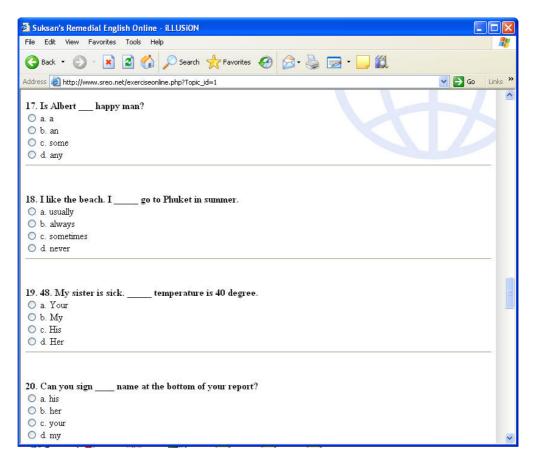


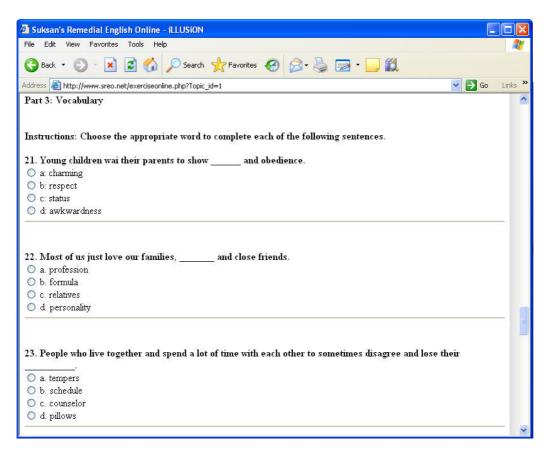


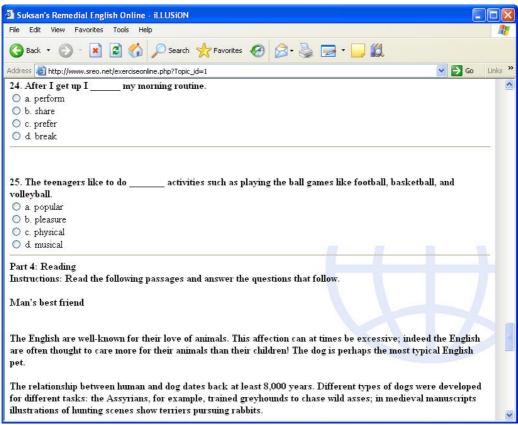


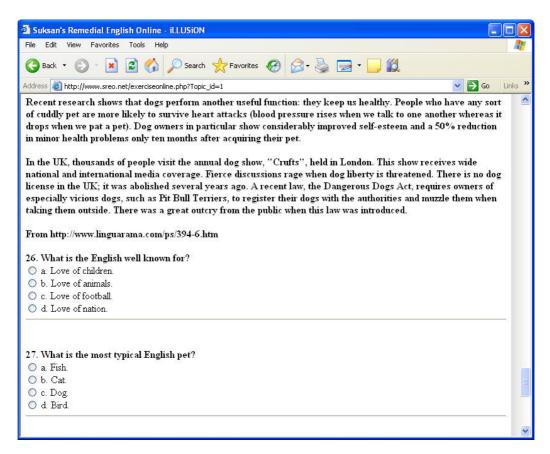


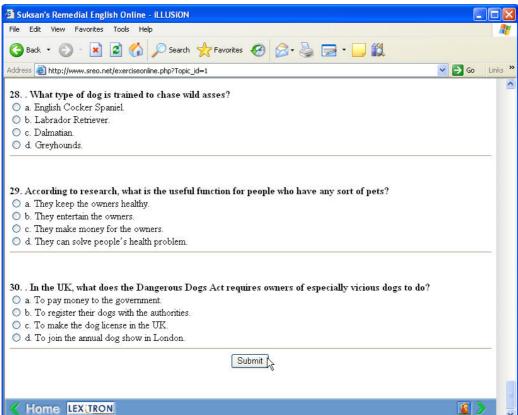
3 Suksan's Remedial English Online - iLLUSiON	
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13. I from America.	^
O a have not	
O b. is not	
O c. am not	
Od. do not	
14. He always his car on Sundays.	
O a. watches	
Ob. watched	
O c. watching	
O d. watch	150
15. Jackie two children now.	
O a. is	
O b. are	
○ c. has	
O d. have	
16. There's apartment building on the corner.	
 O a. a	
O b. an	
O c. some	
O d. any	

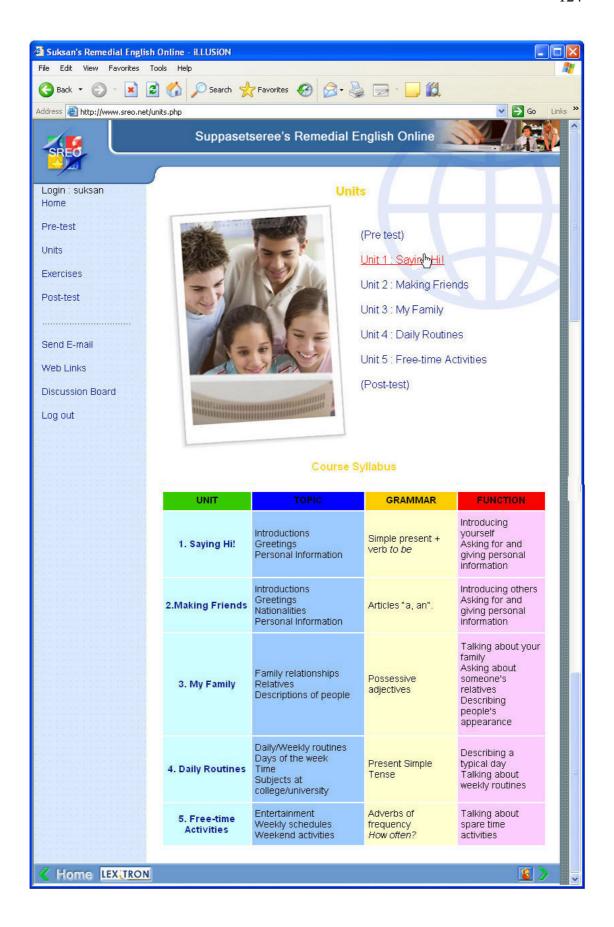








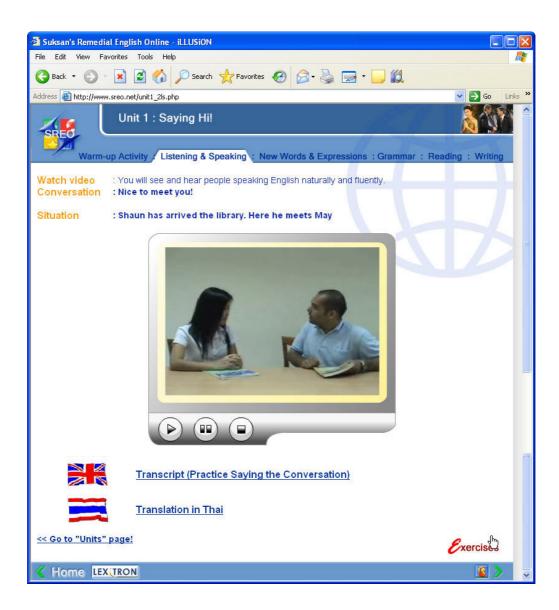


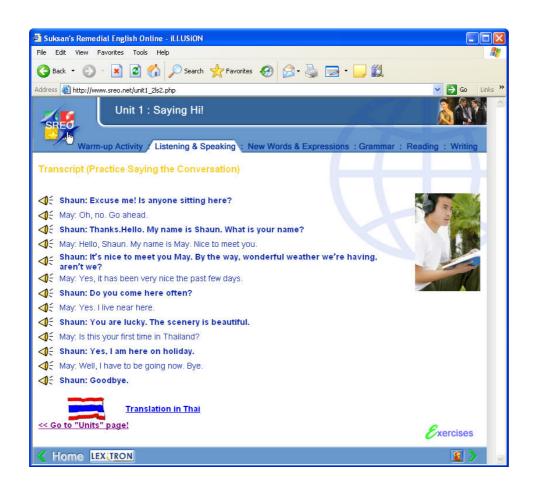


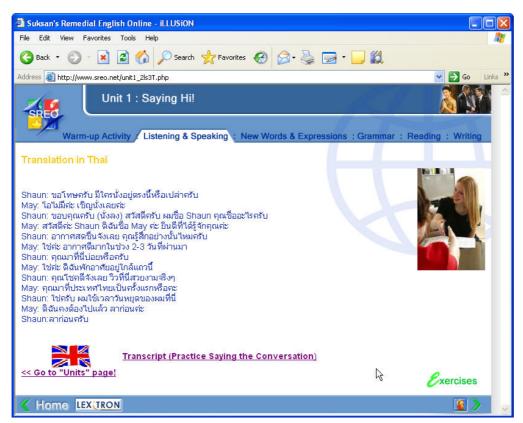
## 5.4.2 Learning Units and Exercises in the Remedial English lessons via the Internet

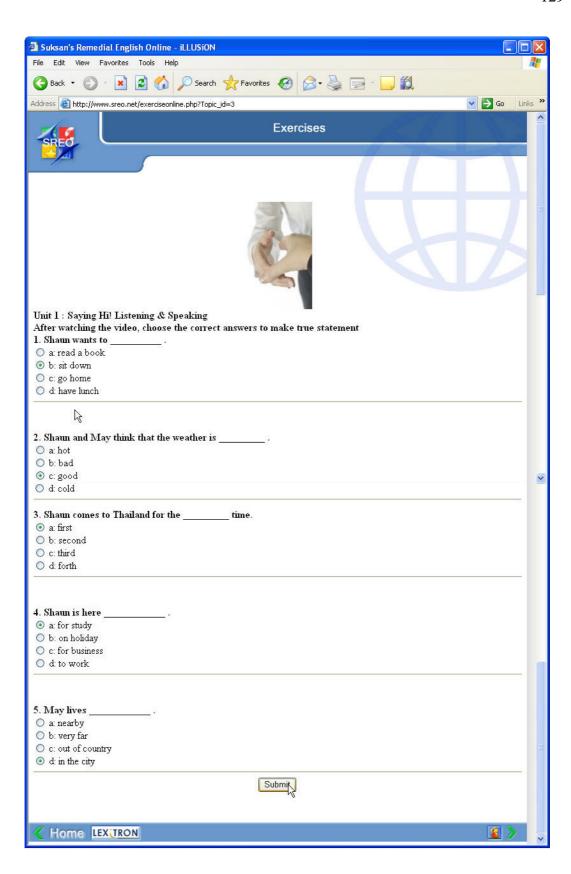
There are five units in the lessons. Each unit consists of "Learning Objectives", "Warm-up Activity", "Listening and Speaking", "New Words and Expressions", "Grammar in Use, Reading", "Writing" as a Follow-up Activity and "Unit Self-Test".

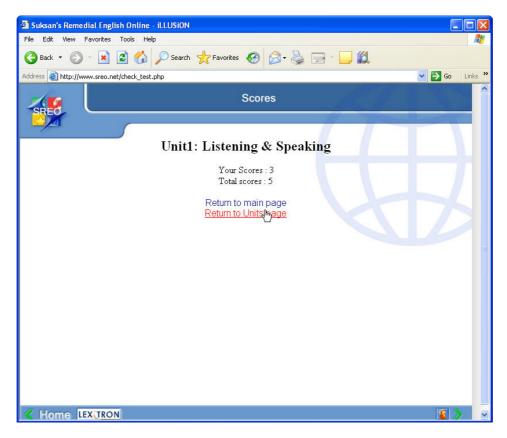




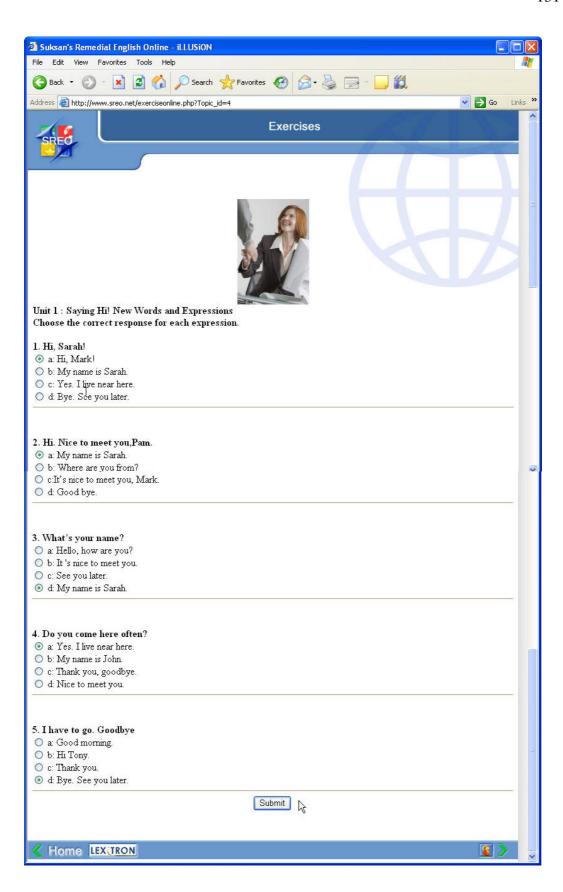


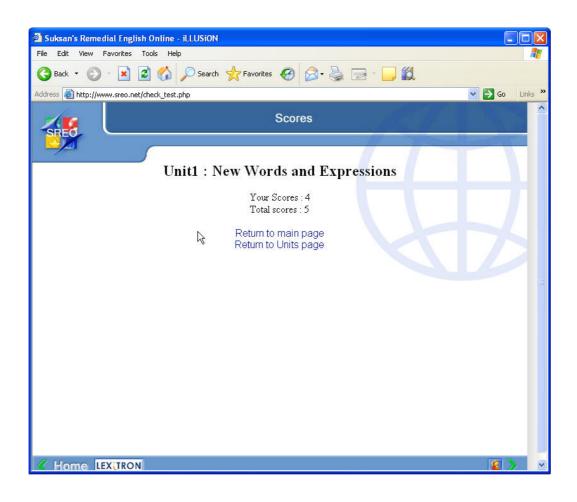


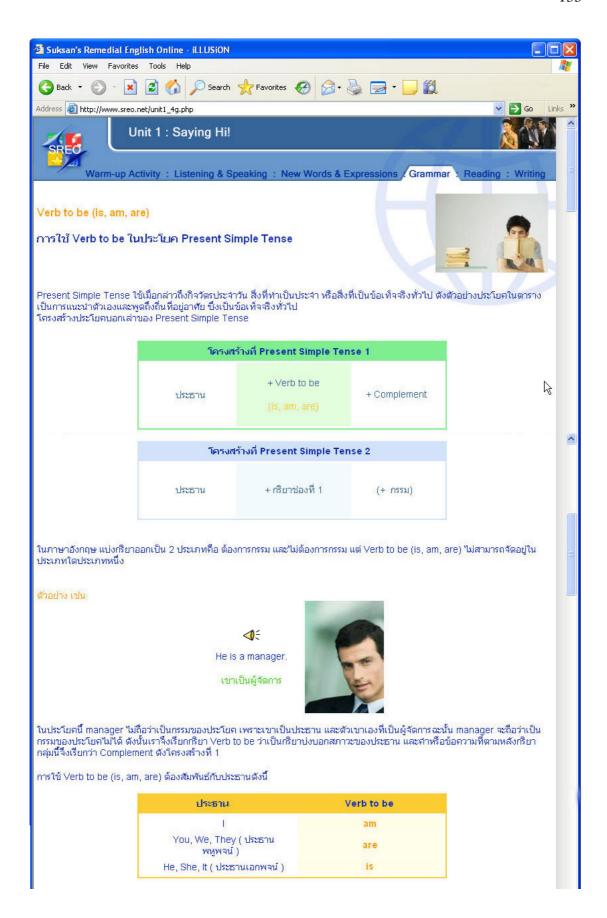


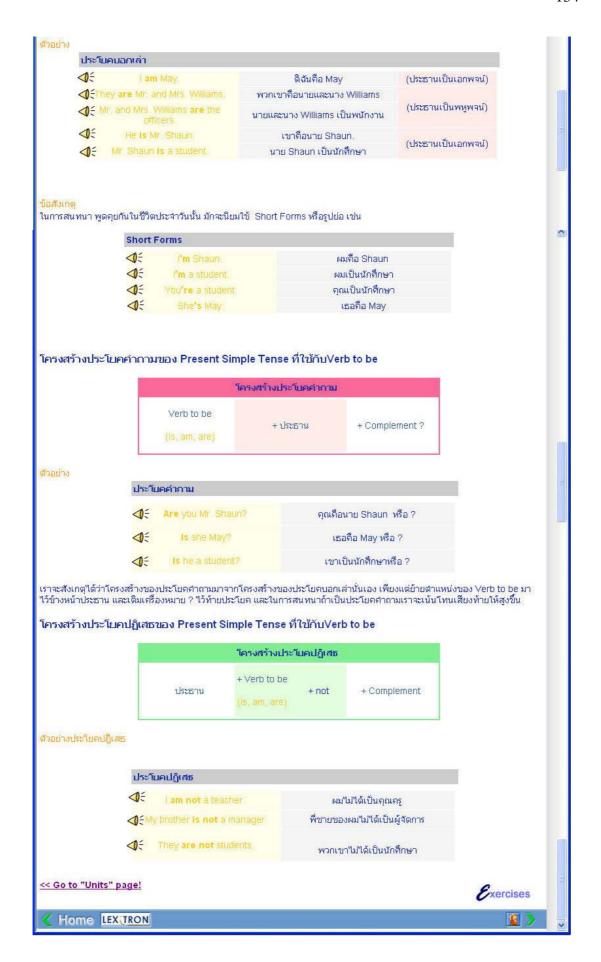


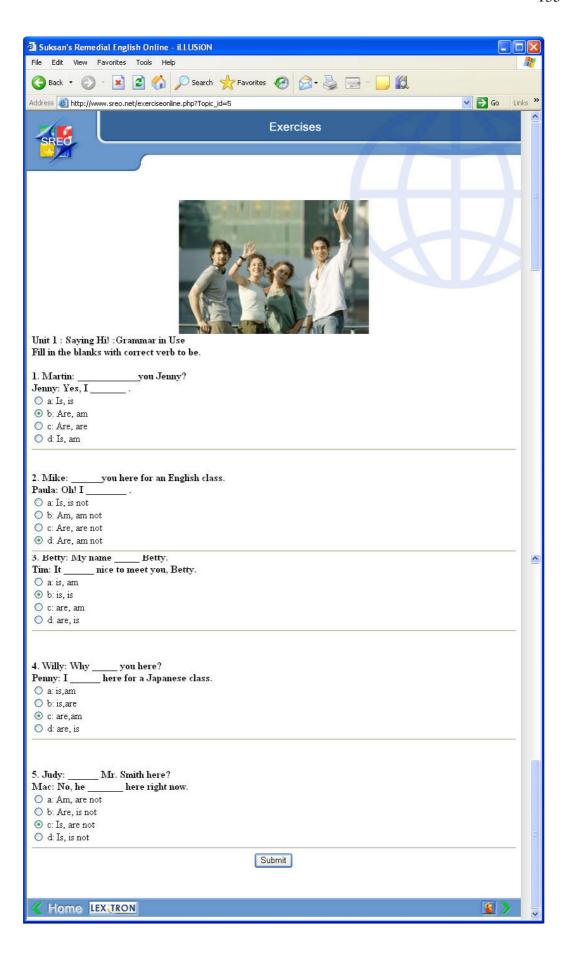




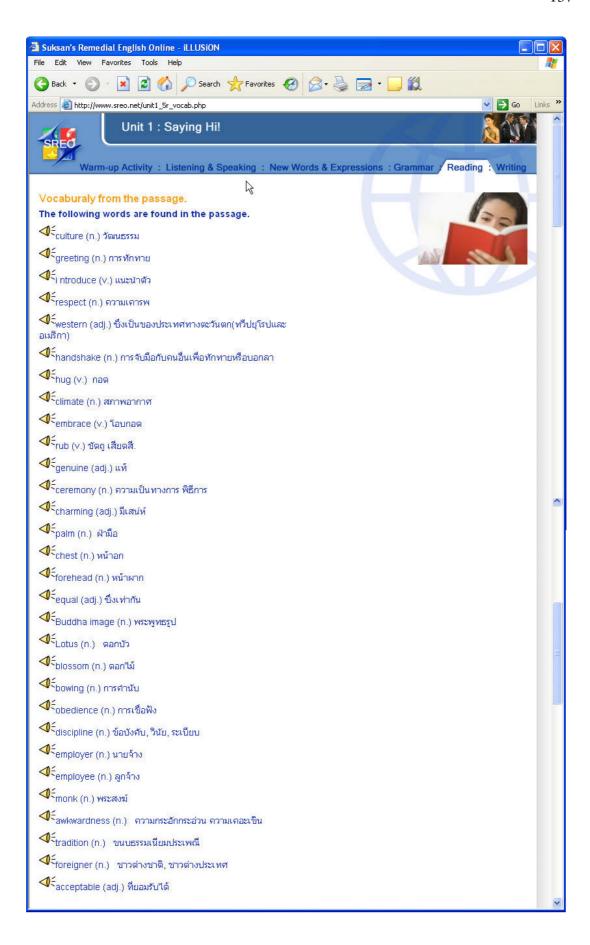


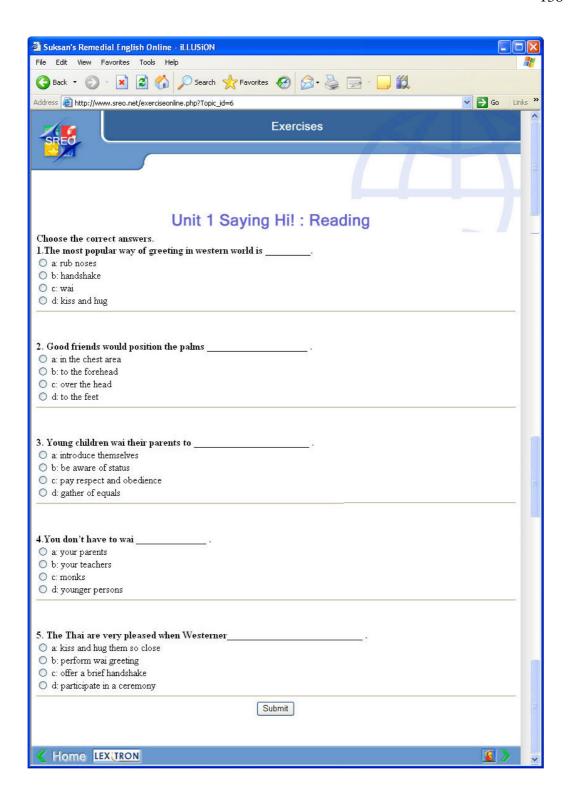


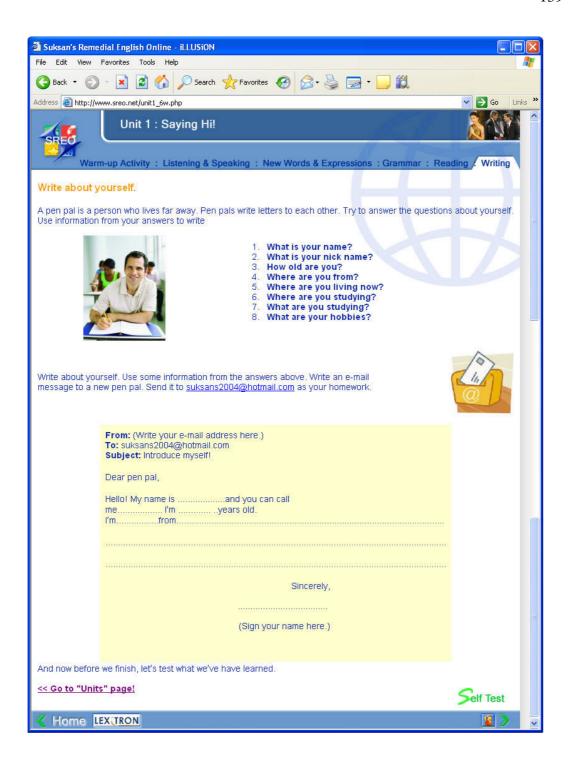


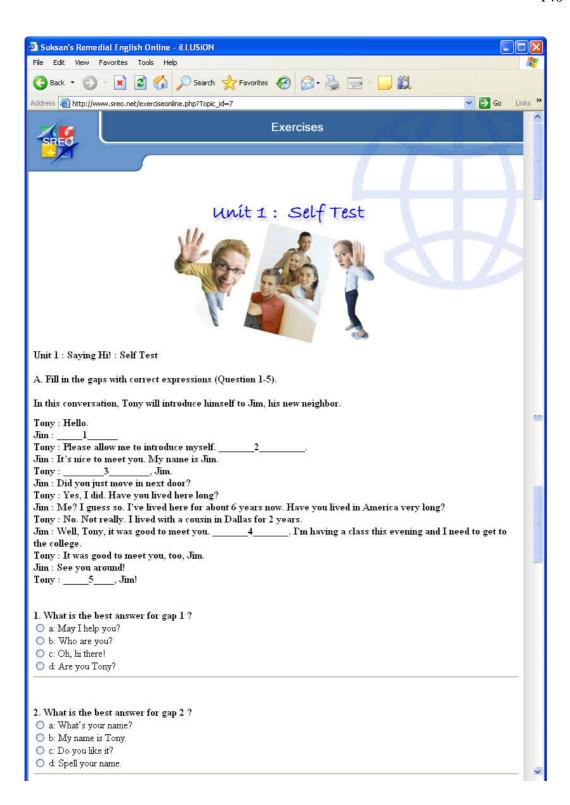




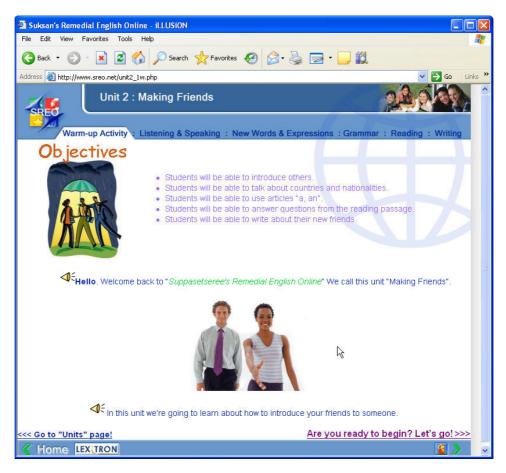




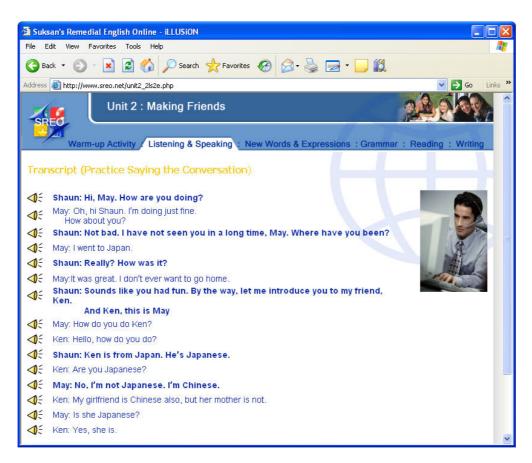


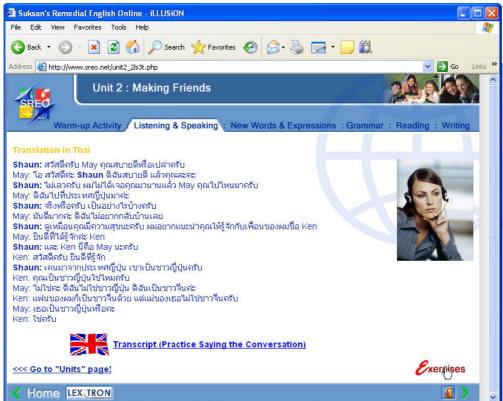


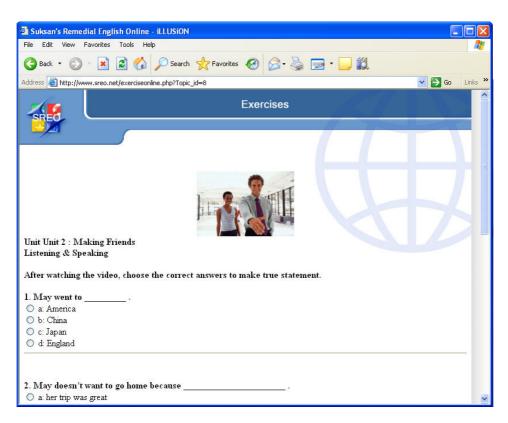
3. What is the best answer for gap 3?  a: You are very nice b: The weather is nice
C: Sure. No problem Cd: It's nice to meet you
4. What is the best answer for gap 4?  a I have to go now  b: Do you study here?
○ c: I don't want to be here. ○ d. Why don't you go?
5. What is the best answer for gap 5 ?  a. Excuse me  b: Good-bye
○ c: Thank you ○ d: Don't worry
B. Fill in the gaps with correct verbs to be (Question 6-10).
6. A: This is Bob. He my neighbor. B: Hi, Bob. It nice to meet you.
○ a: is/ are ○ b: is /am
○ c: is fis ○ d: am/ is
7. A: Where Susan? B: She in the house but she is in the car.
o a: are/ isn't  b: is/ isn't
○ c: are/ are not ○ d: is/ are not
8. A: Hil I Alison. B: Hi, My name Tom. Nice to meet you, Alison.
○ a: am/ am ○ b: am/ is
○ c: is/ is ○ d: is/ am
9. A: I'm Kate, and this is Emma. We in this class. B: Hi. I'm Mike. I in this class.
○ a: are/ am not ○ b: are/ is not
○ c: is/ am not ○ d: is/ are not
10. A:you an engineer? B: No, I I'm a student.
○ a: Am/am not ○ b: Are are not
○ c: Am/ are not ○ d: Are/ am not
Submit
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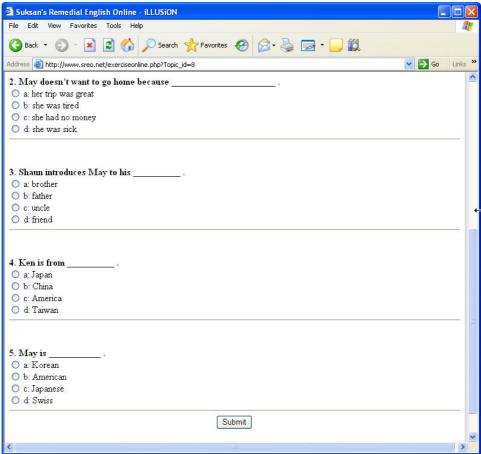


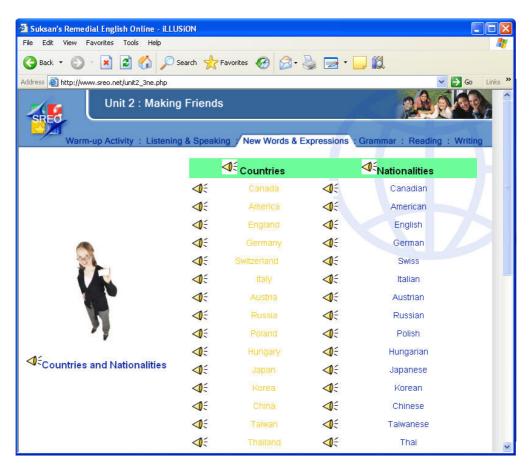


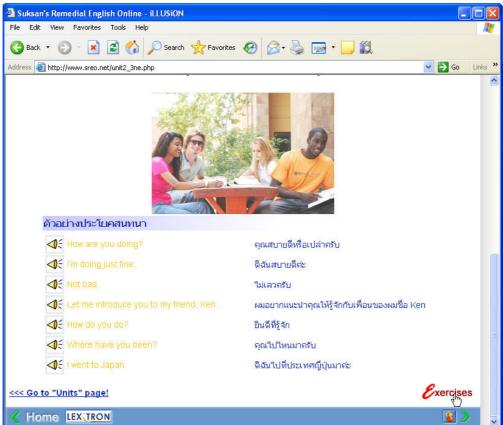


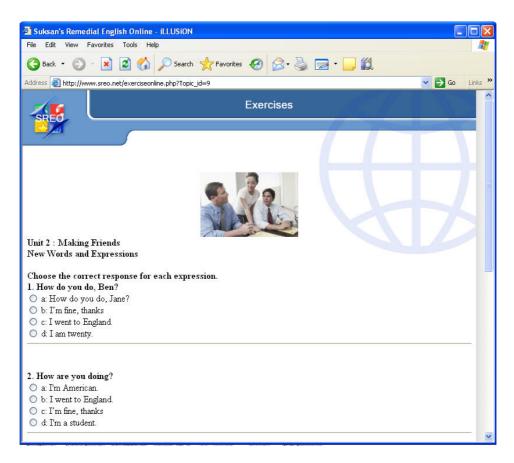


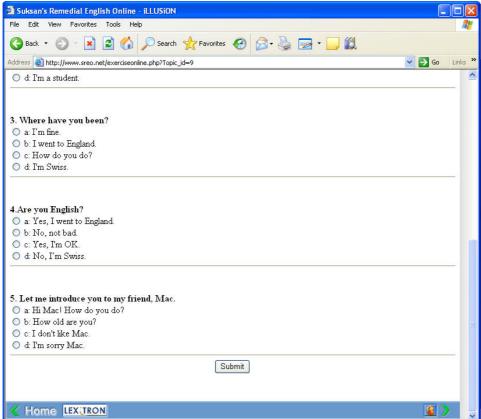


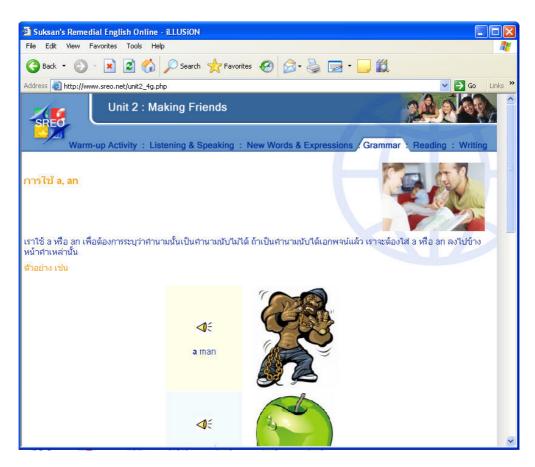


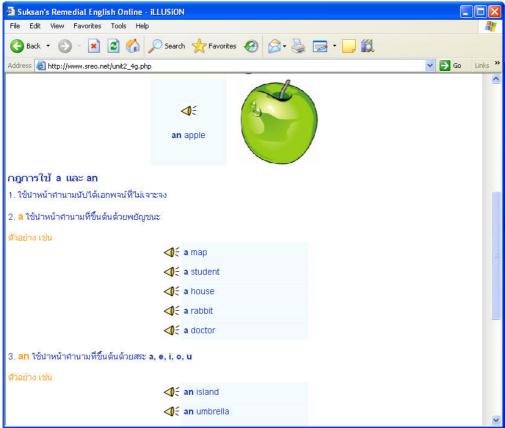


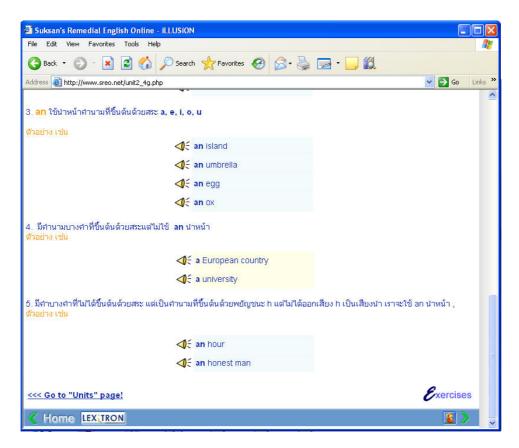


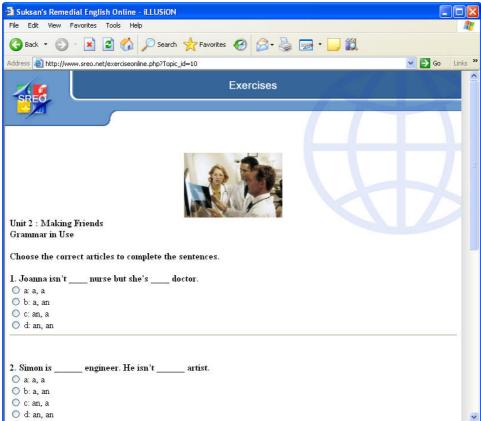


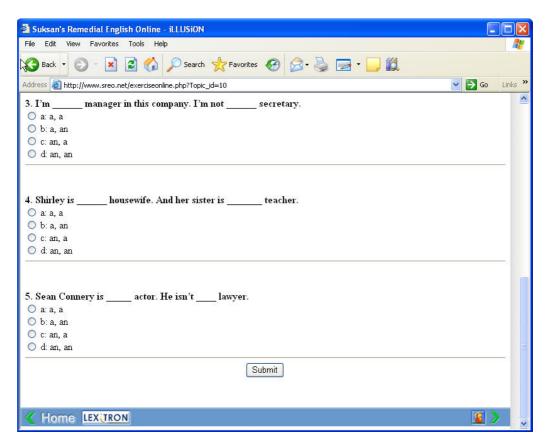




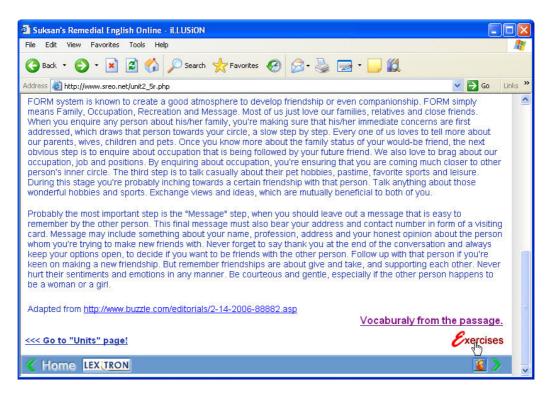


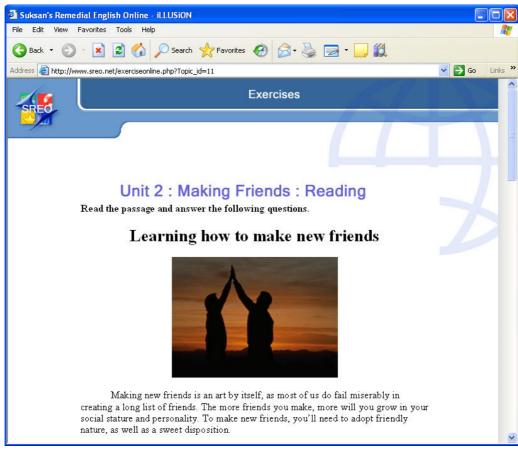


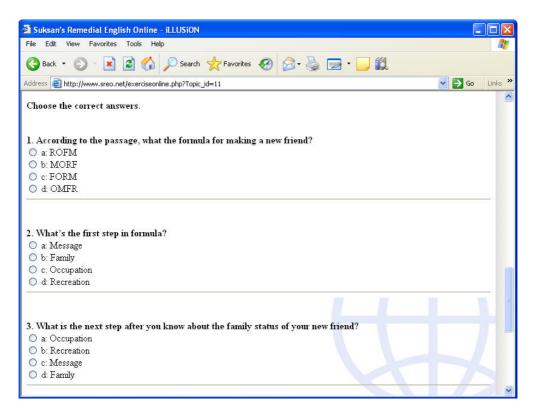


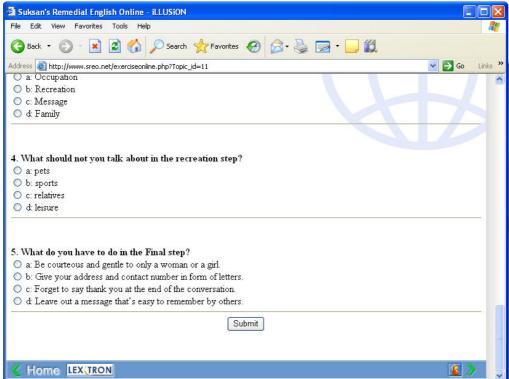


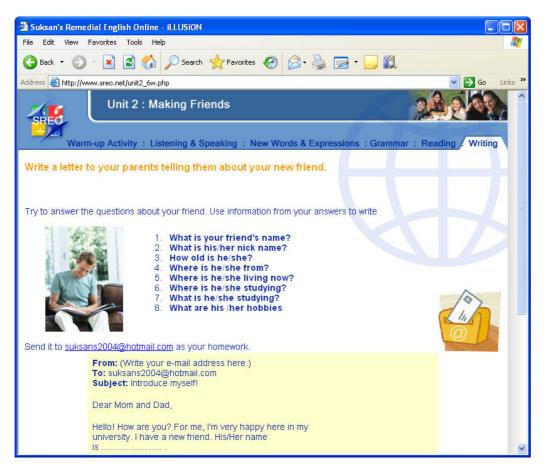


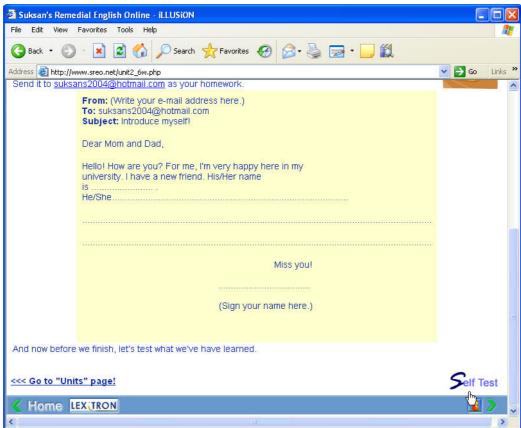


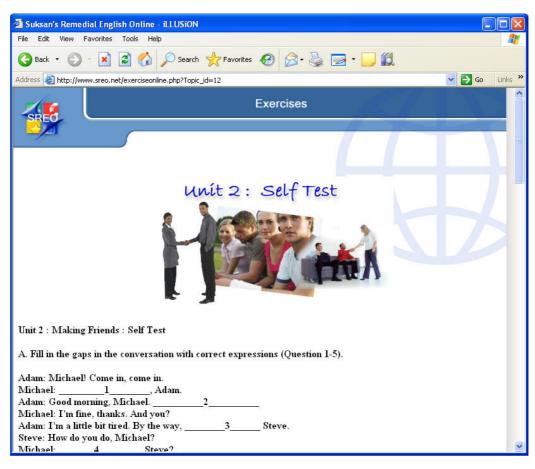


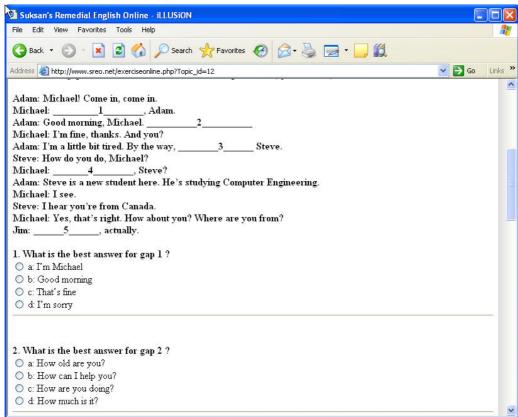


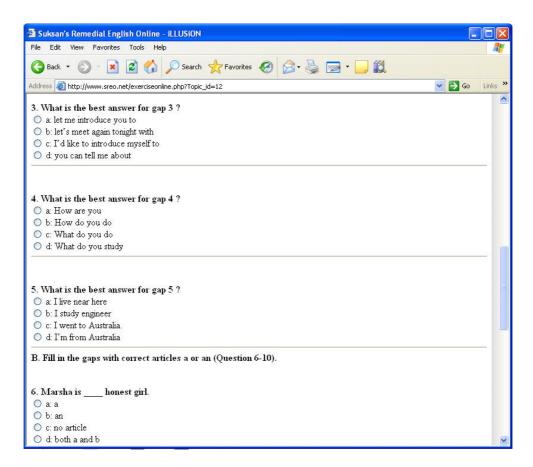


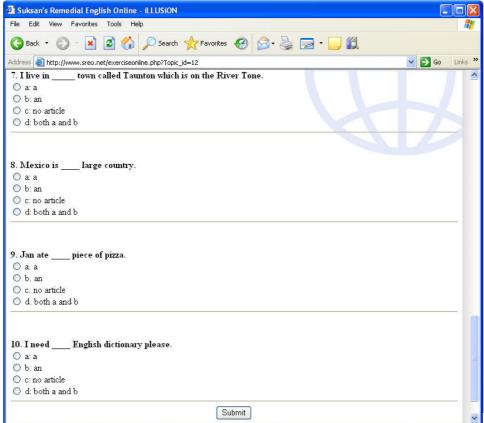


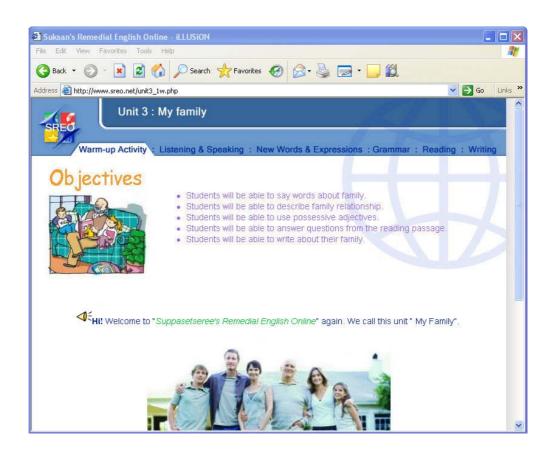


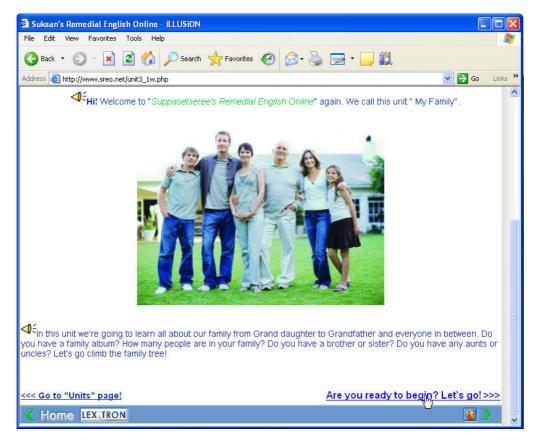


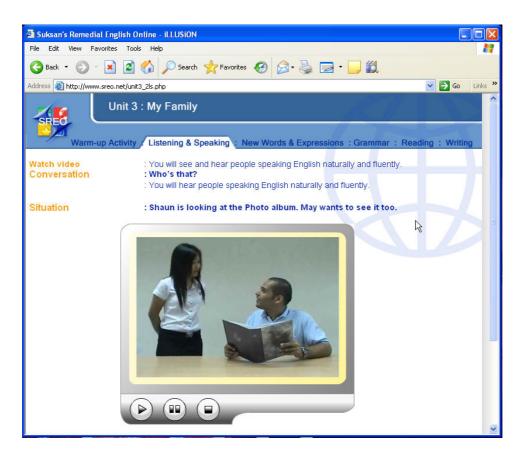


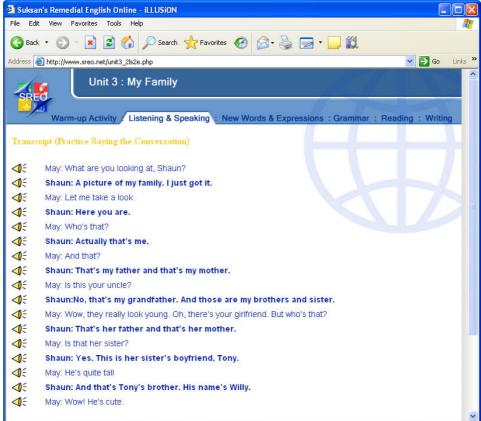


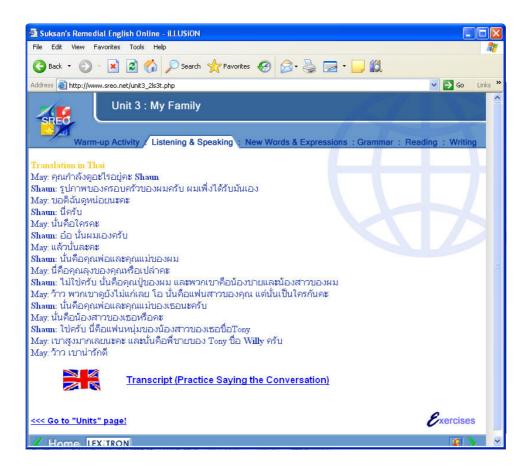




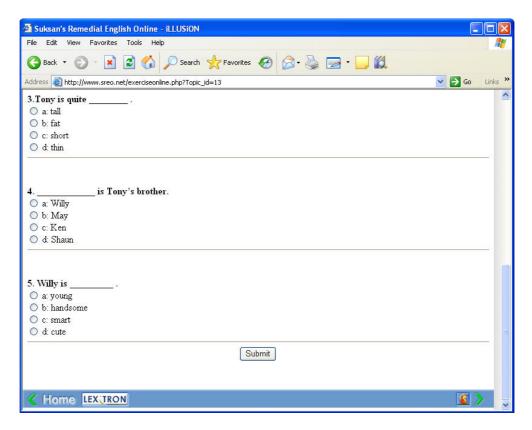




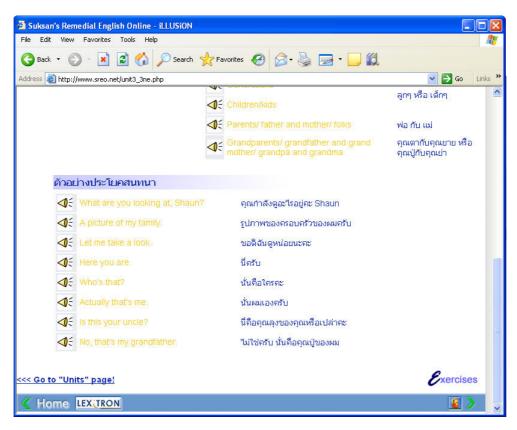


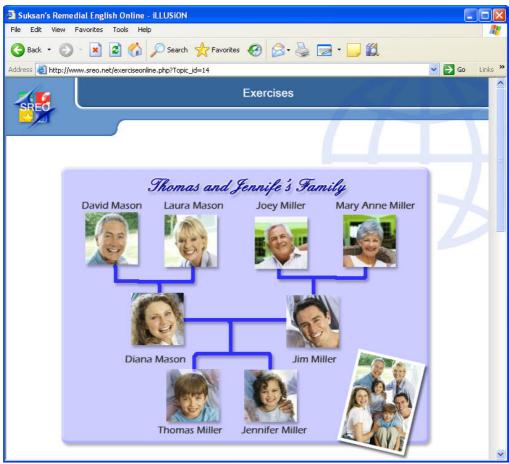


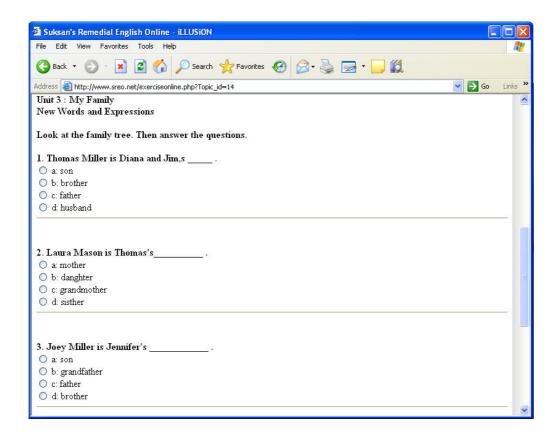


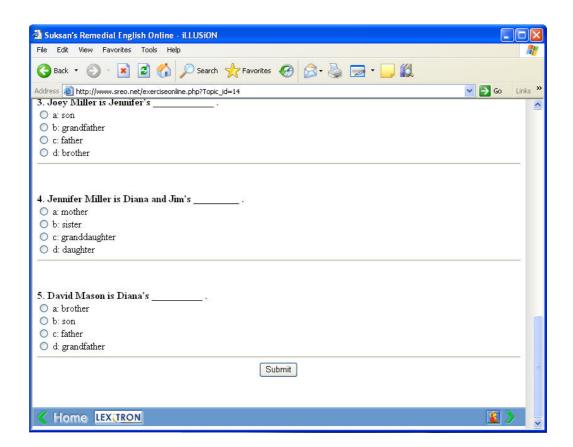


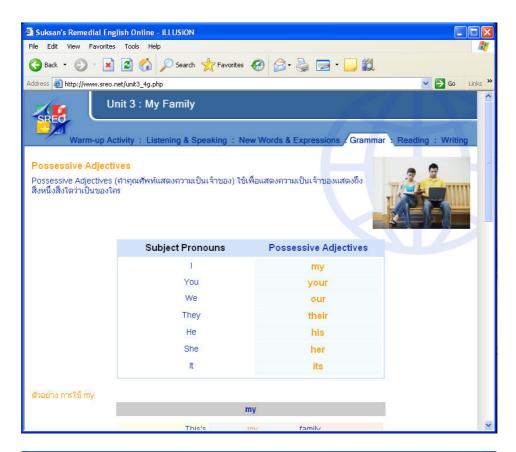


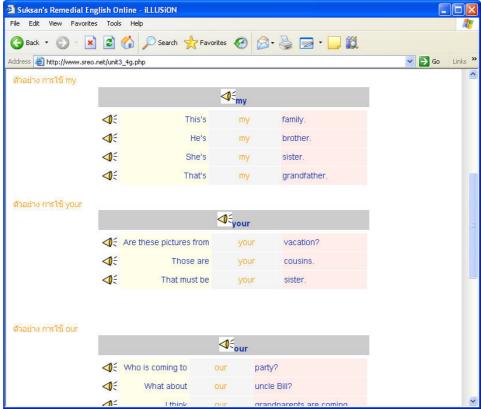


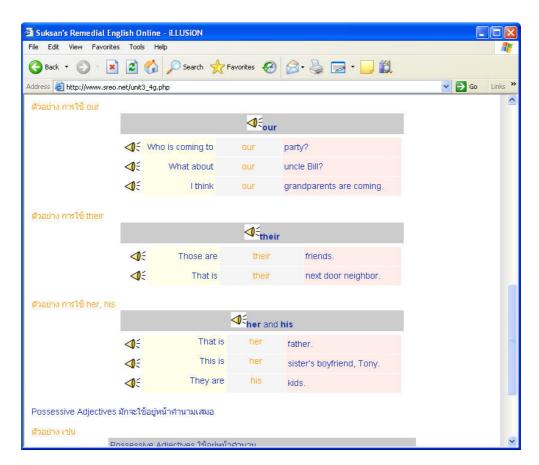


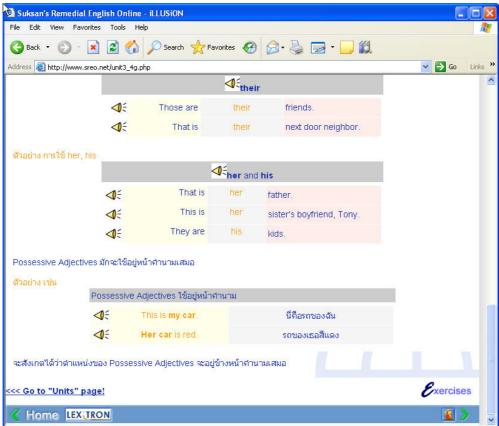




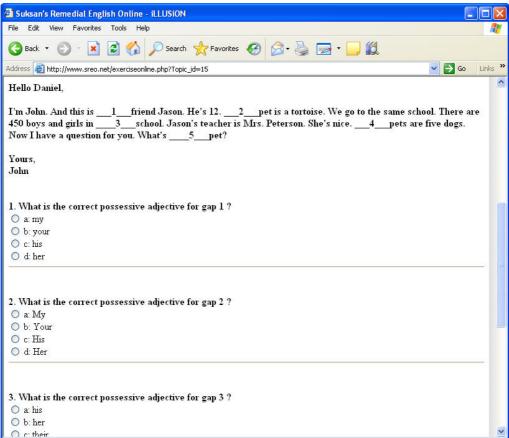


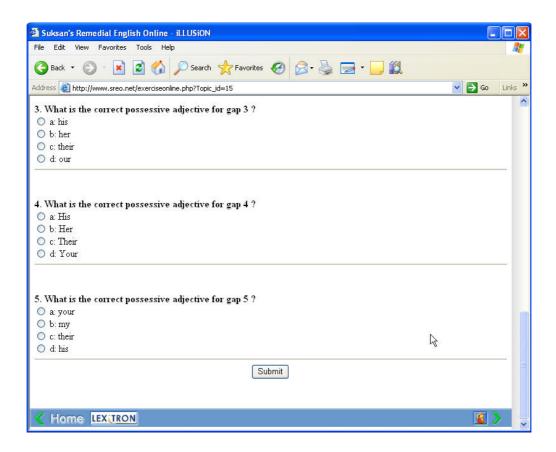


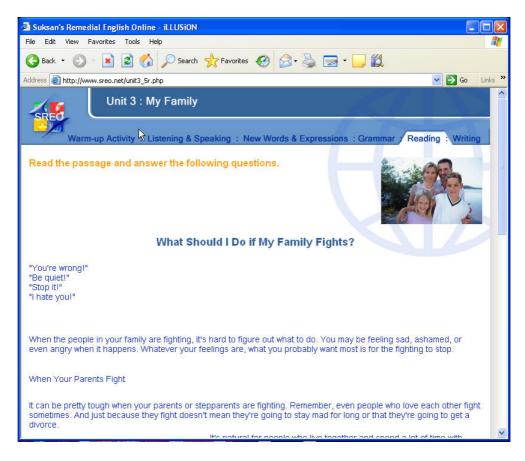


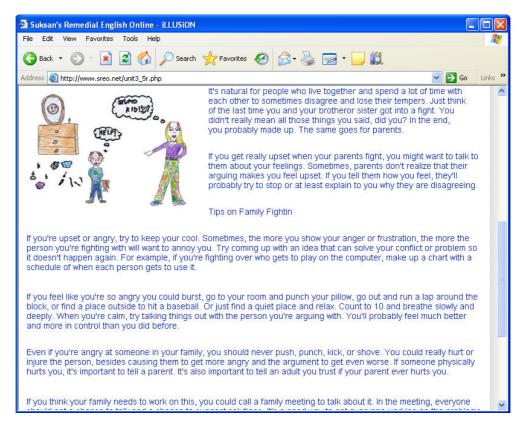


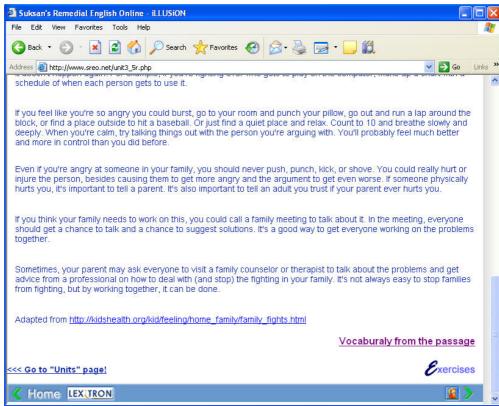


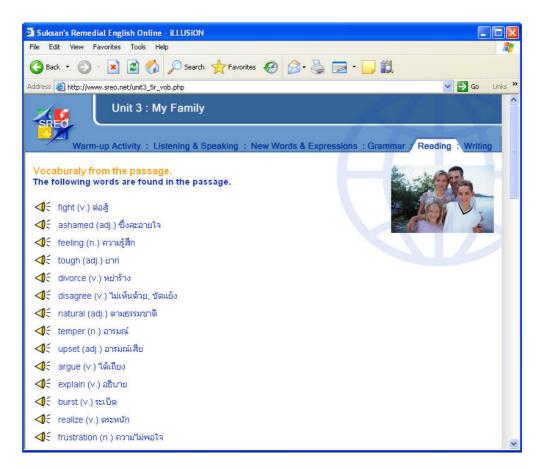


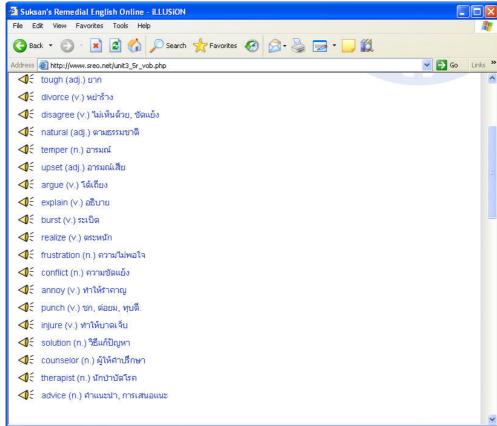


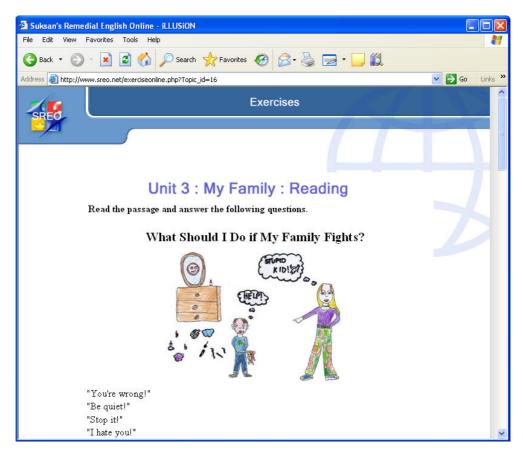


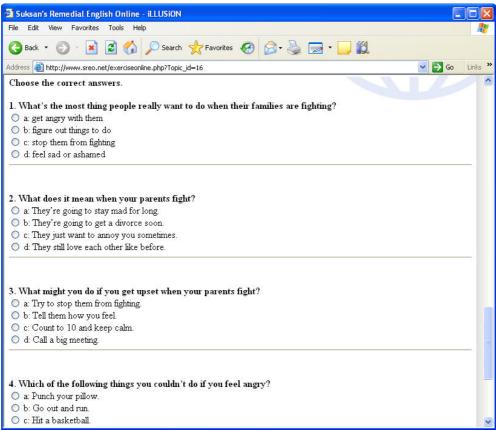


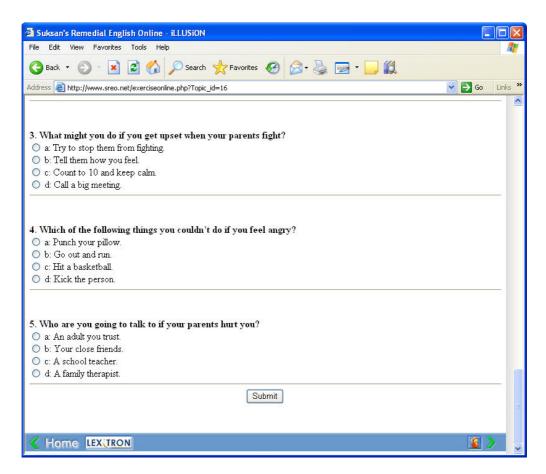


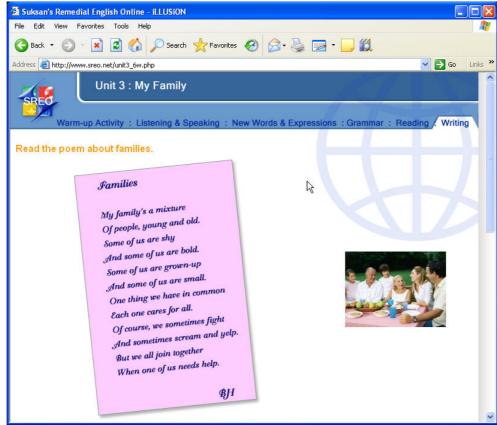


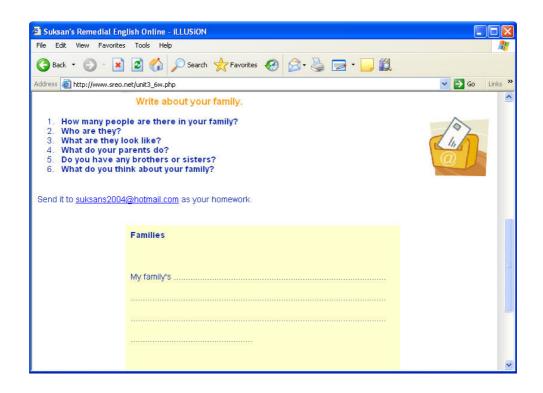


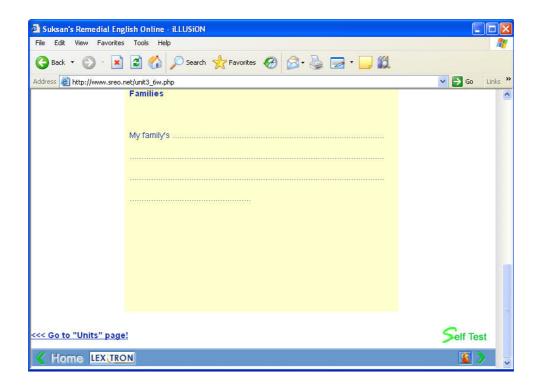


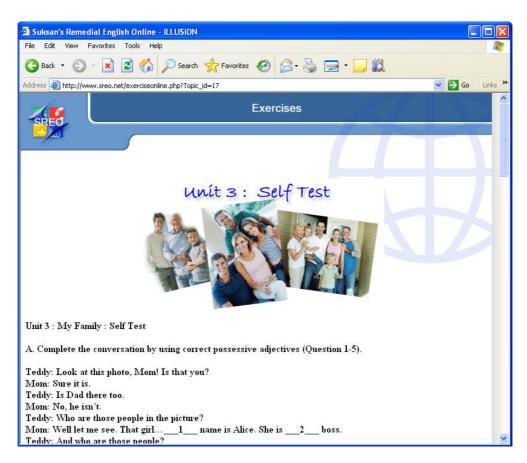


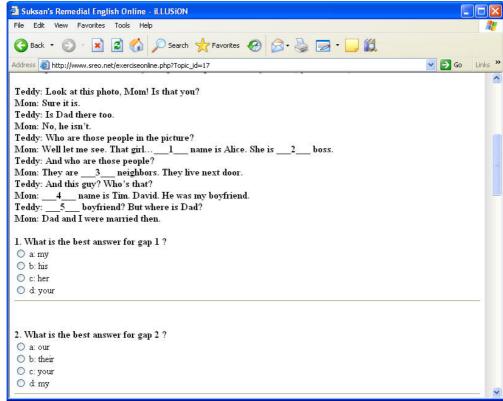


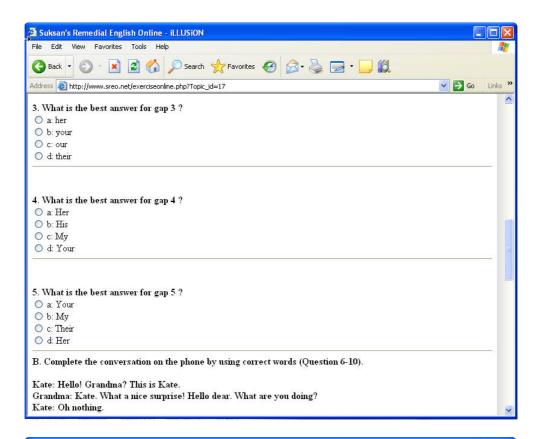


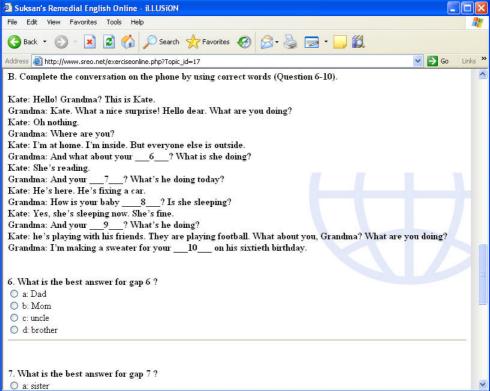


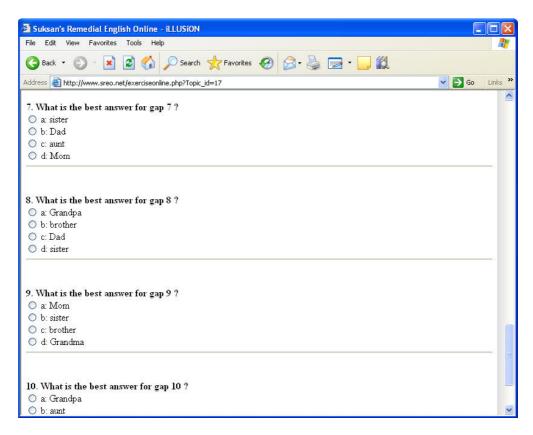


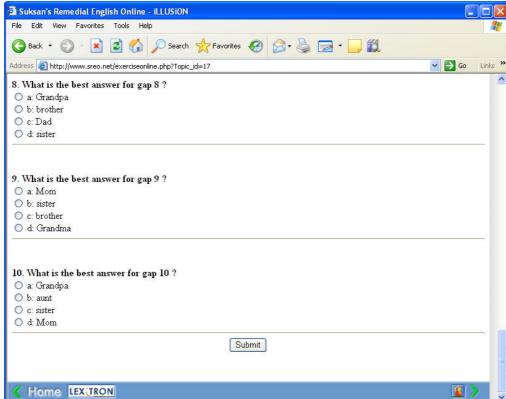


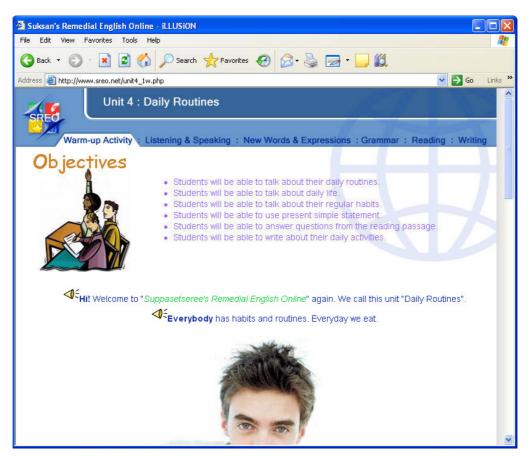


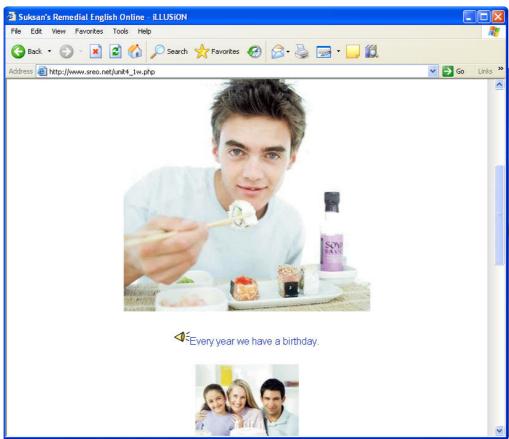


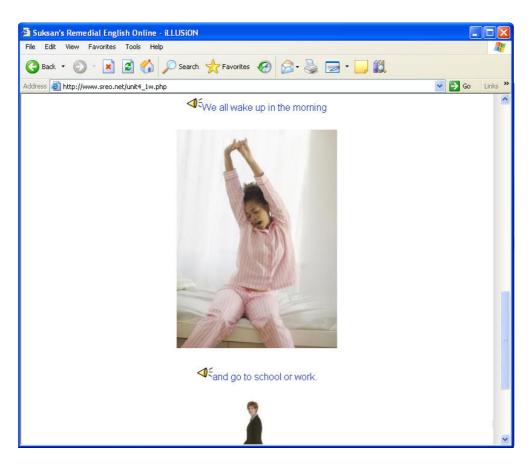


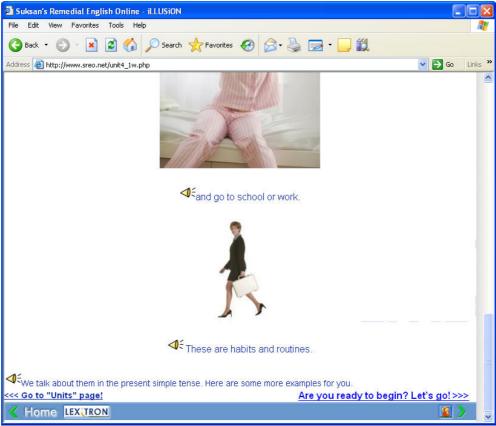


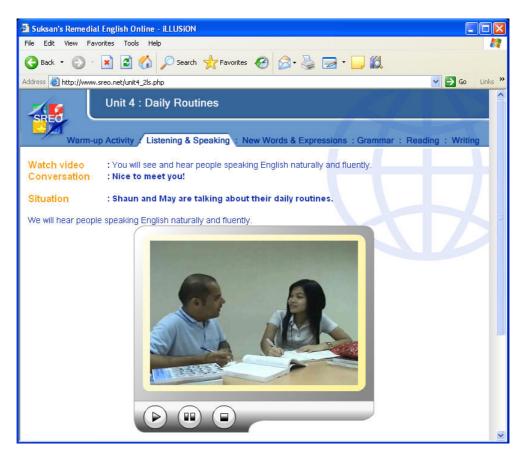




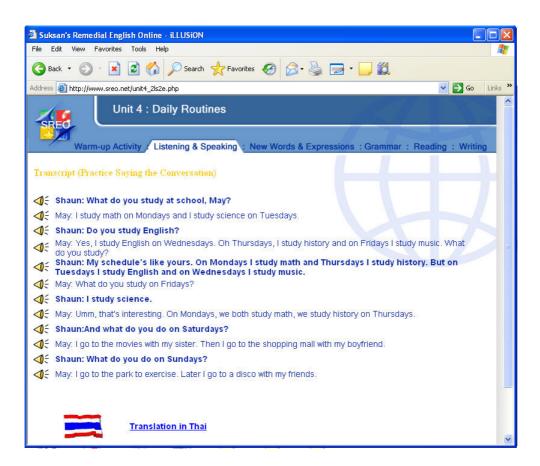


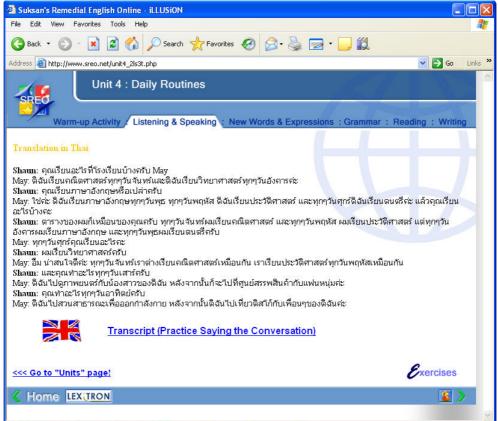


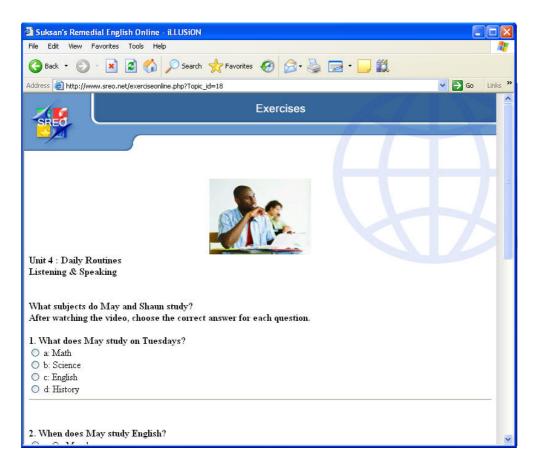


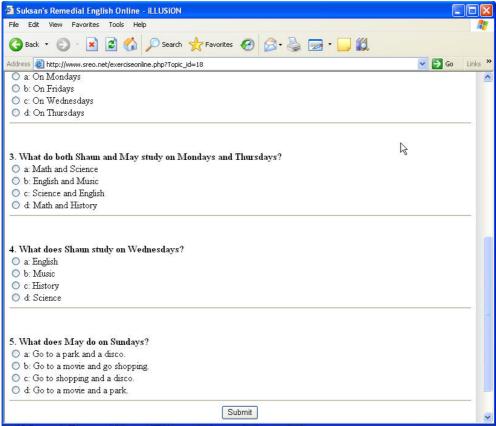


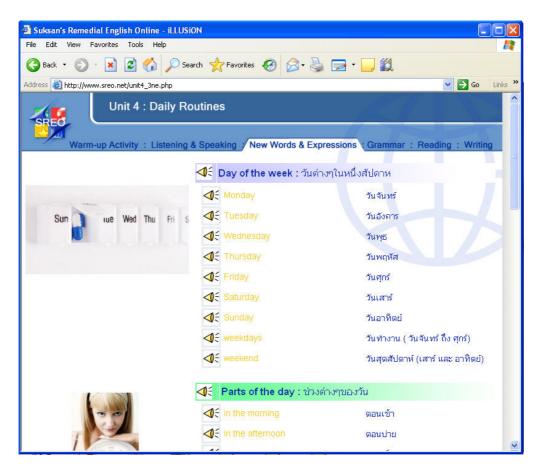


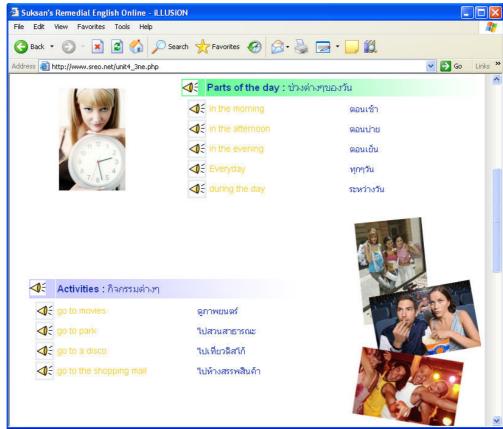


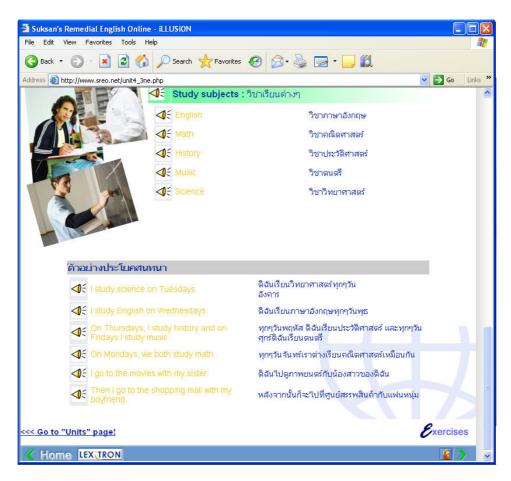


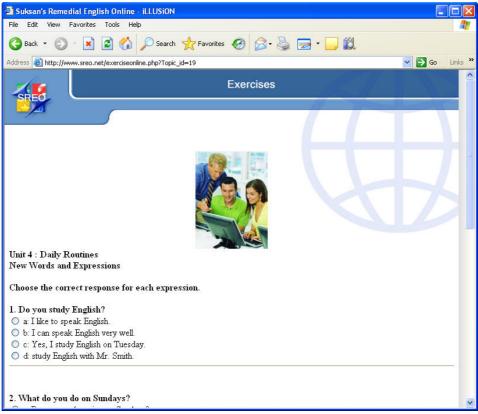


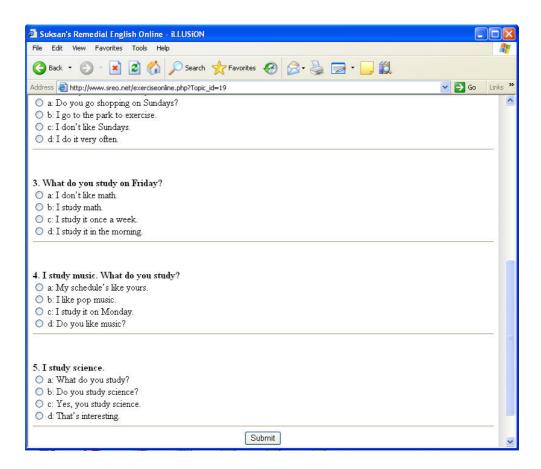


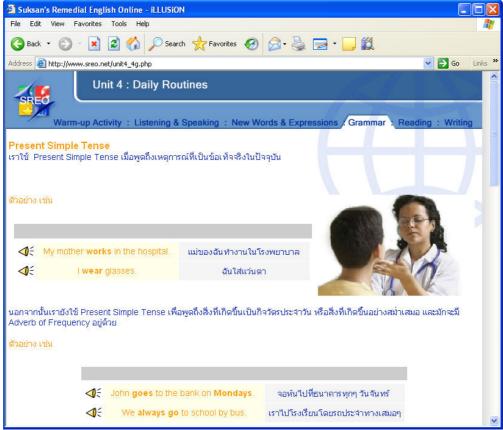


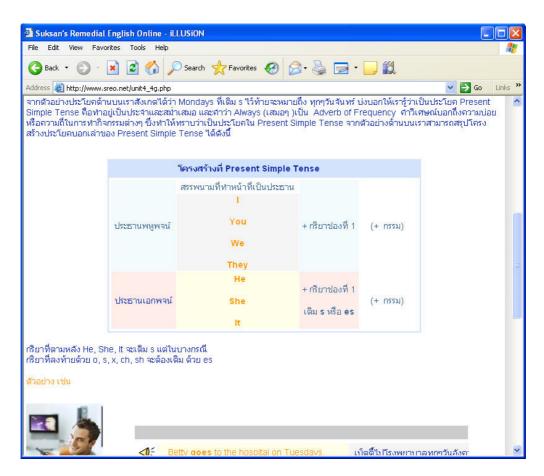


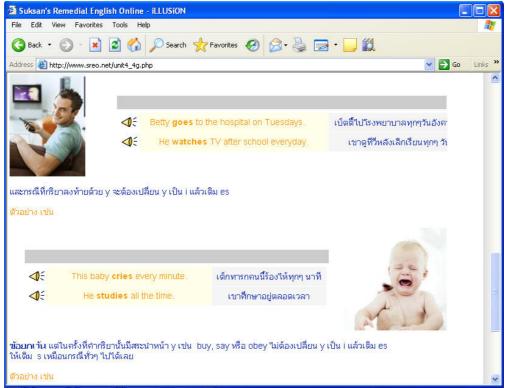


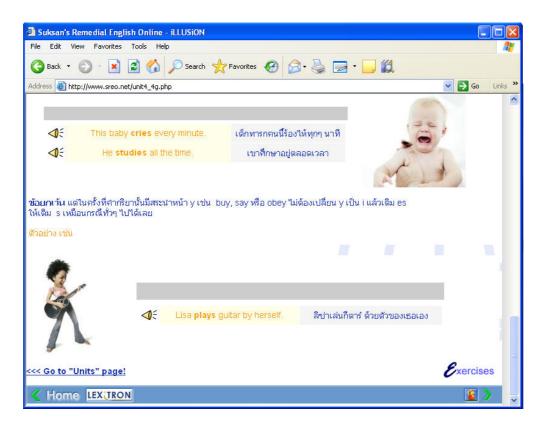


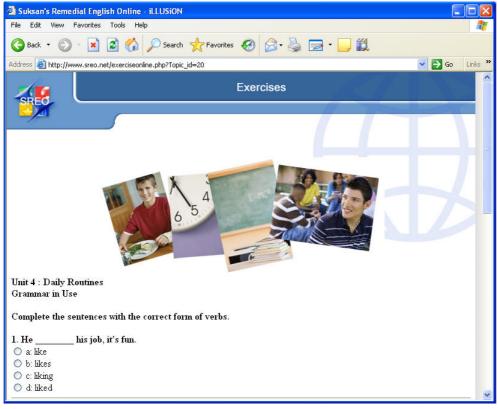


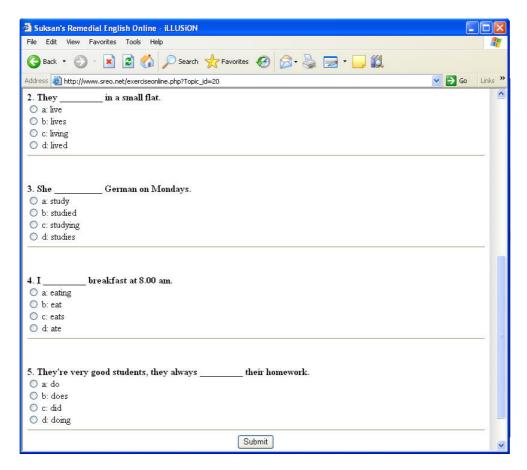


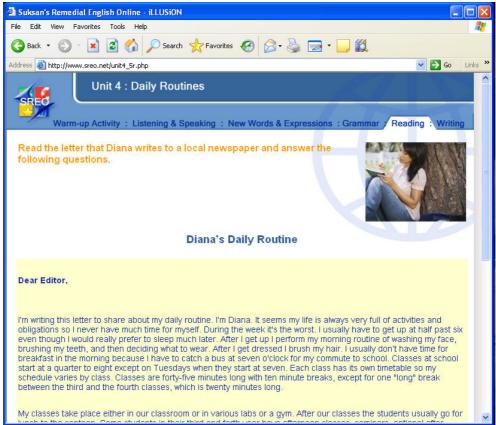


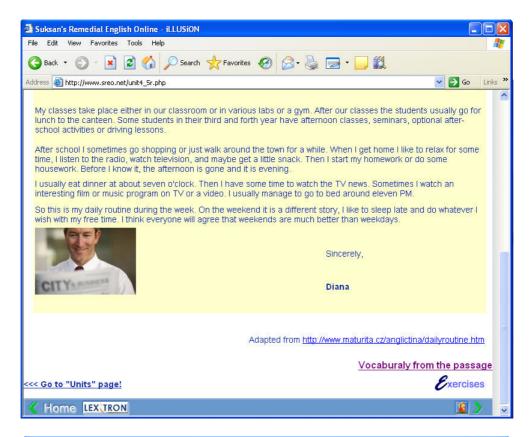


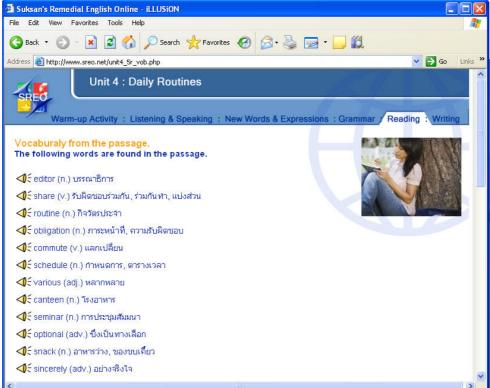


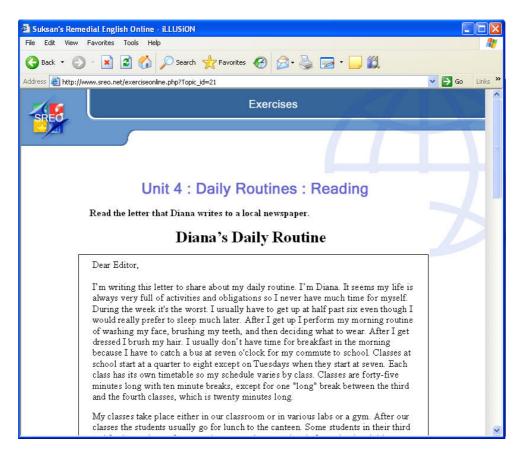


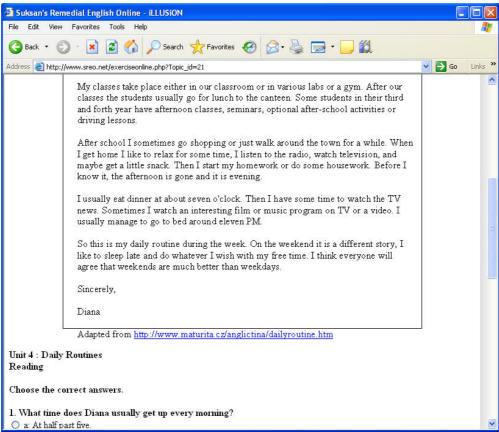


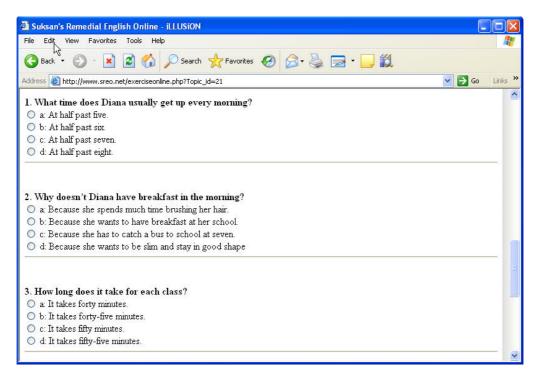


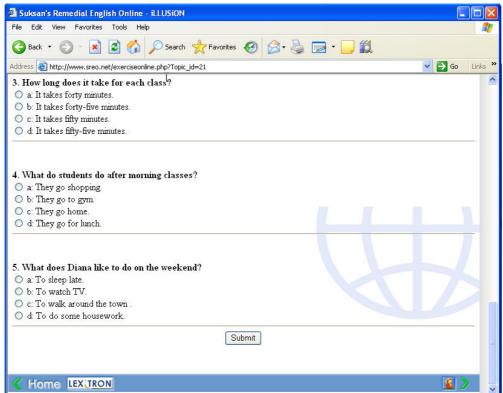


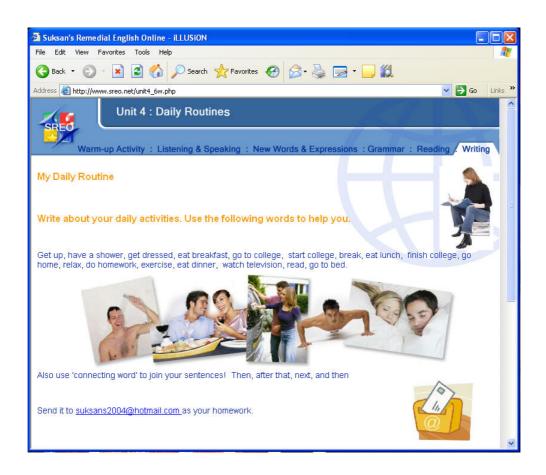


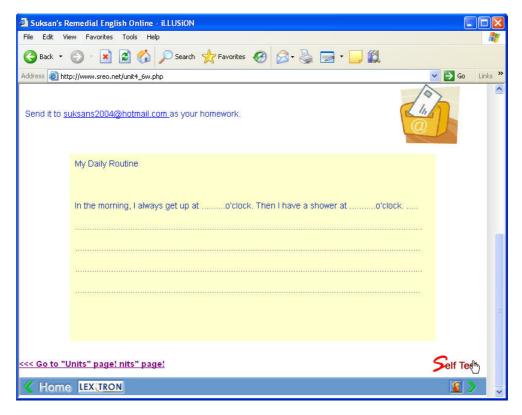


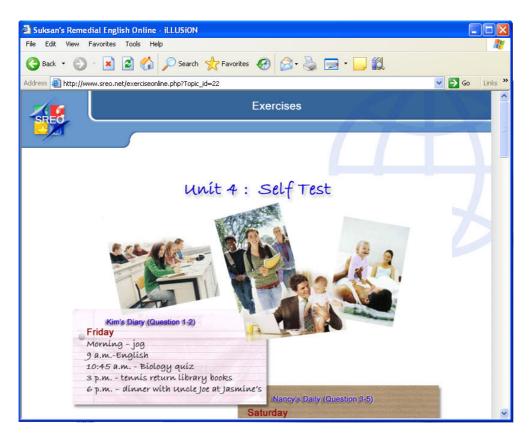


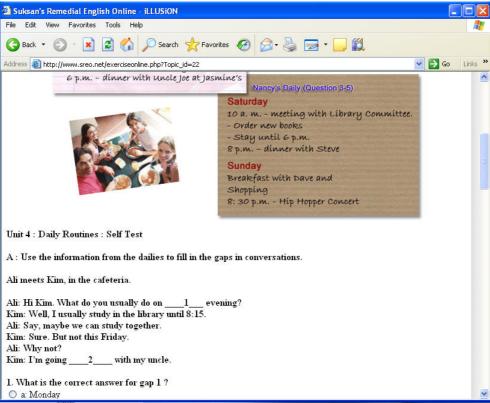


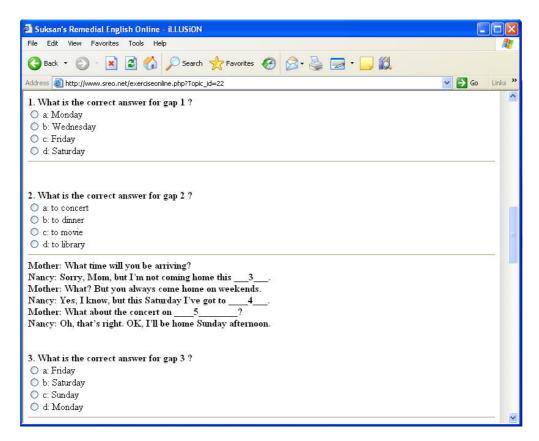


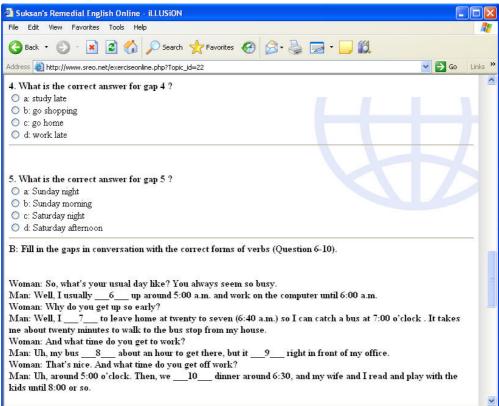


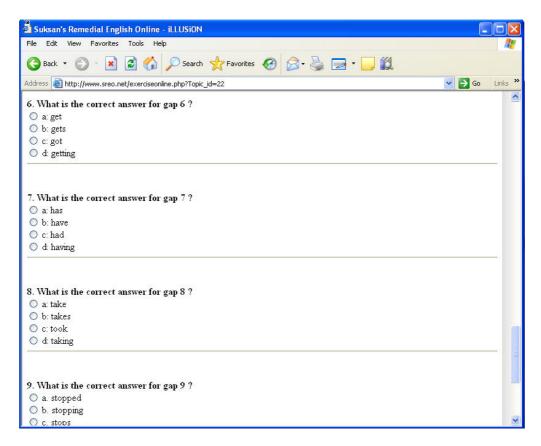


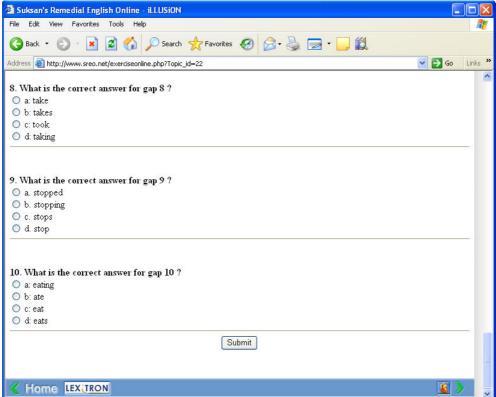


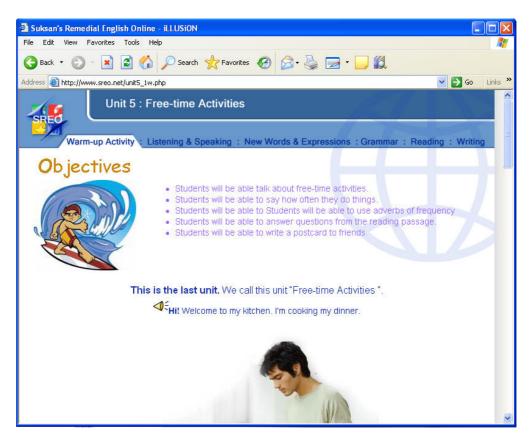


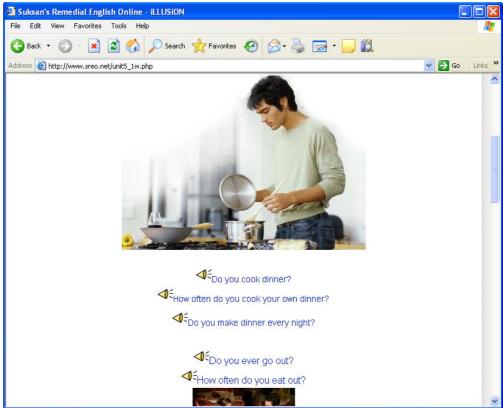


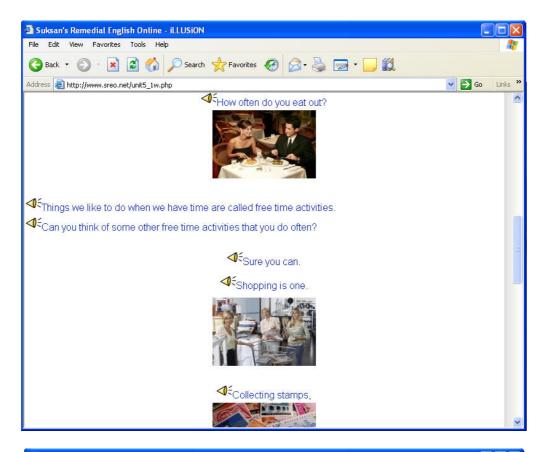


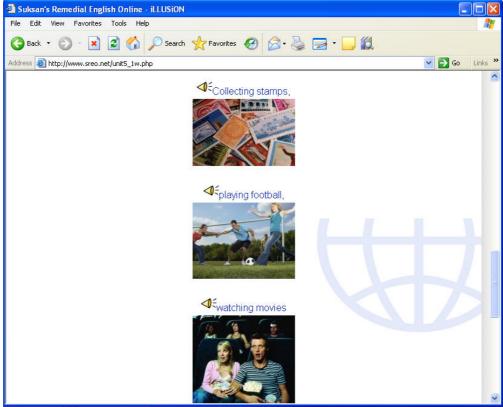


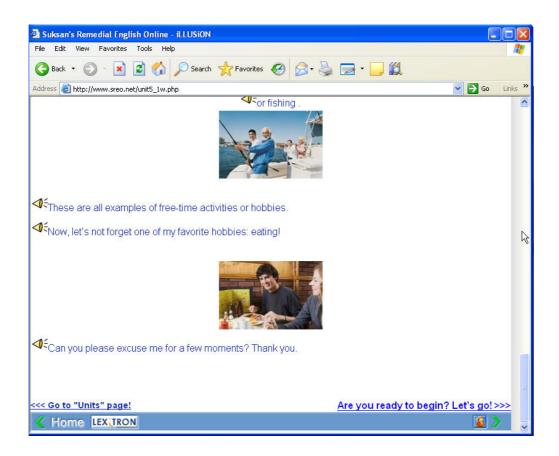


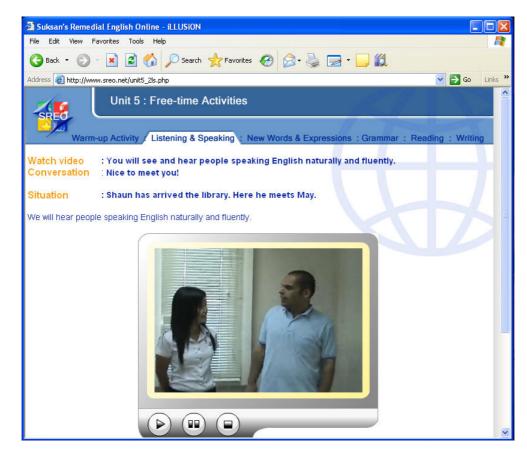


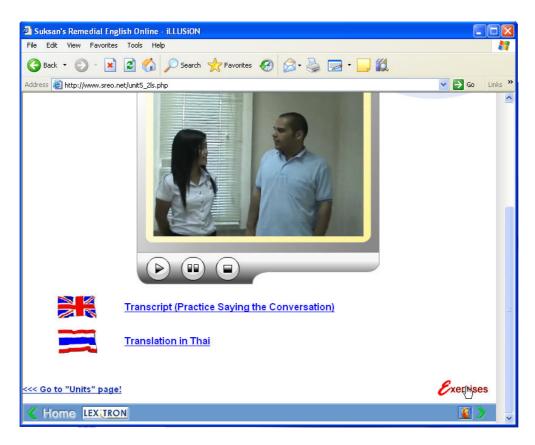


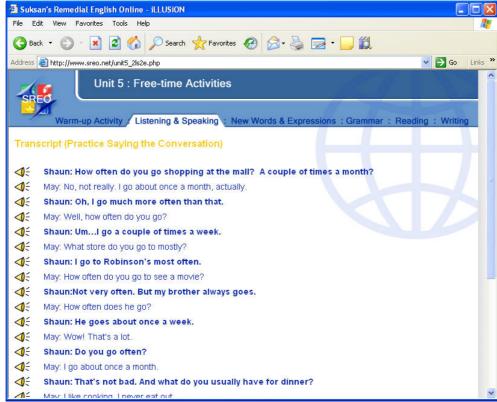


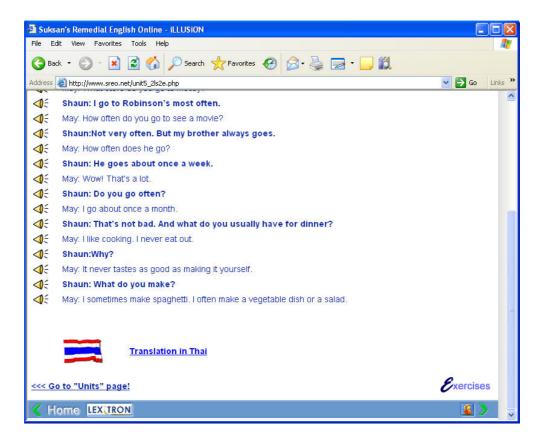


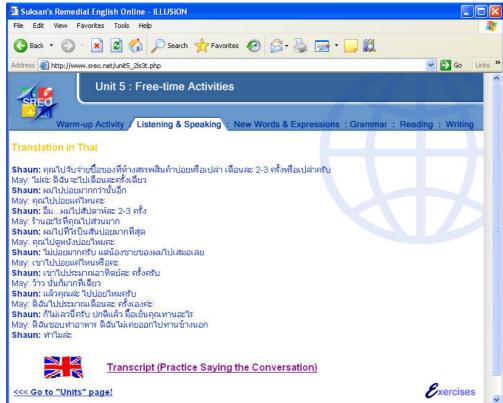


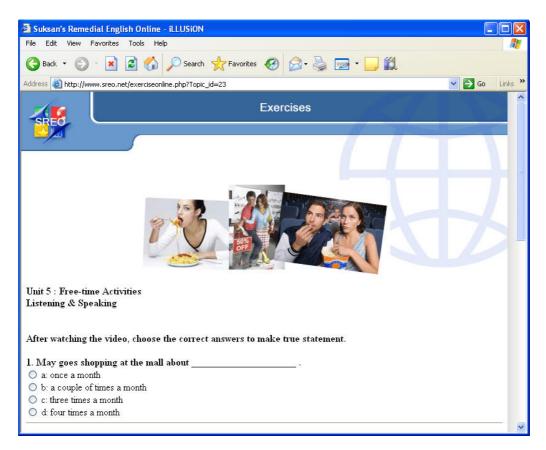


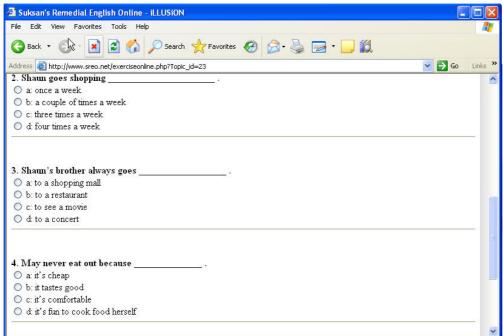


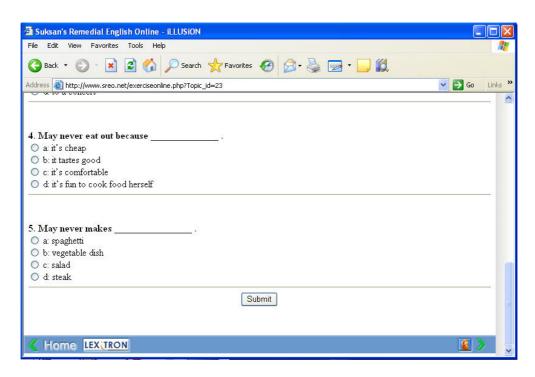


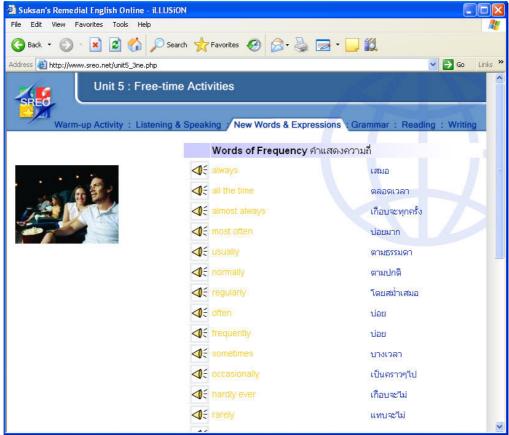


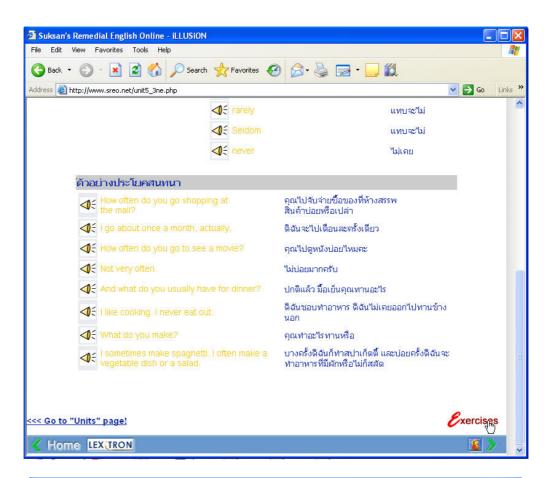


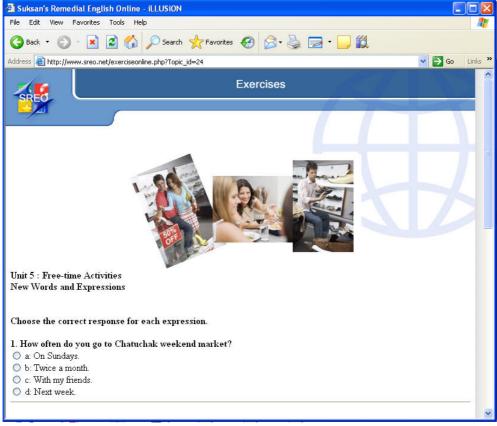


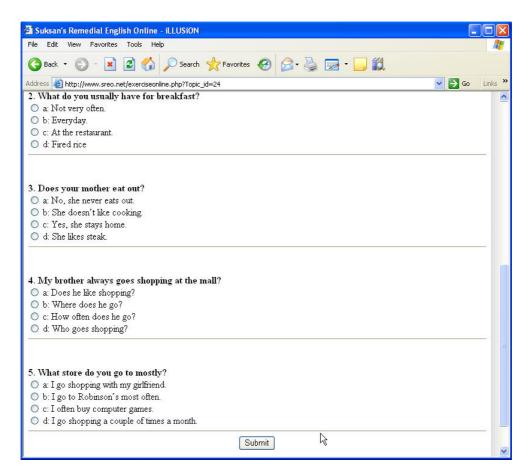


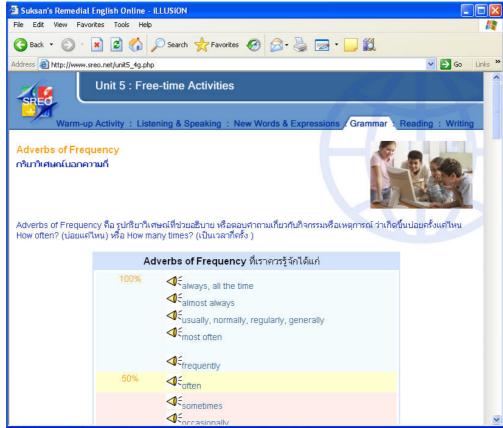


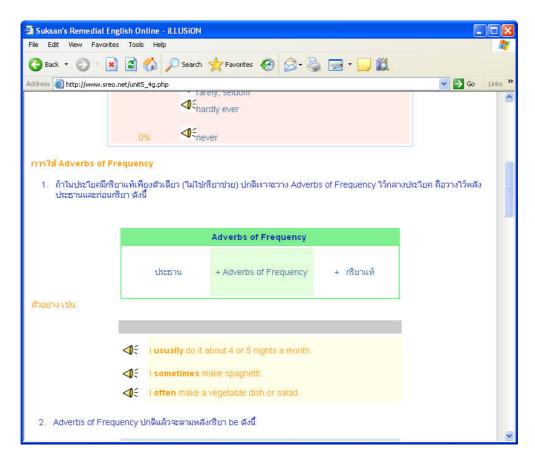


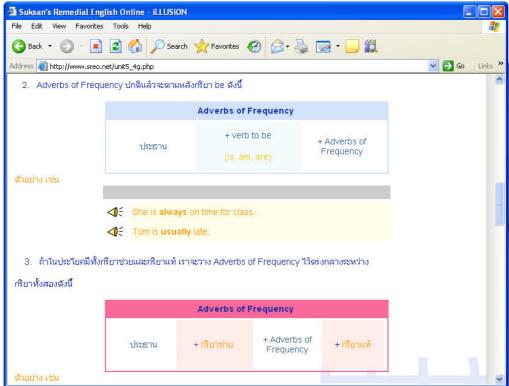


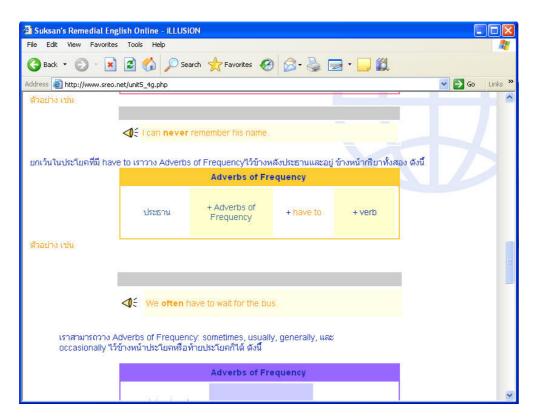


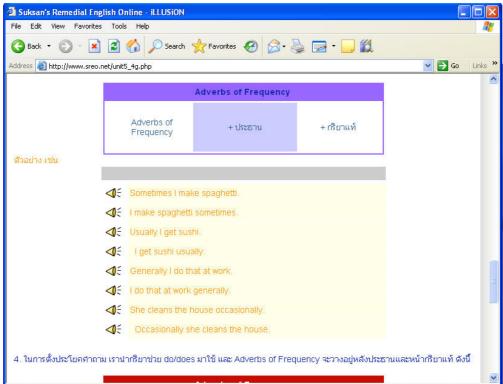


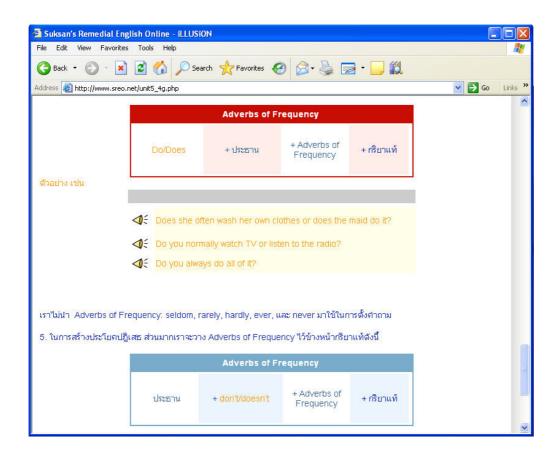


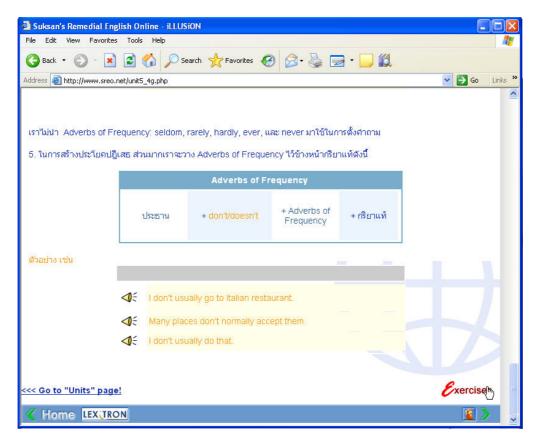


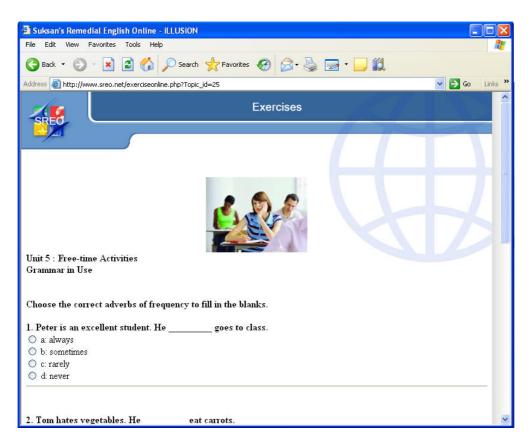


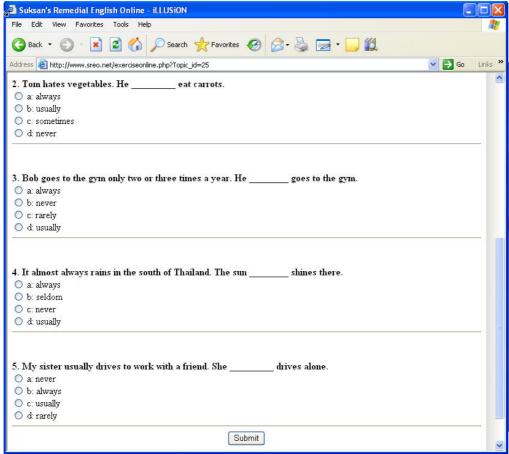


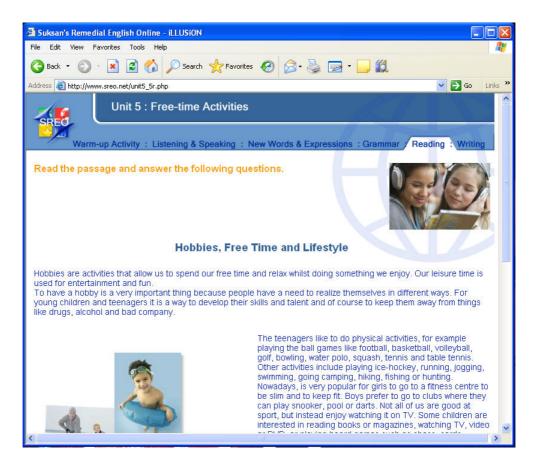




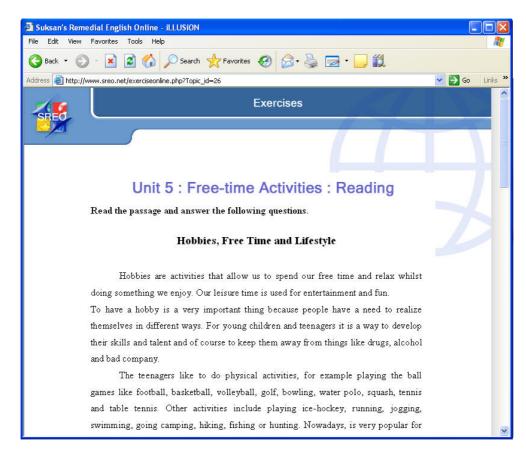


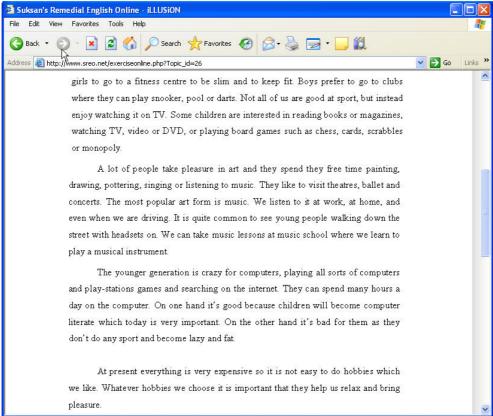


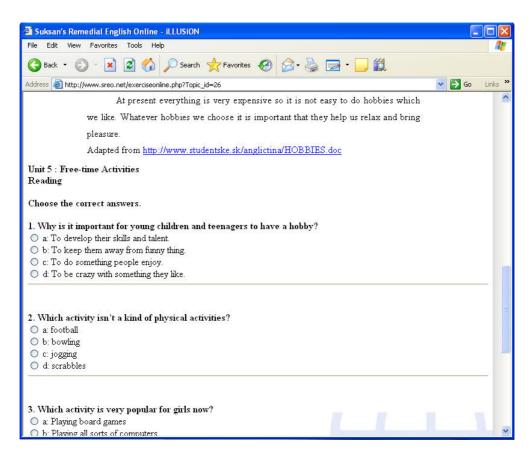


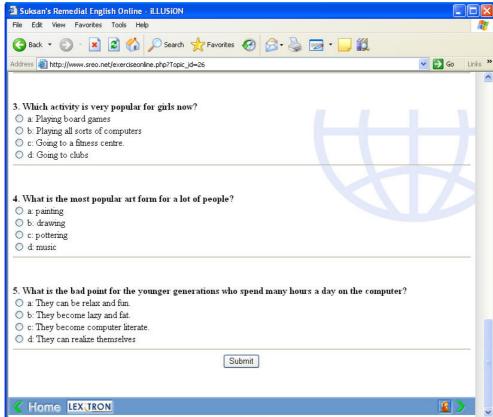


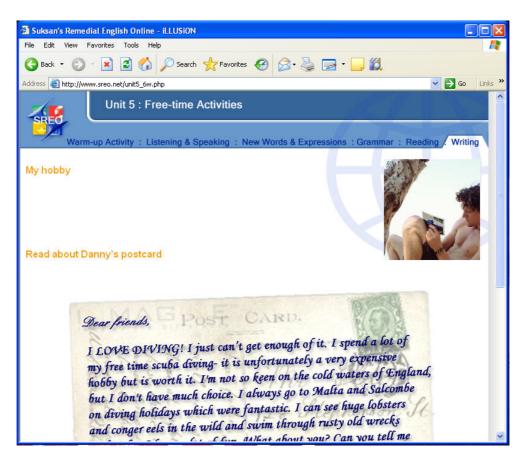


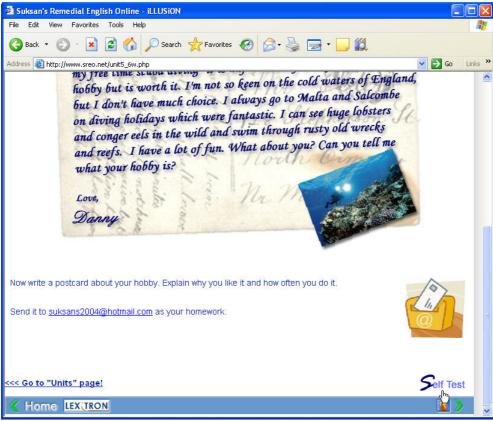


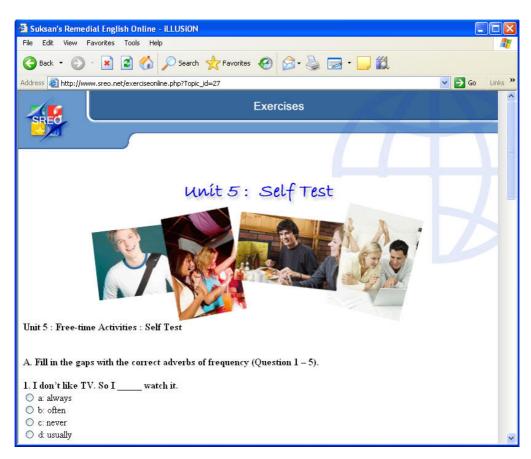


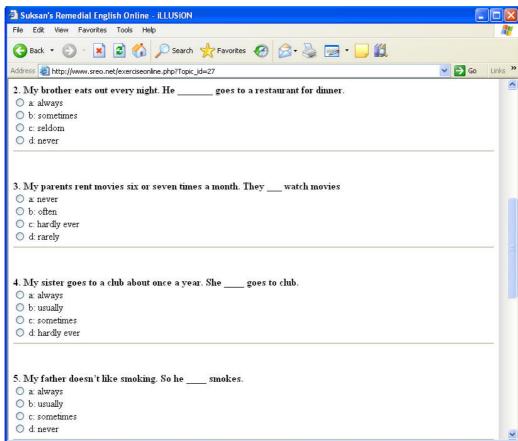


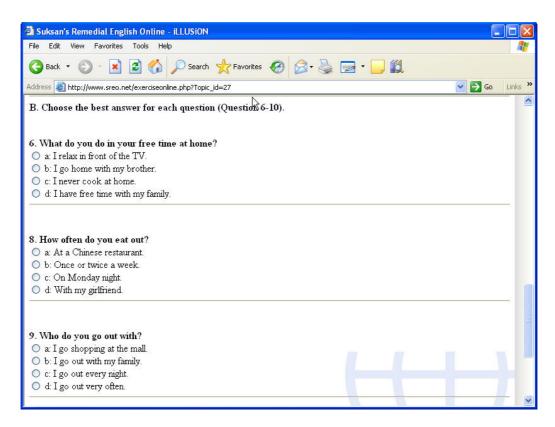


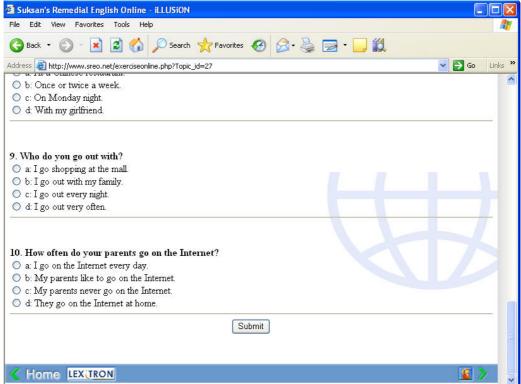


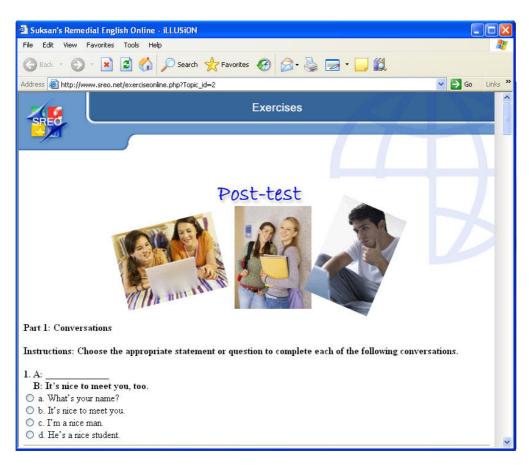


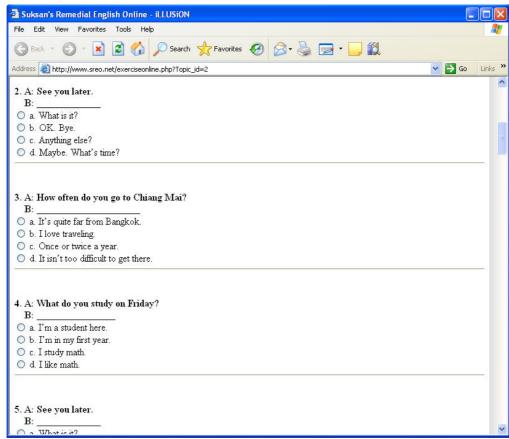


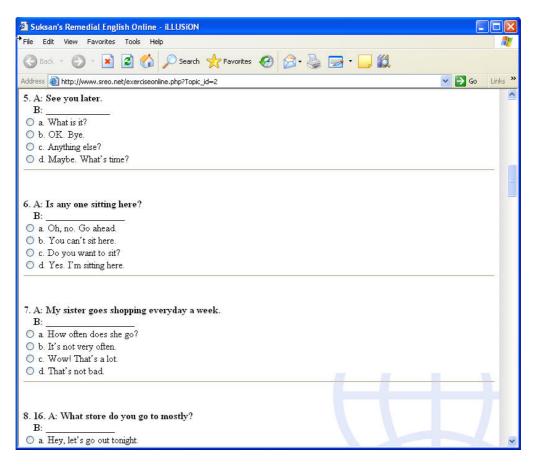


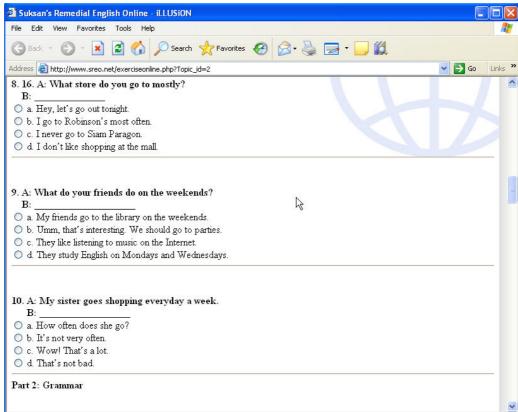


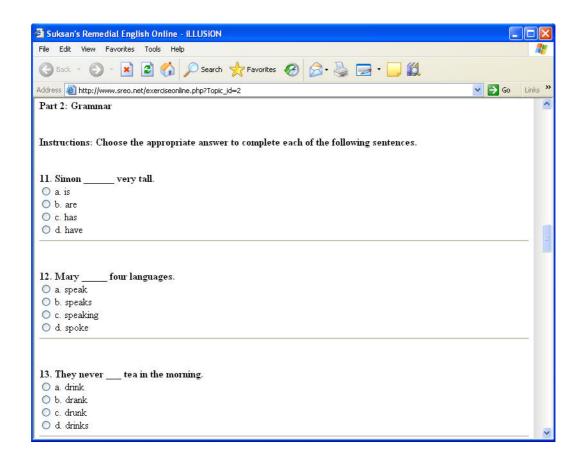


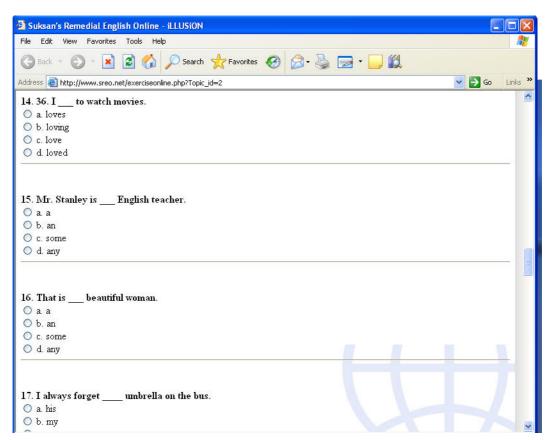




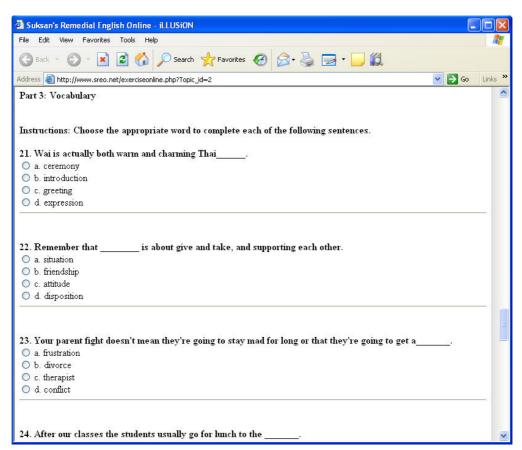


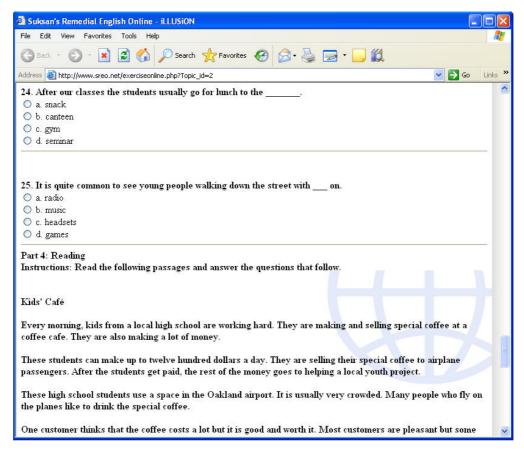


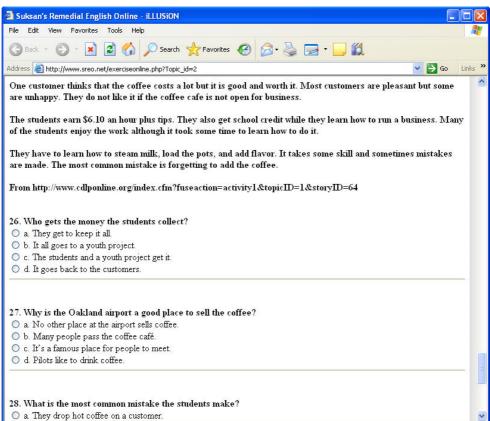


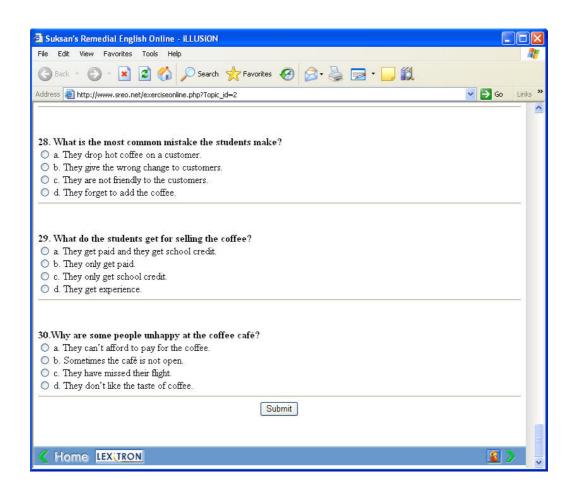


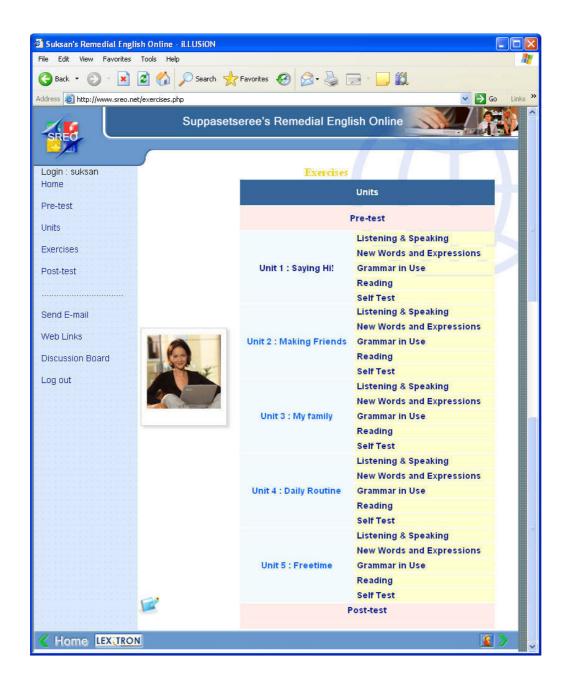
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③ Back → ⑤ → 🗷 🗷 🐔 🔑 Search 🥋 Favorites 🍪 🔗 → 🍃 🔜 📆	
Address 🗿 http://www.sreo.net/exerciseonline.php?Topic_id=2	ks »
17. I always forget umbrella on the bus.	^
O a. his	
○ b. my	
○ c. our	
O d. your	
<ul> <li>a. her</li> <li>b. his</li> <li>c. your</li> <li>d. their</li> </ul>	
19. Anna hates sports. She watches the games on television.  a. usually b. always	
O c. sometimes	
O d. never	
20.They students here.  a. is not b. are not c. am not d. have not	
O. DAME HOL	~









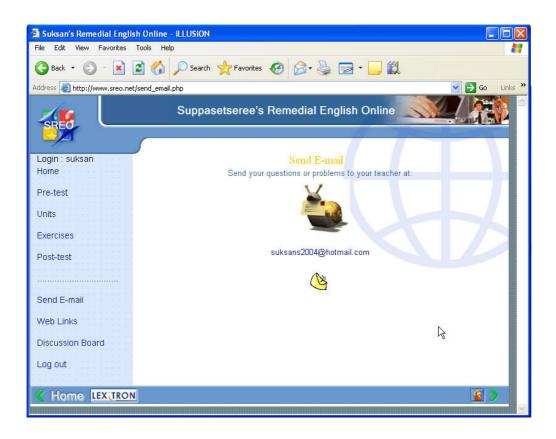


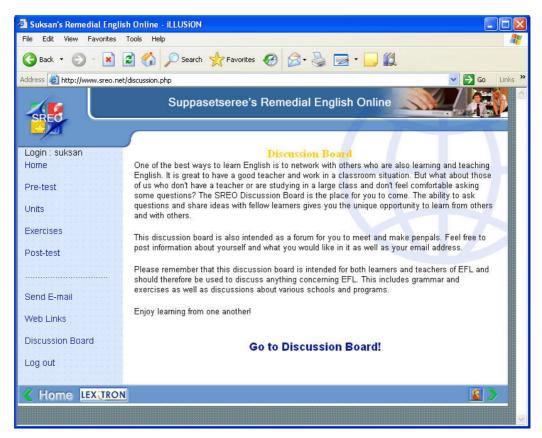
# 5.4.3 Useful Functions for Learning English on the Remedial English Lessons via the Internet

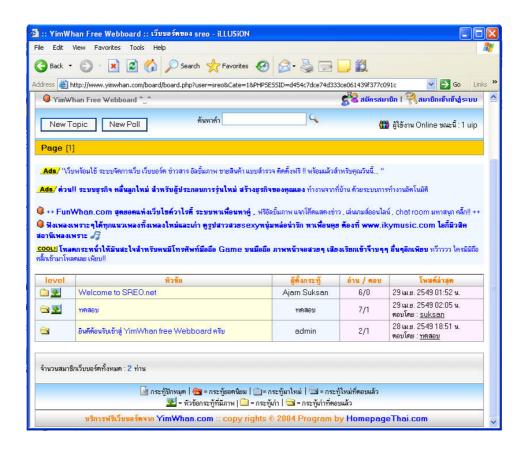
There are the useful functions for learning English on this website.

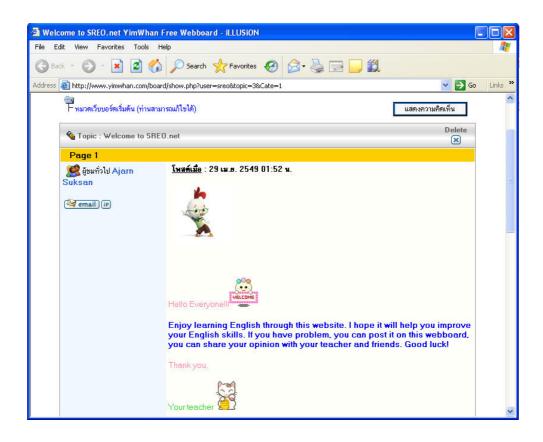
They are "Sending E-mail to the Teacher", "Dictionary Online", "Discussion Board" and "Web Links" to facilitate learning English..

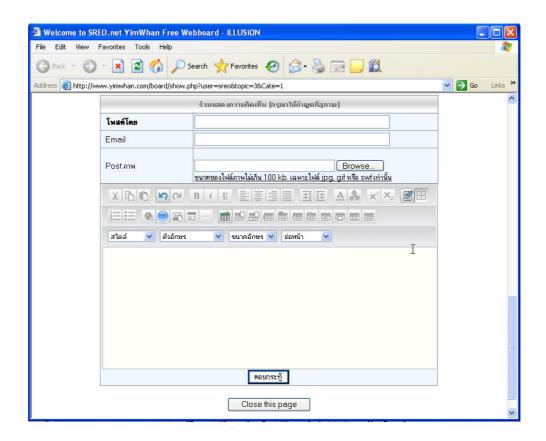














#### CHAPTER 6

## CONCLUSIONS AND RECOMMENDATIONS

## **6.1 Introduction and Purposes of the Chapter**

The purpose of this final chapter is to summarize the findings of the present study and to make recommendations for future research. The summary includes the purposes of the study, the sample, the instrumentation, the research procedure, and the results. Followed are the recommendations for the study. Suggestions for further research are made in the final section.

#### **6.2 Conclusions**

The present study has been conducted in order to develop instructional system for teaching Remedial English via the Internet for first-year students at Suranaree University of Technology, to determine the efficiency of the lesson based on the criteria 80/80, to compare the English learning achievement of students who learned by using Remedial English lessons via the Internet and with the achievement of those students who learned by the face-to-face method, and to explore students' attitudes toward learning the Remedial English lessons via the Internet.

The samples were 60 first-year engineering students at Suranaree University of Technology who were studying English 1 in the third trimester of the 2006 academic year. They were divided into two groups: the experimental group and control group. The experimental group consisting of 30 students received tutoring via

the Internet on Remedial English course, whereas the control group consisting of 30 students received tutoring from the face-to-face method based on the content of Remedial English.

The research procedures were divided into two main parts. The first part included the procedures of development the instructional system model and determination of the efficiency of the Remedial English lessons via the Internet. The second part included comparing English learning achievement and exploring students' attitudes. In the first part, the instructional system plan was examined by the experts and the Remedial English lessons via the Internet were tried out to determine the efficiency. The lessons were tried out with three students in the individual test, six students in the small group test, and thirty students in the field study test. In the second part, there was a comparison of students' English learning achievement and exploration of students' attitudes toward learning the Remedial English lessons via the Internet. After giving the pre-test, the experimental group learned the Remedial English lessons via the Internet, whereas the control group learned by face-to-face method. Then the post-test was administered. The research instrument consisted of instructional system plan, an evaluation form of instructional system plan, website for learning Remedial English, lesson plan for control group, a pre-test, a post-test, an attitude questionnaire, and a guide for semi-interview. The data obtained from different instruments were analyzed in two main ways; quantitative data analysis and qualitative data analysis.

The results of the research can be summarized as follows.

1. The developed instructional system plan for teaching Remedial English (SREO Plan) for first-year students at Suranaree University of Technology

comprises six components arranging in six logical steps: (1) Analyzing Setting, (2) Constructing Prototype, (3) Producing Instructional Packages, (4) Testing Prototype, (5) Conducting Teaching and Learning Activities, and (6) Evaluating and Revising. The SREO Plan was rated by the experts in Instructional Systems Technology and English Language Teaching field as "Very Appropriate".

- 2. The efficiency of the Remedial English lessons via the Internet for first-year students at Suranaree University of Technology was 85.03/86.27 which was higher than the prescribed criteria 80/80.
- 3. The English learning achievement of students received tutoring via the Internet was significantly higher than those received tutoring through face-to-face method.
- 4. Students had very good attitudes toward learning Remedial English via the Internet.

# **6.3** Recommendations for the Present Study

Some recommendations based on this research may be made as follows.

- 6.3.1 Learning through the Internet-based instruction, students need to have basic knowledge of computer skills so that they can use computers and the Internet, and develop their confidence using them.
- 6.3.2 The language lessons should include a variety of learning materials and activities with different levels of difficulty, and integrate all language skills as much as possible since individual students have their own learning styles and abilities. Therefore, learning materials and activities should be designed to meet students' needs.

- 6.3.3 As individual students have different levels of language abilities, their pace of learning a language also varies. Thus, time for learning should not be limited. Students should be allowed to study and access the lessons as long as they need.
- 6.3.4 To facilitate learning, the use of online dictionary is necessary in web-based instruction since the less able students may have difficulty in understanding unfamiliar vocabulary. Sometimes, the translation into their native language is also important to help students to understand some instructions or explanations which are difficult to explain in the target language. Otherwise, students will struggle to understand the lesson, which may end up with negative attitudes towards learning the target language.
- 6.3.5 Teachers in many subjects should be trained in using web technology to create web-based learning and teaching for their classes. Schools should support not only teacher training, but also facilitate enough technology tools for them.

# **6.4 Suggestions for Further Research**

According to the results of the present study, the following suggestions are proposed for further study.

6.4.1 Similar research should be conducted with other groups of students who are required to learn Remedial English. They may have different problems and need in order to learn English.

- 6.4.2 A comparative study of the learning achievement of students learning other English contents through the Internet-based instruction should be conducted.
- 6.4.3 Researchers should investigate the effects of samples on gender, number of samples, and knowledge of basic computer skills.

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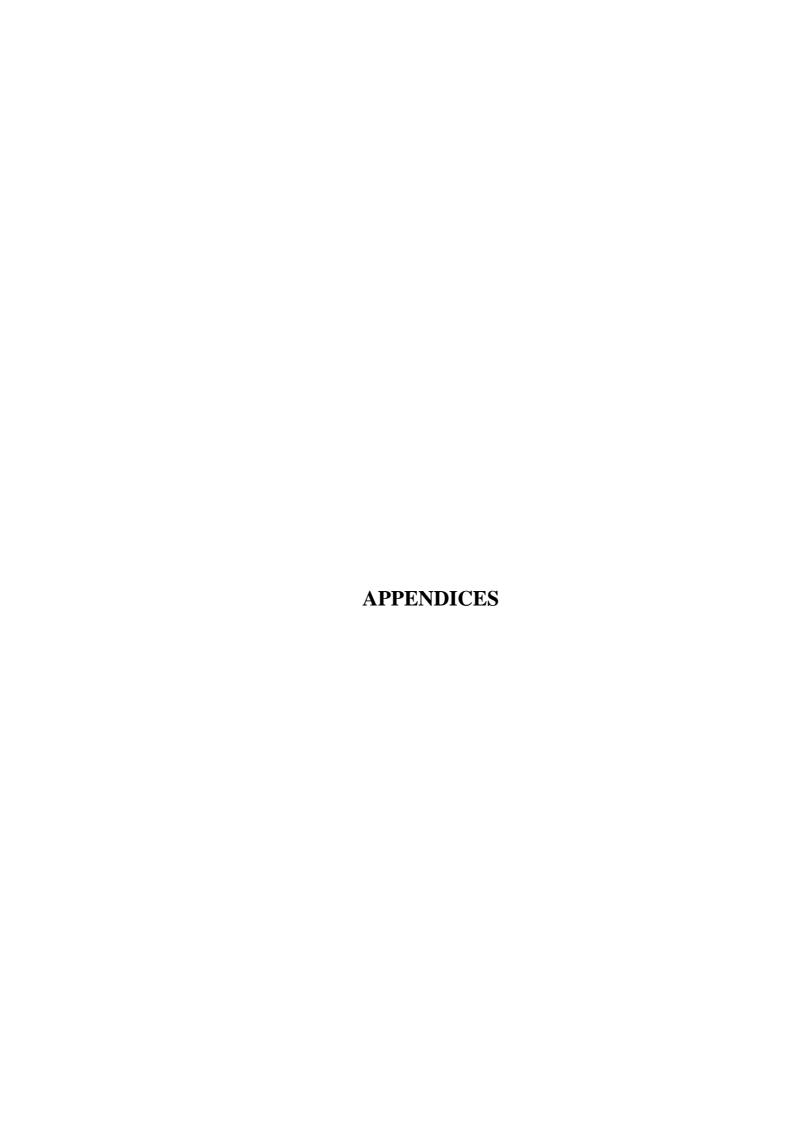
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## **APPENDIX A**

## **Item Analysis**

The item analysis results showing the level of difficulty (p) and the discrimination index(r) of the pre-test and post-test on Remedial English (80 items)

Items	R <sub>H</sub>	$R_{\rm L}$	р	r	Pre-test	Post-test
1	33	19	0.7879	0.4242	/	
2	33	18	0.7727	0.4545		/
3	32	19	0.7727	0.3939	/	
4	30	28	0.8788	0.0606		
5	29	23	0.7879	0.1818		
6	33	19	0.7879	0.4242		/
7	33	3	0.5455	0.9091	/	
8	31	20	0.7727	0.3333		/
9	20	5	0.3788	0.4545		
10	13	6	0.2879	0.2121	/	
11	30	18	0.7273	0.3636		/
12	14	3	0.2576	0.3333		/
13	14	9	0.3485	0.1515		
14	12	2	0.2121	0.3030		/
15	33	13	0.6970	0.6061		/

Items	R <sub>H</sub>	$R_{\rm L}$	p	r	Pre-test	Post-test
16	33	17	0.7576	0.4848		/
17	24	10	0.5152	0.4242	/	
18	32	20	0.7879	0.3636	/	
19	21	18	0.5909	0.0909		
20	23	11	0.5152	0.3636	/	
21	33	19	0.7879	0.4242	/	
22	31	12	0.6515	0.5758		/
23	32	18	0.7576	0.4242	/	
24	32	18	0.7576	0.4242	/	
25	33	17	0.7576	0.4848		/
26	23	3	0.3939	0.6061	/	
27	33	18	0.7727	0.4545		/
28	27	22	0.7424	0.1515		
29	30	16	0.6970	0.4242	/	
30	14	8	0.3333	0.1818		
31	33	18	0.7727	0.4545	/	
32	24	5	0.4394	0.5758		/
33	15	7	0.3333	0.2424	/	
34	27	11	0.5758	0.4848		/
35	26	12	0.5758	0.4242	/	
36	17	4	0.3182	0.3939		/
37	14	13	0.4091	0.0303		

Items	R <sub>H</sub>	$R_{L}$	p	r	Pre-test	Post-test
38	33	17	0.7576	0.4848	/	
39	15	13	0.4242	0.0606		
40	25	10	0.5303	0.4545		/
41	27	14	0.6212	0.3939		/
42	25	10	0.5303	0.4545	/	
43	33	18	0.7727	0.4545		/
44	27	14	0.6212	0.3939		/
45	25	11	0.5455	0.4242		/
46	15	8	0.3485	0.2121	/	
47	29	22	0.7727	0.2121		/
48	21	14	0.5303	0.2121	/	
49	18	10	0.4242	0.2424	/	
50	21	18	0.5909	0.0909		
51	33	7	0.6061	0.7879		/
52	18	14	0.4848	0.1212		
53	33	8	0.6212	0.7576		/
54	20	4	0.3636	0.4848	/	
55	23	13	0.5455	0.3030	/	
56	32	26	0.8788	0.1818		
57	24	19	0.6515	0.1515		
58	15	4	0.2879	0.3333	/	
59	24	5	0.4394	0.5758		/

Items	R <sub>H</sub>	$R_{\rm L}$	p	r	Pre-test	Post-test
60	24	18	0.6364	0.1818		
61	24	17	0.6212	0.2121	/	
62	33	18	0.7727	0.4545		/
63	16	5	0.3182	0.3333	/	
64	23	22	0.6818	0.0303		
65	17	9	0.3939	0.2424		/
66	33	19	0.7879	0.4242	/	
67	33	17	0.7576	0.4848	/	
68	13	5	0.2727	0.2424	/	
69	27	20	0.7121	0.2121	/	
70	33	16	0.7424	0.5152	/	
71	21	16	0.5606	0.1515		
72	20	8	0.4242	0.3636		
73	33	6	0.5909	0.8182		
74	24	19	0.6515	0.1515		
75	16	15	0.4697	0.0303		
76	33	7	0.6061	0.7879		/
77	33	13	0.6970	0.6061		/
78	15	5	0.3030	0.3030		/
79	33	8	0.6212	0.7576		/
80	33	16	0.7424	0.5152		/
					30	30

The item analysis results showing test scores from 100 first year students (80 items)

X	F	fx	fx <sup>2</sup>
61	1	61	3721
56	1	56	3136
54	2	108	11664
53	1	53	2809
52	2	104	10816
51	3	153	23409
50	4	200	40000
49	6	294	86436
48	5	240	57600
47	8	376	141376
46	10	460	211600
45	7	315	99225
44	8	352	123904
43	5	215	46225
42	4	168	28224
41	5	205	42025
40	6	240	57600
39	4	156	24336
37	4	148	21904

X		F		fx		fx <sup>2</sup>
36		2		72		5184
35		2		70		4900
34		1		34		1156
33		2		66		4356
32		2		64		4096
29		1		29		841
27		2		54		2916
26		1		26		676
24		1		24		576
	n =	100	$\Sigma fx =$	4343	$\Sigma f x^2 =$	1060711

The item analysis results showing the level of difficulty (p), the discrimination index (r) of the pre-test and reliability on Remedial English (30 items)

Items	R <sub>H</sub>	R <sub>L</sub>	p	r
1	33	19	0.7879	0.4242
2	32	19	0.7727	0.3939
3	33	3	0.5455	0.9091
4	13	6	0.2879	0.2121
5	24	10	0.5152	0.4242
6	32	20	0.7879	0.3636
7	23	11	0.5152	0.3636
8	33	19	0.7879	0.4242
9	32	18	0.7576	0.4242
10	32	18	0.7576	0.4242
11	23	3	0.3939	0.6061
12	30	16	0.6970	0.4242
13	33	18	0.7727	0.4545
14	15	7	0.3333	0.2424
15	26	12	0.5758	0.4242
16	33	17	0.7576	0.4848
17	25	10	0.5303	0.4545
18	15	8	0.3485	0.2121

Items	R <sub>H</sub>	R <sub>L</sub>	p	r
19	21	14	0.5303	0.2121
20	18	10	0.4242	0.2424
21	20	4	0.3636	0.4848
22	23	13	0.5455	0.3030
23	15	4	0.2879	0.3333
24	24	17	0.6212	0.2121
25	16	5	0.3182	0.3333
26	33	19	0.7879	0.4242
27	33	17	0.7576	0.4848
28	13	5	0.2727	0.2424
29	27	20	0.7121	0.2121
30	33	16	0.7424	0.5152

Reliability = 0.834

The item analysis results showing the level of difficulty (p), the discrimination index (r) and reliability of the post-test on Remedial English (30 items)

Items	R <sub>H</sub>	$R_{\rm L}$	p	r
1	33	18	0.7727	0.4545
2	33	19	0.7879	0.4242
3	31	20	0.7727	0.3333
4	30	18	0.7273	0.3636
5	14	3	0.2576	0.3333
6	12	2	0.2121	0.3030
7	33	13	0.6970	0.6061
8	33	17	0.7576	0.4848
9	31	12	0.6515	0.5758
10	33	17	0.7576	0.4848
11	33	18	0.7727	0.4545
12	24	5	0.4394	0.5758
13	27	11	0.5758	0.4848
14	17	4	0.3182	0.3939
15	25	10	0.5303	0.4545
16	27	14	0.6212	0.3939
17	33	18	0.7727	0.4545

Items	R <sub>H</sub>	$R_{L}$	p	r
18	27	14	0.6212	0.3939
19	25	11	0.5455	0.4242
20	29	22	0.7727	0.2121
21	33	7	0.6061	0.7879
22	33	8	0.6212	0.7576
23	24	5	0.4394	0.5758
24	33	18	0.7727	0.4545
25	17	9	0.3939	0.2424
26	33	7	0.6061	0.7879
27	33	13	0.6970	0.6061
28	15	5	0.3030	0.3030
29	33	8	0.6212	0.7576
30	33	16	0.7424	0.5152

Reliability = 0.833

### **APPENDIX B**

# The Evaluation of the Efficiency of Remedial English Lessons via the Internet in Experimental Group

## The individual test for effectiveness evaluation of Remedial English lessons via the Internet (3 students)

				T T		
Units / Student Number	1	2	3	$\overline{x}$		
Unit1 Listening & Speaking	3	3	5			
Unit1 New Words and Expressions	4	4	5			
Unit1 Grammar in Use	4	3	5			
Unit1 Reading	3	5	4			
Unit 1 exercise score (20 points)	14	15	19	16.00	$\mathbf{E}_1 =$	80.00
Unit 1 self - test score (10 points)	7	8	10	8.33	$\mathbf{E}_2 =$	83.33
Unit2 Listening & Speaking	4	3	4			
Unit2 New Words and Expressions	1	4	5			
Unit2 Grammar in Use	3	5	5			
Unit2 Reading	4	4	4			
Unit 2exercise score (20 points)	12	16	18	15.33	$\mathbf{E}_1 =$	76.67
Unit 2 self - test score (10 points)	7	8	10	8.33	$\mathbf{E}_2 =$	83.33
Unit3 Listening & Speaking	2	4	5			
·				1		

Units / Student Number	1	2	3	$\frac{-}{x}$		
Unit3 New Words and Expressions	3	4	4			
Unit3 Grammar in Use	3	4	5			
Unit3 Reading	3	3	5			
Unit 3 exercise score (20 points)	11	15	19	15.00	$\mathbf{E_1} =$	75.00
Unit 3 self - test score (10 points)	6	8	9	7.67	$\mathbf{E}_2 =$	76.67
Unit4Listening & Speaking	3	5	4			
Unit4 New Words and Expressions	3	4	5			
Unit4 Grammar in Use	2	3	4			
Unit4 Reading	3	4	4			
Unit 4 exercise score (20 points)	11	16	17	14.67	$\mathbf{E_1} =$	73.33
Unit 4 self - test score (10 points)	6	8	9	7.67	$\mathbf{E}_2 =$	76.67
Unit5 Listening & Speaking	3	3	4			
Unit5 New Words and Expressions	2	4	5			
Unit5 Grammar in Use	4	4	5			
Unit5 Reading	2	3	3			
Unit 5 exercise score (20 points)	11	14	17	14.00	$\mathbf{E_1} =$	70.00
Unit 5 self - test score (10 points)	6	7	9	7.33	$\mathbf{E}_2 =$	73.33
					<u> </u>	

 $E_1$  for 5 exercises = 75.00  $E_2$  for 5 self-tests = 78.67

# The small group test for effectiveness evaluation of Remedial English lessons via the Internet (6 students)

<b>Units / Student Number</b>	1	2	3	4	5	6	$\bar{x}$	
Unit1 Listening & Speaking	4	4	5	5	5	5		
Unit1 New Words and Expressions	4	3	4	3	5	5		
Unit1 Grammar in Use	3	4	3	4	4	5		
Unit1 Reading	3	4	4	5	5	5		
Unit 1 exercise score (20 points)	14	15	16	17	19	20	16.83	$\mathbf{E_1} = 84.17$
Unit 1 self - test score (10 points)	6	7	9	9	10	10	8.50	$\mathbf{E_2} = 85.00$
Unit2 Listening & Speaking	3	4	4	5	5	5		
Unit2 New Words and Expressions	3	3	4	4	4	4		
Unit2 Grammar in Use	4	4	5	4	5	5		
Unit2 Reading	3	4	4	4	4	5		
Unit 2 exercise score (20 points)	13	15	17	17	18	19	16.50	$\mathbf{E_1} = 82.50$
Unit 2 self - test score (10 points)	7	6	9	8	10	10	8.33	$\mathbf{E_2} = 83.33$
Unit3 Listening & Speaking	3	2	3	4	5	5		
Unit3 New Words and Expressions	3	5	5	5	5	5		
Unit3 Grammar in Use	3	3	5	4	4	5		
Unit3 Reading	3	4	3	4	5	4		
Unit 3 exercise score (20 points)	12	14	16	17	19	19	16.17	$\mathbf{E_1} = 80.83$
Unit 3 self - test score (10 points)	7	8	8	8	9	9	8.17	$\mathbf{E}_2 = 81.67$
Unit4 Listening & Speaking	2	3	4	2	4	4		

Units / Student Number	1	2	3	4	5	6	$\frac{-}{x}$		
Unit4 New Words and Expressions	4	4	5	5	5	5			
Unit4 Grammar in Use	4	3	5	4	5	5			
Unit4 Reading	3	4	4	5	4	4			
Unit 4 exercise score (20 points)	13	14	18	16	18	18	16.17	$\mathbf{E}_1 =$	80.83
Unit 4 self - test score (10 points)	7	8	7	9	9	10	8.33	$\mathbf{E}_2 =$	83.33
Unit5 Listening & Speaking	3	3	4	5	5	4			
Unit5 New Words and Expressions	4	3	5	3	5	5			
Unit5 Grammar in Use	3	3	4	5	5	5			
Unit5 Reading	3	4	3	4	4	4			
Unit 5 exercise score (20 points)	13	13	16	17	19	18	16.00	E <sub>1</sub> =	80.00
Unit 5 self - test score (10 points)	7	7	8	8	10	9	8.17	$\mathbf{E}_2 =$	81.67

 $E_1$  for 5 exercises = 81.67

 $E_2$  for 5 self-test = 83.00

# The field test for effectiveness evaluation of Remedial English lessons via the Internet (30 students)

Unite / Standard Namehou	-	_	_	_			_			10	44	10	10		1.	1.	1=	10	
Units / Student Number Unit1 Listening & Speaking	$\frac{1}{5}$	2	3	4	5	6	7	8	9				13						
Unit1 New Words and Expressions	5	5 3	5 4	4 5	4 5	5 5	4	5 5	5	5 5	1	5 5	5	4 5	5 5	5	5	5 5	5
Unit1 Grammar in Use	<i>5</i>	5	5	5	<i>3</i>	<i>3</i>	5	<i>5</i>	4 5	<i>5</i>	3 4	5	5 5	<i>3</i>	<i>5</i>	5 5	4 5	<i>5</i>	4 5
Unit1 Reading	4	4	4	5	5	5	4	4	5	4	4	5	5	3	5	4	5	4	<i>3</i>
Unit 1 exercise score (20 points)				19		19	17	19			12					19		19	
Unit 1 self - test score (10 points)			9	10	9	9	10	8	9	8	10	10	10	7	9	8	10	10	9
Unit2 Listening & Speaking	5	4	3	5	5	5	4	4	3	3	2	5	3	3	3	3	5	5	4
Unit2 New Words and Expressions	5	4	4	5	4	5	5	5	5	5	3	5	5	4	5	5	4	4	5
Unit2 Grammar in Use	5	5	5	5	5	4	5	5	5	5	5	4	5	5	5	5	5	5	4
Unit2 Reading	4	5	3	4	3	4	4	5	5	4	2	5	4	3	5	4	5	5	4
Unit 2 exercise score (20 points)	19	18	15	19	17	18	18	19	18	17	12	19	17	15	18	17	19	19	17
Unit 2 self - test score (10 points)	10	9	9	10	9	8	10	6	10	10	7	10	9	9	9	10	9	7	9
Unit3 Listening & Speaking	5	5	5	4	5	5	4	3	5	4	4	5	4	5	5	5	4	5	5
Unit3 New Words and Expressions	5	5	5	5	3	4	1	5	5	5	5	4	4	5	4	3	4	5	5
Unit3 Grammar in Use	4	5	4	4	5	4	3	3	5	4	4	4	4	5	5	5	4	4	5
Unit3 Reading	4	4	3	4	4	3	3	4	4	4	1	4	3	2	3	4	5	5	3
Unit 3 exercise score (20 points)	18	19	17	17	17	16	11	15	19	17	14	17	15	17	17	17	17	19	18
Unit 3 self - test score (10 points)	9	8	8	10	8	9	8	9	10	8	8	10	8	7	8	9	8	10	6
Unit4 Listening & Speaking	5	5	4	5	4	3	5	4	5	5	1	5	4	4	5	5	4	4	5
Unit4 New Words and Expressions	4	4	5	4	5	5	4	3	5	4	3	4	4	5	5	5	5	5	4
Unit4 Grammar in Use	3	4	5	3	4	4	5	5	3	5	5	2	5	5	4	4	5	5	4
Unit4 Reading	4	4	4	5	3	4	3	4	4	4	4	4	2	3	4	3	5	3	3
Unit 4 exercise score (20 points)	16	17	18	17	16	16	17	16	17	18	13	15	15	17	18	17	19	17	16
Unit 4 self - test score (10 points)	8	9	7	9	10	7	8	9	9	9	5	8	9	9	8	7	10	9	8
Unit5 Listening & Speaking	2	3	4	5	4	3	5	5	4	5	2	4	4	3	4	3	5	4	4
Unit5 New Words and Expressions	2	4	5	4	4	5	4	5	5	5	4	5	3	4	5	5	4	4	5
Unit5 Grammar in Use	4	4	5	5	5	5	4	4	4	5	2	5	4	4	4	5	4	5	4
Unit5 Reading	2	4	2	4	5	4	5	3	3	4	2	3	5	4	3	4	4	3	5
Unit 5 exercise score (20 points)	10																		
Unit 5 self - test score (10 points)		8		10			9							9	7	8		9	9

<b>Units / Student Number</b>	20	21	22		24	25	26		28	29	<b>30</b>	$\bar{x}$	
Unit1 Listening & Speaking	5	4	5	5	4	5	5	5	5	3	5		
Unit1 New Words and Expressions	3	5	5	5	5	5	5	5	5	4	4		
Unit1 Grammar in Use	5	5	5	5	5	4	4	5	5	5	5		
Unit1 Reading	4	4	5	4	3	5	5	4	4	5	3		
Unit 1 exercise score (20 points)	17	18	20	19	17	19	19	19	19	17	17	18.27	$E_1 = 91.33$
Unit 1 self - test score (10 points)	9	9	10	10	9	10	10	9	9	10	8	9.23	$E_2 = 92.33$
Unit2 Listening & Speaking	5	4	5	4	5	5	5	4	5	3	2		
Unit2 New Words and Expressions	5	5	4	4	5	4	5	5	5	5	5		
Unit2 Grammar in Use	5	5	5	5	4	5	4	5	5	5	5		
Unit2 Reading	3	4	5	3	4	3	4	5	4	4	3		
Unit 2 exercise score (20 points)	18	18	19	16	18	17	18	19	19	17	15	17.50	$E_1 = 87.50$
Unit 2 self - test score (10 points)	8	9	9	10	10	9	8	9	6	10	8	8.87	$\mathbf{E}_2 = 88.67$
Unit3 Listening & Speaking	4	5	4	5	4	5	5	4	3	5	4		
Unit3 New Words and Expressions	3	5	5	4	5	5	4	3	5	4	1		
Unit3 Grammar in Use	4	5	5	5	4	4	5	4	3	5	4		
Unit3 Reading	5	4	4	4	4	5	4	3	4	4	4		
Unit 3 exercise score (20 points)	16	19	18	18	17	19	18	14	15	18	13	16.73	$E_1 = 83.67$
Unit 3 self - test score (10 points)	8	9	9	8	9	9	8	8	9	9	8	8.50	$\mathbf{E}_2 = 85.00$
Unit4 Listening & Speaking	4	4	5	4	5	4	3	5	4	5	4		
Unit4 New Words and Expressions	5	4	5	5	5	5	5	5	3	5	1		
Unit4 Grammar in Use	5	4	3	4	4	4	4	5	5	3	3		
Unit4 Reading	4	3	4	4	5	3	4	3	4	4	2		
Unit 4 exercise score (20 points)	18	15	17	17	19	16	16	18	16	17	10	16.47	$E_1 = 82.33$
Unit 4 self - test score (10 points)	9	7	9	9	9	8	9	9	9	8	6	8.33	$E_2 = 83.33$
Unit5 Listening & Speaking	4	3	4	3	4	4	4	3	5	4	4		
Unit5 New Words and Expressions	4	4	5	4	5	5	4	4	3	5	4		
Unit5 Grammar in Use	5	4	5	4	3	5	5	4	4	4	4		
Unit5 Reading	4	4	3	3	4	4	4	2	5	4	3		
Unit 5 exercise score (20 points)	17	15	17	14	16	18	17	13	17	17		16.07	$E_1 = 80.33$
Unit 5 self - test score (10 points)	8	8	8	8	8	9	8	8	9	9	9	8.20	

 $E_1 \text{ for 5 exercises} = \begin{cases} 85.03 \\ E_2 \text{ for 5 self-tests} = 86.27 \end{cases}$ 

APPENDIX C

The Results of the Students' Pre-test and Post-test Scores in

Experimental and Control Groups

## The Results of the Students' Pre-test and Post-test Scores in Experimental Group

Student Number	Pre-test Score	Post-test Score				
Student Number	(30 points)	(30 points)				
1	22	27				
2	15	23				
3	14	24				
4	13	28				
5	12	26				
6	18	27				
7	13	25				
8	14	24				
9	23	27				
10	16	21				
11	9	21				
12	17	27				

C4 J4 N L	Pre-test Score	Post-test Score
Student Number	(30 points)	(30 points)
13	17	26
14	15	22
15	18	26
16	21	26
17	10	26
18	17	28
19	12	27
20	13	26
21	15	20
22	16	23
23	20	27
24	13	22
25	17	25
26	15	26
27	14	23
28	18	28
29	18	27
30	11	20
Total	466	748
Mean	15.53	24.93
Std. Deviation	3.39	2.46

The Results of the Students' Pre-test and Post-test Scores in Control Group

Student Number	Pre-test Score	Post-test Score
Student Number	(30 points)	(30 points)
1	15	25
2	14	22
3	13	25
4	14	28
5	15	24
6	17	28
7	9	22
8	17	23
9	18	26
10	20	28
11	15	23
12	14	24
13	15	25
14	16	24
15	12	26
16	18	27
17	17	24
18	18	29

C4 Jan-4 Namakan	Pre-test Score	Post-test Score
Student Number	(30 points)	(30 points)
19	20	28
20	18	27
21	13	22
22	11	21
23	17	19
24	14	22
25	18	27
26	16	28
27	16	23
28	15	21
29	20	26
30	15	26
Total	470	743
Mean	15.67	24.77
Std. Deviation	2.62	2.59

The Results of Pre-test and Post-test Scores of Students in Experimental Group and Control Group

	Pre-tes	st	Post-te	st	Statistical Difference between					
Student	Score (30 p	oints)	Score (30 p	oints)	Pr	e-test	and Pos	t test		
Number	Experimental	Control	Experimental	Control	$D_1$	$D_2$	$D_1^2$	${ m D_2}^2$		
	Group	Group	Group	Group	$D_1$	<b>D</b> 2	$D_1$	D		
1	22	15	27	25	5	10	25	100		
2	15	14	23	22	8	8	64	64		
3	14	13	24	25	10	12	100	144		
4	13	14	28	28	15	14	225	196		
5	12	15	26	24	14	9	196	81		
6	18	17	27	28	9	11	81	121		
7	13	9	25	22	12	13	144	169		
8	14	17	24	23	10	6	100	36		
9	23	18	27	26	4	8	16	64		
10	16	20	21	28	5	8	25	64		
11	9	15	21	23	12	8	144	64		
12	17	14	27	24	10	10	100	100		
13	17	15	26	25	9	10	81	100		
14	15	16	22	24	7	8	49	64		
15	18	12	26	26	8	14	64	196		
16	21	18	26	27	5	9	25	81		

	Pre-tes	it	Post-tes	st	Statistical Difference between					
Student	Score (30 p	oints)	Score (30 p	oints)	Pro	e-test a	nd Post	test		
Number	Experimental	Control	Experimental	Control	$D_1$	$D_2$	$D_1^2$	${\rm D_2}^2$		
	Group	Group	Group	Group	$D_1$	<b>D</b> <sub>2</sub>	$D_1$	<b>D</b> <sub>2</sub>		
17	10	17	26	24	16	7	256	49		
18	17	18	28	29	11	11	121	121		
19	12	20	27	28	15	8	225	64		
20	13	18	26	27	13	9	169	81		
21	15	13	20	22	5	9	25	81		
22	16	11	23	21	7	10	49	100		
23	20	17	27	19	7	2	49	4		
24	13	14	22	22	9	8	81	64		
25	17	18	25	27	8	9	64	81		
26	15	16	26	28	11	12	121	144		
27	14	16	23	23	9	7	81	49		
28	18	15	28	21	10	6	100	36		
29	18	20	27	26	9	6	81	36		
30	11	15	20	26	9	11	81	121		
Total Score	466	470	748	743	282	273	2942	2675		
$\overline{x}$	15.53	15.67	24.93	24.77	9.40	9.10				

$$t = \frac{\overline{D}}{\frac{S_D}{\sqrt{n}}}$$

$$S_{D_1} = \sqrt{\frac{n\sum D_1^2 - \left(\sum D_1\right)^2}{n(n-1)}}$$

$$= \sqrt{\frac{30(2942) - (282)^2}{30(30-1)}}$$

$$= \sqrt{\frac{88260 - 79524}{870}}$$

$$=$$
  $\sqrt{10.0414}$ 

$$S_{D_2} = \sqrt{\frac{30(2675) - (273)^2}{30(30-1)}}$$

$$= \sqrt{\frac{80250 - 74529}{870}}$$

$$=$$
  $\sqrt{6.5759}$ 

$$t_1 = \frac{\overline{D}}{\frac{S_{D_1}}{\sqrt{n}}}$$

$$= \frac{9.4000}{\frac{3.1688}{\sqrt{30}}}$$

$$= \frac{9.4000}{0.5785}$$

$$t_{2} = \frac{\overline{D}}{\frac{S_{D_{2}}}{\sqrt{n}}}$$

$$= \frac{9.1000}{\frac{2.5644}{\sqrt{30}}}$$

$$= \frac{9.1000}{0.4682}$$

### **APPENDIX D**

### Pre-test and Post-test on Remedial English for First-Year

## **Students at Suranaree University of Technology**

### Pre- test

#### **Part 1: Conversations**

Instructions: Choose the appropriate statement or question to complete each of the following conversations.

1.	A: I'm Michael.
	B:
	a. I'm Susan. Nice to meet you.
	b. Yes, I am. Are you Michael?
	c. How's it going?
	d. What's your name?
2.	A: What's his name?
	B:
	a. Bob Carlson
	b. Anything else?
	c. My name's Mark.
	d. Who's he?
3.	A:
	B: I go there sometimes.
	a. How long do you go to Siam Paragon?
	b. How often do you go to Siam Paragon?
	c. How do you go to Siam Paragon?
	d. How far is it from here to Siam Paragon?
4.	A: Well, I have to be going now. Bye.
	B:
	B: a. Oh, no. Go ahead.
	a. Oh, no. Go ahead.
	<del></del>

5.	A: What do you make for dinner? B:				
	a. I make it once a month, actually.				
	b. I sometimes make spaghetti.				
	c. I always cook at home.				
	d. You're right. We always eat at home.				
6.	A: Is this your grandma?				
	B:a. Who do you think this is?				
	b. Do you know who this is?				
	c. No, this is my aunt.				
	d. Oh! She looks really young.				
7.	A: Do you study English?				
	B:				
	a. Yes, I like English and Science.				
	b. Yes, I study it on Wednesdays.				
	<ul><li>c. My schedule's like yours.</li><li>d. No, I cannot speak English well.</li></ul>				
	d. No, I cannot speak English wen.				
8.	A: What do you do no Saturdays? B:				
	a. I go to the park on Sundays.				
	b. We go to party on Friday nights.				
	c. I go to the movie with my sister.				
	d. He watches TV after school.				
9.	A: Is your brother American?				
	B:				
	a His name is Patrick.				
	<ul><li>b No, I'm from England.</li><li>c He's from New York.</li></ul>				
	d Yes, he is.				
10.	A: I go shopping at the mall about once a month. B:				
	a Well, how often do you go?				
	b Oh! I go much more often than that.				
	c Really? What do you do at the mall?				
	d I think you go shopping too much.				

#### Part 2: Grammar

Instructions: Choose the appropriate answer to complete each of the following sentences.

11.	My bo	yfriend	to the pub every night.
	a	go	
		goes	
		went	
	d	gone	
12.	They _	my	cousins.
	a.	am	
		is	
		are	
	d.	be	
13.	I	_ from A	America.
	a.	have n	ot
		is not	
		am not	
	d.	do not	
14.	He alv	vays	his car on Sundays.
	a.	watches	
	b.	watched	l
		watchin	g
	d.	watch	
15.	Jackie	two	o children now.
	a. :	is	
		are	
		has	
	d.	have	
16.	There'	s ap	partment building on the corner.
	a. :	a	
	b.	an	
	<b>c</b> .	some	
	d.	any	
17.	Is Alb	ert l	happy man?
	a. :	a	
	b.	an	
		some	
	d.	any	

18. I like the beach. I go to Phuket in summer. a. usually b. always c. sometimes d. never	
19. 48. My sister is sick temperature is 40 degree. a. Your b. My c. His d. Her	
20. Can you sign name at the bottom of your report?  a. his b. her c. your d. my	
Part 3: Vocabulary Instructions: Choose the appropriate word to complete each of to following sentences.	he
21. Young children wai their parents to show and obedience a: charming b: respect c: status d: awkwardness	•
22. Most of us just love our families, and close friends.  a. profession b. formula c. relatives d. personality	
23. People who live together and spend a lot of time with each other sometimes disagree and lose their  a. tempers b. schedule c. counselor d. pillows	to
24. After I get up I my morning routine.  a. perform  b. share  c. prefer  d. break	

25. The teenagers like to do \_\_\_\_\_ activities such as playing the ball games like football, basketball, and volleyball.

- a. popular
- b. pleasure
- c. physical
- d. musical

#### Part 4: Reading

Instructions: Read the following passages and answer the questions that follow.

#### Man's best friend



The English are well-known for their love of animals. This affection can at times be excessive; indeed the English are often thought to care more for their animals than their children! The dog is perhaps the most typical English pet.

The relationship between human and dog dates back at least 8,000 years. Different types of dogs were developed for different tasks: the Assyrians, for example, trained greyhounds to chase wild asses; in medieval manuscripts illustrations of hunting scenes show terriers pursuing rabbits.

Recent research shows that dogs perform another useful function: they keep us healthy. People who have any sort of cuddly pet are more likely to survive heart attacks (blood pressure rises when we talk to one another whereas it drops when we pat a pet). Dog owners in particular show considerably improved self-esteem and a 50% reduction in minor health problems only ten months after acquiring their pet.

In the UK, thousands of people visit the annual dog show, "Crufts", held in London. This show receives wide national and international media coverage. Fierce discussions rage when dog *liberty* is threatened. There is no dog license in the UK; it was abolished several years ago. A recent law, the Dangerous Dogs Act, requires

owners of especially vicious dogs, such as Pit Bull Terriers, to register their dogs with the authorities and muzzle them when taking them outside. There was a great outcry from the public when this law was introduced.

#### From <a href="http://www.linguarama.com/ps/394-6.htm">http://www.linguarama.com/ps/394-6.htm</a>

- 26. What is the English well known for?
  - a. Love of children.
  - b. Love of animals.
  - c. Love of football.
  - d. Love of nation.
- 27. What is the most typical English pet?
  - a. Fish.
  - b. Cat.
  - c. Dog.
  - d. Bird.
- 28. What type of dog is trained to chase wild asses?
  - a. English Cocker Spaniel.
  - b. Labrador Retriever.
  - c. Dalmatian.
  - d. Greyhounds.
- 29. According to research, what is the useful function for people who have any sort of pets?
  - a. They keep the owners healthy.
  - b. They entertain the owners.
  - c. They make money for the owners.
  - d. They can solve people's health problem.
- 30. In the UK, what does the Dangerous Dogs Act requires owners of especially vicious dogs to do?
  - a. To pay money to the government.
  - b. To register their dogs with the authorities.
  - c. To make the dog license in the UK.
  - d. To join the annual dog show in London.

## Post-test

#### **Part 1: Conversations**

Instructions: Choose the appropriate statement or question to complete each of the following conversations.

1.	A:
	B: It's nice to meet you, too.
	a. What's your name?
	b. It's nice to meet you.
	c. I'm a nice man.
	d. He's a nice student.
2.	A: See you later. B:
	a. What is it?
	b. OK. Bye.
	c. Anything else?
	d. Maybe. What's time?
3.	A: How often do you go to Chiang Mai? B:
	a. It's quite far from Bangkok.
	b. I love traveling.
	c. Once or twice a year.
	d. It isn't too difficult to get there.
4.	A: What do you study on Friday? B:
	a. I'm a student here.
	b. I'm in my first year.
	c. I study math.
	d. I like math.
5.	A: Where have you been? B:
	a. I went to Switzerland.
	b. I'm not Swiss. I'm Italian.
	c. I met my girlfriend there.
	d. Are you Swiss, too?
6.	A: Is any one sitting here? B:
	a. Oh, no. Go ahead.
	b. You can't sit here.
	c Do you want to sit?

	d. Yes. I'm sitting here.
7	A. My sister goes shopping everyday a week
7.	A: My sister goes shopping everyday a week. B:
	a. How often does she go?
	b. It's not very often.
	c. Wow! That's a lot.
	d. That's not bad.
8.	A: What store do you go to mostly?
0.	B:
	a. Hey, let's go out tonight.
	b. I go to Robinson's most often.
	c. I never go to Siam Paragon.
	d. I don't like shopping at the mall.
9.	A: What do your friends do on the weekends?
	B:
	a. My friends go to the library on the weekends.
	b. Umm, that's interesting. We should go to parties.
	c. They like listening to music on the Internet.
	d. They study English on Mondays and Wednesdays.
10.	A: That's your Mom. But who's that?
	B:
	a. He's a carpenter.
	b. He's forty five.
	c. He's very tall.
	d. He's my Dad.
Dont	2: Grammar
	ctions: Choose the appropriate answer to complete each of the
follow	ving sentences.
11.	Simon very tall.
	a. is
	b. are
	c. has
	d. have
12.	Mary four languages.
	a. speak
	b. speaks
	c. speaking
	d. spoke

13. They never tea in the morning.
a drink
b drank
c drunk
d drinks
14. I to watch movies.
a. loves
b. loving
c. love
d. loved
15. Mr. Stanley is English teacher.
a. a
b. an
c. some
d. any
16. That is beautiful woman.
a. a
b. an
c. some
d. any
17. I always forget umbrella on the bus.
a. his
b. my
c. our
d. your
18. Jimmy is not ready. He's still in room.
a. her
b. his
c. your
d. their
19. Anna hates sports. She watches the games on television.
a. usually
b. always
c. sometimes
d. never
20. They students here.
a. is not
b. are not
c. am not
d. have not

## Part 3: Vocabulary

Instructions: Choose the appropriate word to complete each of the following sentences.

<ul> <li>21. Wai is actually both warm and charming Thai</li> <li>a. ceremony</li> <li>b. introduction</li> <li>c. greeting</li> <li>d. expression</li> </ul>	
<ul> <li>22. Young children wai their parents to show and obedience.</li> <li>a. charming</li> <li>b. respect</li> <li>c. status</li> <li>d. awkwardness</li> </ul>	
23. Your parent fight doesn't mean they're going to stay mad for long or that they're going to get a  a. frustration b. divorce c. therapist d. conflict	
24. After our classes the students usually go for lunch to the  a. snack b. canteen c. gym d. seminar	
25. It is quite common to see young people walking down the street with a. radio b. music c. headsets d. games	on.

#### Part 4: Reading

Instructions: Read the following passages and answer the questions that follow.

#### Kids' Café



Every morning, kids from a local high school are working hard. They are making and selling special coffee at a coffee cafe. They are also making a lot of money.

These students can make up to twelve hundred dollars a day. They are selling their special coffee to airplane passengers. After the students get paid, the rest of the money goes to helping a local youth project.

These high school students use a space in the Oakland airport. It is usually very crowded. Many people who fly on the planes like to drink the special coffee.

One customer thinks that the coffee costs a lot but it is good and worth it. Most customers are pleasant but some are unhappy. They do not like it if the coffee cafe is not open for business.

The students earn \$6.10 an hour plus tips. They also get school credit while they learn how to run a business. Many of the students enjoy the work although it took some time to learn how to do it.

They have to learn how to steam milk, load the pots, and add flavor. It takes some skill and sometimes mistakes are made. The most common mistake is forgetting to add the coffee.

From

http://www.cdlponline.org/index.cfm?fuseaction=activity1&topicID=1&storyID=64

- 26. Who gets the money the students collect?
  - a. They get to keep it all.
  - b. It all goes to a youth project.
  - c. The students and a youth project get it.
  - d. It goes back to the customers.
- 27. Why is the Oakland airport a good place to sell the coffee?
  - a. No other place at the airport sells coffee.
  - b. Many people pass the coffee café.
  - c. It's a famous place for people to meet.
  - d. Pilots like to drink coffee.
- 28. What is the most common mistake the students make?
  - a. They drop hot coffee on a customer.
  - b. They give the wrong change to customers.
  - c. They are not friendly to the customers.
  - d. They forget to add the coffee.
- 29. What do the students get for selling the coffee?
  - a. They get paid and they get school credit.
  - b. They only get paid.
  - c. They only get school credit.
  - d. They get experience.
- 30. Why are some people unhappy at the coffee café?
  - a. They can't afford to pay for the coffee.
  - b. Sometimes the café is not open.
  - c. They have missed their flight.
  - d. They don't like the taste of coffee.

#### **APPENDIX E**

## **Lesson Plan for the Control Group**

Subject : Remedial English

Level : First-year students

Class size : 30 Students

Periods : 15 Periods

Instructor : Mr. Suksan Suppasetseree

1 <sup>st</sup> -3 <sup>rd</sup> 1.1	Content	Learning and	Teaching	Assessment
	D			1 D 1
Unit 1: Saying Hi! 3 4 5 6 6 7 6 7	Pre-test Learning objectives Warm-up Listening and speaking New words and expressions Grammar Reading Writing	1. Students do a pretest. 2. Students are informed learning objectives, content and assessment in Unit 1 3. Teacher shows pictures of people and asks questions such as "What are you going to say when you meet someone?", "What do people in your country say when they meet?", "What does that mean in English?". 4. Students answer the questions such as "Hello", "Hi", "Sawasdee". 5. Teacher plays the tape and asks students to listen to the conversation. 6. Students do the listening exercises on worksheets 1. 7. Students spend some time studying the meaning of new words and expressions and pronounce them. 9. Students do the exercises on worksheet 1.	Materials  1. A multiple choice pretest with 30 questions  2. Worksheets  3. A multiple choice selftest with 10 questions  4. Pictures	1. Result from doing a pre-test 2. Answering questions orally 3. Checking exercises 4. Practicing conversat ion in pairs 5. Writing e-mail 6. Result from self-test

Period	Content	Learning and Teaching Activities	Teaching Materials	Assessment
		10. Students read grammar note on worksheet 1 and do grammar exercises.  11. Students read the passage about Thai greeting.  12. Students answer the questions about the passage on worksheet 1.  13. Students read questions on worksheet 1 and write the answers.  14. Students use information of their answers to write e-mail to pen pal on worksheet 1.  15. Students do self-test.		

		I carning and	Teaching	
Period	Content		_	Assessment
Period  4 <sup>th</sup> -6 <sup>th</sup> Unit 2: Making Friends	Content  1. Learning objectives 2. Warm-up 3. Listening and speaking 4. New words and expressions 5. Grammar 6. Reading 7. Writing	Learning and Teaching Activities  1. Students are informed learning objectives, content and assessment in Unit 2  2. Teacher asks questions such as "Do you have any close friends?", "What can you say when you want to introduce your friend to someone?"  3. Students answer the questions.  4. Teacher plays tape and asks students to listen to the conversation.  5. Students do the listening exercises on worksheet 2.  6. Students practice conversation in pairs.  7. Students spend some time studying the meaning of new words and expressions and	Teaching Materials  1. Worksheets 2. A multiple choice selftest with 10 questions	Assessment  1. Result from doing a pre-test 2. Answering questions orally 3. Checking exercises 4. Practicing conversat ion in pairs 5. Writing about family 6. Result from selftest
		<ul> <li>3. Students answer the questions.</li> <li>4. Teacher plays tape and asks students to listen to the conversation.</li> <li>5. Students do the listening exercises on worksheet 2.</li> <li>6. Students practice conversation in pairs.</li> <li>7. Students spend some time studying the meaning of new</li> </ul>		about family 6. Result from self-
		9. Students read grammar note (a, an) on worksheet 2 and do grammar exercises.		

Period	Content	Learning and Teaching Activities	Teaching Materials	Assessment
Terrou	Content	Teaching Activities  10. Students read the passage about how to make a new friend.  11. Students answer the questions about the passage on worksheet 2.  12. Students read questions on worksheet 2 and write answers.  13. Students write about their families on worksheet 2.  14. Students do selftest.	Materials	Assessment

Period	Content	Learning and	Teaching	Assessment
		Teaching Activities	Materials	
7 <sup>th</sup> -9 <sup>th</sup>	<ol> <li>Learning</li> </ol>	1. Students are	1. Worksheets	1. Result
Unit 3:	objectives	informed learning	2. A multiple	from
My	2. Warm-up	objectives, content	choice self-	doing a
Family	3. Listening	and assessment in	test with 10	pre-test
	and	Unit 3.	questions	2.Answering
	speaking	2. Teacher shows	3.Pictures	questions
	4. New words	pictures of a		orally
	and	family album and		3. Checking
	expressions	asks questions		exercises
	5. Grammar	such as "Do you		4. Practicing
	6. Reading	have a family		conversat
	7. Writing	album?", "How		ion in
		many people are		pairs
		there in your		5. Writing e-
		family?", "Do you		mail
		have a brother or		6. Result
		sister?", "Do you		from self-
		have any aunts or		test
		uncles?" .		
		3. Students answer		
		the questions.		
		4. Teacher plays tape		
		and asks students		
		to listen to the		
		conversation.		
		5. Students do the		
		listening exercises		
		on worksheet 3.		
		6. Students practice		
		conversation in		
		pairs.		
		7. Students spend		
		some time		
		studying the		
		meaning of new		
		words and		
		expressions and		
		pronounce them.		
		8. Students do		
		exercises on		
		worksheet 3.		

Period	Content	Learning and	Teaching	Assessment
	Content	<b>Teaching Activities</b>	Materials	TIBBEBBITCH
		9. Students read		
		grammar note		
		(possessive		
		adjectives) on		
		worksheet 3 and		
		do grammar		
		exercises.		
		10. Students read the		
		passage about		
		family fights.		
		11. Students answer		
		the questions about		
		the passage on		
		worksheet 3.		
		12. Students read		
		questions on		
		worksheet 3 and		
		write answers.		
		13. Students write		
		about their		
		families on		
		worksheet 3.		
		14. Students do self-		
		test.		

Period	Content	Learning and	Teaching	Assessment
Period  10 <sup>th</sup> -12 <sup>th</sup> Unit 4: Daily Routines	1. Learning objectives 2. Warm-up 3. Listening and speaking 4. New words and expressions 5. Grammar 6. Reading 7. Writing	Teaching Activities  1. Students are informed learning objectives, content and assessment in Unit 4.  2. Teacher shows pictures of daily routines and asks questions.  3. Students answer the questions.  4. Teacher plays tape and asks students to listen to the conversation.  5. Students do the listening exercises on worksheet 4.  6. Students practice conversation in pairs.	Teaching Materials  1. Worksheets 2. A multiple choice self-test with 10 questions 3. Pictures	1. Result from doing a pre-test 2. Answering questions orally 3. Checking exercises 4. Practicing conversat ion in pairs 5. Writing about daily routines 6. Result from self-test
		<ul><li>6. Students practice conversation in pairs.</li><li>7. Students spend some time studying the</li></ul>		from self-
		meaning of new words and expressions and pronounce them. 8. Students do exercises on worksheet 4.		
		9. Students read grammar note (present simple tense) on worksheet 4 and do grammar exercises.		

Period	Content	Learning and Teaching Activities	Teaching Materials	Assessment
		10. Students read the letter about Diana's daily routine. 11. Students answer the questions about the passage on worksheet 4. 12. Students read the words on worksheet 4. 13. Students write about their daily routines on worksheet 4. 14. Students do selftest.		

Period	Content	Learning and	Teaching	Assessment
Period  13 <sup>th</sup> -15 <sup>th</sup> Unit 5: Free-time Activities	1. Learning objectives 2. Warm-up 3. Listening and speaking 4. New words and expressions 5. Grammar 6. Reading 7. Writing 8. Post-test	Learning and Teaching Activities  1. Students are informed learning objectives, content and assessment in Unit 5.  2. Teacher shows pictures of freetime activities and asks questions.  3. Students answer the questions such as "How often do you cook dinner?", "How often do you eat out?".  4. Teacher plays tape and asks students to listen to the conversation.  5. Students do the listening exercises on worksheet 5.  6. Students practice conversation in	Teaching Materials  1. Worksheets 2. A multiple choice self-test with 10 questions 3. A multiple choice post-test with 30 questions 4. Pictures	1. Result from doing a pre-test 2. Answering questions orally 3. Checking exercises 4. Practicing conversat ion in pairs 5. Writing postcard 6. Result from self-test 7. Result from post-test
		listening exercises on worksheet 5. 6. Students practice		
		some time studying the meaning of new words and expressions and pronounce them. 8. Students do exercises on worksheet 5.		

Teaching Activities  9. Students read grammar note (adverbs of frequency) on worksheet 5 and do grammar exercises.  10. Students read the passage about hobbies, free time and lifestyle.  11. Students answer the questions about the passage on worksheet 5.  12. Students read Danny's postcard on worksheet 5.  13. Students write
postcard about their hobbies on worksheet 5.  14. Students do self- test.  15. Students do post- card

#### **APPENDIX F**

# Questionnaire of Students' Attitudes toward Learning Remedial English via the Internet

This questionnaire is designed to gather information about students' opinions toward learning Remedial English via the Internet. The questionnaire is divided into 3 parts.

- Part 1: The questionnaire asks about students' general information.
- Part 2: The questionnaire asks for opinions about learning through the Internet- based instruction.
- Part 3: The questionnaire asks for opinions about learning Suppasetseree's Remedial English Online (SREO) website.

#### **Part 1: General information**

**Instruction:** Choose the best answer which describes your ability.

1. How is your ability in using computer?

Very good

Fair

Poor

2. How is your ability in typing?

Very good

Fair

Poor

3. How often do you use Internet service?

Very often

Sometimes

Never

4. How often do you send e-mail via the Internet?

Very often

Sometimes

Never

5. How are you interested in searching for information on the World Wide Web?

Very much

Average

Little

#### Part 2: Opinions on learning through the Internet-based instruction

<u>Instruction</u>: Read each item in the questionnaire, then make a check mark (/) in a rating box which best describes your opinion about each statement.

5 = very strongly agree

4 = strongly agree

3 = agree

2 = slightly agree

1 = least agree

#### **Example:**

Statements	Ra	atin	ıg S	cal	es
Statements	5	4	3	2	1
0. Learning through the Internet-based instruction helps you have a chance practicing skills on using computer and the Internet.		/			

Statements				cal	es
				2	1
1. Learning through the Internet-based instruction helps create					
independent learning atmosphere.					
2. Learning through web-based instruction has no limit of places, you					
can learn anywhere.					
3. Learning through the Internet-based instruction has no limit of					
time, you can learn anytime.					
4. Learning through the Internet-based instruction can save time in					
traveling to the learning place.					
5. Learning through the Internet-based instruction can save cost in					
traveling to the learning place.					
6. Learning through the Internet-based instruction helps enhance					
learner-teacher interaction.					
7. Learning through the Internet-based instruction helps enhance					
learner-learner interaction.					
8. Learning through the Internet-based instruction can get academic					
information from teacher and university quickly.					
9. Learning through the Internet-based instruction can distribute					
knowledge to community effectively.					
10. Learning through the Internet-based instruction is suitable for					
social condition and current economic.					

## <u>Part 3</u>: Opinions on learning Suppasetseree's Remedial English Online (SREO) Website

<u>Instruction</u>: Read each item in the questionnaire, then make a check mark (/) in a rating box which best describes your opinion about each statement.

Statements		Rating So			es
Statements			3	2	1
1. Learning through the SREO website is modern.					
2. Learning through the SREO website has clear letters on web					
pages.					
3. Learning through the SREO website has appropriate link from					
content and learning objectives.					
4. Learning through the SREO website has clear explanation for					
contents and exercises.					
5. Learning through the SREO website has compatibility of content					
and learning objectives					
6. Learning through the SREO website is convenient to choose each					
lesson to learn.					
7. Learning through the SREO website is convenient to come back to					
review the lessons.					
8. Learning through the SREO website is convenient to send e-mail					
to the teacher.					
9. Learning through the SREO website is suitable to distance					
learning.					
10. Learning through the SREO website is suitable for learning in					
Information Age.					

Other ideas and suggestio	vns:	

Thank you very much for your cooperation.

APPENDIX G

The t-test for Each Item of Five-Point Rating Scale

Questionnaire

Item				
No.	t	Sig.	S.D.	Mean
1	19.977	.000	.93218	3.4000
2	24.329	.000	.72793	3.2333
3	15.519	.000	1.10589	3.1333
4	21.145	.000	.80301	3.1000
5	19.977	.000	.93218	3.4000
6	21.400	.000	.78492	3.0667
7	20.612	.000	.87691	3.3000
8	15.837	.000	.92227	2.6667
9	22.264	.000	.86103	3.5000
10	18.451	.000	.99943	3.3667

## Reliability Analysis - Scale (Alpha)

Reliability Coefficients

Numbers of Cases = 30

Numbers of Items = 10

Alpha = 0.801

#### **APPENDIX H**

#### **Interview Guided Questions**

- 1. Do you like learning English through "Suppasetseree's Remedial English Online" website? Why?
- 2. What do you like most when learning English through "Suppasetseree's Remedial English Online" website? Why?
- 3. What do not you like most when learning "Suppasetseree's Remedial English Online" website? Why?
- 4. Are you convenient in learning English through "Suppasetseree's Remedial English Online" website? If not, what are the problems? Would you give any suggestions or comments?
- 5. What is your atmosphere when learning English through "Suppasetseree's Remedial English Online" website?
- 6. Do you like to learn English through the web-based instruction like "Suppasetseree's Remedial English Online" website for the next time? If you do, what contents or subjects you would like to learn?

#### **APPENDIX I**

## An Evaluation Form of SREO Plan for the Experts in

## **Instructional Systems Technology and English Language**

## **Teaching Field**

<u>Instruction</u>: Read each item in the form, then make a check mark (/) in a rating box which best describes your opinion about each statement.

5 = very strongly agree

4 = strongly agree

3 = agree

2 = slightly agree 1 = least agree

Statements		Rating Sca			es
		4	3	2	1
1. The components of SREO Plan are appropriate					
2. The steps in SREO Plan are clear and easy to implement.					
3. Each component in SREO Plan has appropriate connection.					
4. SREO Plan is appropriate to be used in teaching Remedial English					
via the Internet.					
5. Learning through SREO website can save time and cost in					
traveling to the learning place.					
6. Learning through SREO website helps enhance learner-teacher					
interaction.					
7. Learning through SREO website helps enhance learner-learner					
interaction.					
8. Learning through SREO website can get academic information					
from teachers and university quickly.					
9. Learning through SREO website can get immediate feedback.					
10. Learning through SREO website is suitable for current social					
condition.					

Other idea	s and commer	nts:			
		• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	
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		•••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	

Thank you very much for your cooperation.

## **APPENDIX J**

## **List of Experts**

Names	Position	Instrument
		Examined
Assoc. Prof.  Elizabeth Boling	Chairperson of the Instructional Systems Technology Department. Indiana University, Bloomington, USA	-SREO Plan -SREO Website
2. Assoc. Prof. Dr. Barbara Bichelmeyer	A lecturer at Instructional Systems Technology Department, Indiana University, Bloomington, USA	-SREO Plan -SREO Website
3. Assoc. Prof. Emeritus  Dr. Michael Molenda	A lecturer at Instructional Systems Technology Department, Indiana University, Bloomington, USA	-SREO Plan -SREO Website

Names	Position	Instrument
		Examined
4. Adjunct Prof. Dr. Karen Hallett	The Instructional	
	Consulting Director, ,	-SREO Plan
	Indiana University,	-SERO Website
	Bloomington, USA	
5. Asst. Prof. Dr. Peansiri Vongvipanond	Language Institute	CDEO Dian
	Director, Dhurakij Pundit	-SREO Plan -SREO Website
	University, Bangkok	
6. Prof. Dr. Chaiyong Brahmawong	Chief Technology Officer	
	in the College of Internet	aneo N
	Distance Education	- SREO Plan
	Assumption University,	- SREO Website
	Bangkok	
7. Dr. Banjert Chongapirattanakul	A lecturer at Suranaree	-Lesson Plan
	University of Technology,	-Tests
	Nakhon Ratchasima	-SREO Website
9 Assoc Prof Dr	A lecturer at Suranaree	-Questionnaire
8. Assoc. Prof. Dr. Kanit Khaimook	University of Technology,	-Tests
	Nakhon Ratchasima	-SREO Website
9. Dr. Sarit Srikhao	A lecturer at Suranaree	-Questionnaire
	University of Technology,	-Tests
	Nakhon Ratchasima	-SREO Website

Names	Position	Instrument
		Examined
10. Dr. Sharon Pugh	A lecturer at Language	- Lesson Plan
	Education Department,	- Questionnaire
	Indiana University,	- SREO Website
	Bloomington, USA	

#### **CURRICULUM VITAE**

Mr. Suksan Suppasetseree was born on June 4, 1971. He received a Bachelor of Education in Teaching English from Chiang Mai University in 1994 and a Master of Arts in Teaching English from Kasetsart University in 1998. He has been teaching English at Suranaree University of Technology since 1998. In 2001, he studied in the co-advisory program between the School of English, Institute of Social Technology, Suranaree University of Technology, Thailand and Department of Instructional Systems Technology, Faculty of Education, Indiana University, Bloomington, USA for the Degree of Doctor of Philosophy in English Language Studies. His special interests include Computer-Assisted Language Learning and Instructional Design.